Madrid Release Notes

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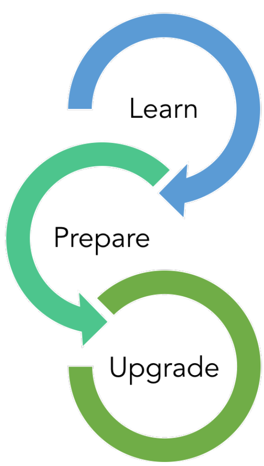
Madrid release notes

The ServiceNow® Madrid release contains new functionality and fixes to existing functionality. Patch releases and hotfixes provide problem fixes and are released on an as-needed schedule.

Path to successful upgrades



Learn - Find out what's new and changed in Madrid

- Release notes summaries for Madrid features
- Features and changes by product
- Changes to plugins in the Madrid release
- Browser support
- Accessibility and compliance

Prepare - Choose your target version and prepare for your upgrade

- Available versions (Madrid)
- Upgrade and migration tasks by application or feature

Upgrade - Review the upgrade process and upgrade your instance

- Upgrade to Madrid
- Upgrade your instance
- Upgrade planning checklist (Madrid)

Features and changes by product

Review the new features and changes in this release by product.

New features and products in Madrid

The Madrid release includes new features and products.

- Antivirus Scanning release notes
- Coaching release notes
- Document Viewer release notes
- ServiceNow mobile release notes

Updated features and products

Other products were changed and updated in the Madrid release. For more information, refer to the release notes topics, which are organized by product area.

- Application development release notes

  Application development has new and updated features in the Madrid release.

- IT Business Management release notes

  IT Business Management has new and updated features in the Madrid release.

- Customer Service Management release notes

  Customer Service Management has new and updated features in the Madrid release.

- Governance, Risk, and Compliance release notes

  Governance, Risk, and Compliance has new and updated features in the Madrid release.

- HR Service Delivery release notes

  ServiceNow® HR Service Delivery product enhancements and updates in the Madrid release.

- IT Operations Management release notes

  IT Operations Management has new and updated features in the Madrid release.

- IT Service Management release notes

IT Service Management has new and updated features in the Madrid release.

- Mobile platform release notes

  The mobile platform has new and updated features in the Madrid release.

- Now Platform administration release notes

  ServiceNow® Now Platform® administration product enhancements and updates in the Madrid release.

- Now Platform capabilities release notes

  Now Platform® capabilities enhancements and updates in the Madrid release.

- Performance Analytics and Reporting release notes

  Performance Analytics and Reporting have new and updated features in the Madrid release.

- Security Operations release notes

  Security Operations has new and updated features in the Madrid release.

- Software Asset Management release notes

  ServiceNow® Software Asset Management product enhancements and updates in the Madrid release.

Application development release notes

Application development has new and updated features in the Madrid release.

- API release notes

  ServiceNow® API product enhancements and updates in the Madrid release.

- Automated Test Framework release notes

  ServiceNow® Automated Test Framework product enhancements and updates in the Madrid release.

- Contextual development environment release notes

ServiceNow® Contextual development environment product enhancements and updates in the Madrid release.

- Web services release notes

  ServiceNow® web services product enhancements and updates in the Madrid release.

API release notes

ServiceNow® API product enhancements and updates in the Madrid release.

New in the Madrid release

New scoped classes and additional methods to existing scoped classes

Class	Activated with	Methods
FlowAPI	Flow Designer	• executeAction() • executeFlow() • executeSubflow() • setEncryptedOutput() • startAction() • startFlow() • startSubflow()
GlideRecord - Scoped	Now Platform	• isEncodedQueryValid()
Notify - Scoped	Notify	• hasCapability()

New global classes and additional methods to existing global classes

Class	Activated with	Methods
Agent	Advanced Work Assignment	• getPresence() • setPresence()
MLPredictor	Agent Intelligence	• applyPrediction() • applyPredictionForSolution() • findActiveSolution() • findActiveSolutionsForRecord() • getPredictedValue() • getPredictions() • isClassificationSolution() • isSimilaritySolution() • recordFinalValuesInPredictionResults()
Notify	Notify	• hasCapability()
OnCallRotation	Now Platform®	• getPrimaryUsers() • getPrimaryUserByRota() • getPrimaryUserNameByRota() • getEscalateesAt()

Class	Activated with	Methods
Queue	Advanced Work Assignment	• route()

New client classes and additional methods to existing client classes

Class	Activated with	Methods
GlideFlow	Flow Designer	• getExecution() • startAction() • startFlow() • startSubflow() • awaitCompletion() • getExecutionStatus() • getOutputs()
NotifyClient	Notify	• addEventListener() • destroy() • getStatus()

New REST APIs and additional endpoints to existing REST APIs

API	Activated with	Endpoint
Agent	Advanced Work Assignment	• GET /api/now/awa/agents/{sys_id} • PUT /api/now/awa/agents/{sys_id}

API	Activated with	Endpoint
Change Management	Change Management	• DELETE /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • DELETE /sn_chg_rest/change/emergency/{sys_id} • DELETE /sn_chg_rest/change/normal/{sys_id} • DELETE /sn_chg_rest/change/standard/{sys_id} • DELETE /sn_chg_rest/change/{sys_id}/conflict • GET /sn_chg_rest/change/{change_sys_id}/task • GET /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • GET /sn_chg_rest/change/emergency • GET /sn_chg_rest/change/emergency/{sys_id} • GET /sn_chg_rest/change/normal • GET /sn_chg_rest/change/normal/{sys_id} • GET /sn_chg_rest/change/standard • GET /sn_chg_rest/change/standard/{sys_id} • GET /sn_chg_rest/change/standard/template • GET /sn_chg_rest/change/standard/template/{sys_id}

API	Activated with	Endpoint
		• GET /sn_chg_rest/change/{sys_id}/conflict • PATCH /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • PATCH /sn_chg_rest/change/emergency/{sys_id} • PATCH /sn_chg_rest/change/normal/{sys_id} • PATCH /sn_chg_rest/change/standard/{sys_id} • PATCH /sn_chg_rest/change/standard/{sys_id}/risk • PATCH /sn_chg_rest/change/{sys_id}/approvals • POST /sn_chg_rest/change/normal • POST /sn_chg_rest/change/emergency • POST /sn_chg_rest/change/{change_sys_id}/task • POST /sn_chg_rest/change/standard/{standard_change_template_id} • POST /sn_chg_rest/change/{sys_id}/conflict
Queue	Advanced Work Assignment	• POST /api/now/awa/queues/{sys_id}/work_item

Changed in this release

Changed global classes

Class	Activated with	Changed methods
Notify	Notify	• call()
OnCallRotation	Now Platform®	• getEscalationPlan() • whoAt() • who()

Changed scoped classes

Class	Activated with	Changed methods
Notify - Scoped	Notify	• call()

Changed client classes

Class	Activated with	Changed methods
NotifyClient	Notify	• Client() • setCallerId()

Changed REST APIs

Class	Activated with	Changed endpoints
Service Catalog	Now Platform®	• POST /sn_sc/servicecatalog/cart/checkout

Class	Activated with	Changed endpoints
		• POST /sn_sc/servicecatalog/items/{sys_id}/checkout_guide • POST /sn_sc/servicecatalog/cart/submit_order • POST /sn_sc/servicecatalog/items/{sys_id}/submit_producer • POST /sn_sc/servicecatalog/items/{sys_id}/order_now
Table	Now Platform®	• DELETE /now/table/{tableName}/{sys_id} • GET /now/table/{tableName} • GET /now/table/{tableName}/{sys_id} • PATCH /now/table/{tableName}/{sys_id} • PUT /now/table/{tableName}/{sys_id}

Activation information

- Advanced Work Assignment APIs: The Advanced Work Assignment plugin (com.glide.awa) requires a separate subscription and you can activate it if you have the admin role.
- Agent Intelligence APIs: Agent Intelligence is included in the following packages: ITSM Professional, CSM Professional, HR Professional, HR Enterprise, ITOM Standard, ITOM Professional, ITOM Enterprise, and standalone Event Management. When you subscribe to any of these packages, you can activate the Agent Intelligence plugin (com.glide.platform_ml) on your production instance.
- Change Management APIs: The Change Management plugin (com.snc.change_management) requires a separate subscription and you can activate it if you have the admin role.

- Flow Designer APIs: Flow Designer is a Now Platform® feature that is active by default.
- Notify APIs: The Notify plugin (com.snc.notify) requires a separate subscription. This plugin includes demo data and activates related plugins if they are not already active.

Automated Test Framework release notes

ServiceNow® Automated Test Framework product enhancements and updates in the Madrid release.

Create and run automated tests to confirm your instance works after making a change such as after an upgrade, during application development, or when deploying instance configurations with update sets. Use test results to identify changes needing review.

> Note: By default, the system property to run automated tests is disabled to prevent you from running them on a production system. Only run tests on development, test, and other non-production instances. See Enable or disable executing Automated Test Framework tests.

Madrid upgrade information

Copy and customize ServiceNow-provided quick start tests to validate that your instance still works after you make any configuration changes such as apply an upgrade or develop an application. Quick start tests are disabled and read-only test templates. By default, they only produce a pass result when you run them with the default demo data that is provided with the application or feature plugin. To make quick start tests produce a pass result when you run them with your instance-specific data, copy and configure them to use your instance data. See Available quick start tests by application or feature.

The Run Server Side Script test step supports version 3.1 of the Jasmine testing framework. You can upgrade individual test steps from Jasmine version 1.3 to Jasmine version 3.1. See Run Server Side Script.

New in the Madrid release

Automated Test Framework Properties

Enable tests with Custom UI steps to capture page data each time they are run.

Custom UI test steps

Test customized user interfaces such as UI pages and UI macros by retrieving their HTML and JavaScript page components and identifying the test actions they support.

Page Inspector

Identify which HTML and JavaScript page components of your user interfaces are available for custom UI testing. Enable automated testing by ensuring your user interfaces only contain testable page components.

Develop testable custom components

Change the testing properties of a particular page component using Automated Test Framework-specific HTML attributes.

Parameterized tests

Run a test multiple times with different test data for each run. Create parameters to store test data for each test run.

Add tests to a suite with a filter

Automate the creation of test suites by using a filter to dynamically add tests to a test suite when they match the filter conditions. Reduce the time that your test designers spend manually creating and maintaining test suites.

Available quick start tests by application or feature

Validate that your instance still works after you make any configuration change such as apply an upgrade or develop an application. Copy and customize the ServiceNow-provided quick start tests to pass when using your instance-specific data.

Changed in this release

Explicit Roles

Server test steps support impersonation of users with the snc_external role, which allows testing users who do not have login access.

Run Server Side Script

Server-side scripts support version 3.1 of the Jasmine testing framework. Any new scripts you create use Jasmine version 3.1. Your existing scripts can continue to use Jasmine version 1.3, or you can upgrade them to Jasmine version 3.1.

Activation information

Now Platform® feature active by default.

To use the quick start tests for an application, activate the plugin that is associated with it. See Available quick start tests by application or feature for plugin requirements.

Browser requirements

Automated Test Framework only supports running tests from desktop browsers. You cannot run tests or test suites from tablets, mobile browsers, or the mobile UI. Some desktop browsers require additional configuration. See Browser recommendations for Automated Test Framework.

Automated Test Framework offers limited support for test design on tablets. You cannot add new custom UI test steps from tablets because you have to run a test to retrieve page components, and tablets do not support running tests. You may be able to review existing custom UI test steps that were added from a desktop browser from a tablet.

Accessibility information

Fields using CodeMirror for Glide Element Mapping (GEM) are not compatible with screen readers.

Contextual development environment release notes

ServiceNow® Contextual development environment product enhancements and updates in the Madrid release.

Within the contextual development environment, you can view and select applications, identify the scope of every artifact for an application, enforce application standards, prevent changes that violate application access settings, and create policies that protect existing scripting.

New in the Madrid release

Extension points for UI macros and scripts

Create and embed custom code hooks, called extension points, into UI macros and scripts in scoped and global application base code. You can use extension points to designate where custom UI macros and scripts be called and then processed to extend the base Now Platform functionality.

Because you do not need to embed extension points directly into the core application code, you prevent application paths from breaking during upgrades.

Changed in this release

Restricted caller access privilege settings

Added UI Page as an option in the Source Type field in Application Restricted Caller Access.

Activation information

Active by default.

Web services release notes

ServiceNow® web services product enhancements and updates in the Madrid release.

New in the Madrid release

Added support for sysparm_query_no_domain in Table API

The Table API supports the sysparm_query_no_domain parameter:

- false (default): Exclude the record if it is in a domain that the currently logged in user is not configured to access.
- true: Include the record even if it is in a domain that the currently logged in user is not configured to access.

> Note: The sysparm_query_no_domain parameter is available only to system administrators or users who have the query_no_domain_table_api role.

RESTMessageV2 and SOAPMessageV2 API timeout

Set the glide.http.outbound.max_timeout system property to specify the number of seconds that RESTMessageV2 and SOAPMessageV2 APIs wait for a response from a synchronous call. The maximum value is 30 seconds. To define a timeout longer than 30 seconds, set the glide.http.outbound.max_timeout.enabled system property to false and use the waitForResponse() method to set the timeout. For examples, see Asynchronous RESTMessageV2 example and Asynchronous SOAPMessageV2 example. If glide.http.outbound.max_timeout.enabled is set to true and a value is passed in the waitForResponse() method, the system uses the smallest value from either the waitForResponse() method or the glide.http.outbound.max_timeout system property.

Changed in this release

Request execution time in REST API Explorer

After you send a REST request, the Request and Response sections provide detailed information, including the full request HTTP Method / URI, headers for both the request and response, the HTTP Status code of the response, the Execution time (in milliseconds) of the response, and the response body.

Activation information

Active by default.

IT Business Management release notes

IT Business Management has new and updated features in the Madrid release.

- Agile Development 2.0 release notes

  ServiceNow® Agile Development 2.0 product enhancements and updates in the Madrid release.

- Application Portfolio Management release notes

  ServiceNow® Application Portfolio Management product enhancements and updates in the Madrid release.

- Financial Management release notes

  ServiceNow® Financial Management product enhancements and updates in the Madrid release.

- Project Portfolio Management release notes

  ServiceNow® Project Portfolio Management product enhancements and updates in the Madrid release.

- Scaled Agile Framework (SAFe) release notes

  ServiceNow® Scaled Agile Framework (SAFe) product enhancements and updates in the Madrid release.

- Test Management 2.0 release notes

  ServiceNow® Test Management 2.0 product enhancements and updates in the Madrid release.

- Time Card Management release notes

  ServiceNow® Time Card Management product enhancements and updates in the Madrid release.

Agile Development 2.0 release notes

ServiceNow® Agile Development 2.0 product enhancements and updates in the Madrid release.

Agile Development 2.0 provides an agile software development environment for both product-based or project-based efforts using the Scrum framework. It offers you the flexibility to implement a pure agile approach over the entire life-cycle of a product, or a hybrid approach using agile methods within a traditional project structure.

New in the Madrid release

Quick start tests for Agile Development 2.0

Validate the continued functionality of Agile Development 2.0 after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Activation information

You must have an admin role to activate the Agile Development 2.0 plugin (com.snc.sdlc.agile.2.0). The dashboards for Agile Development 2.0, if required, must be activated separately using the Performance Analytics – Content Pack – Project Portfolio Suite Dashboards plugin (com.snc.pps_dashboards). The Performance Analytics license is required to use the dashboards.

Accessibility information

The Backlog, Sprint Planning, and Sprint Tracking tabs of the Agile Board are Web Content Accessibility Guidelines (WCAG) compliant.

Application Portfolio Management release notes

ServiceNow® Application Portfolio Management product enhancements and updates in the Madrid release.

Application Portfolio Management enables you to build an application inventory using real-time data. The timeline view of Technology Portfolio Management displays the internal and external life cycle phases of all technologies or software models being used in your organization. These capabilities help provide a useful application roadmap.

New in the Madrid release

Enhancements in Technology Portfolio Management Timeline (TPM)

- Retrieve the business applications risk data stored in the Business Application Risks [sn_apm_tpm_business_application_risk] table. Risks of all business applications are calculated and the data are stored in the risks table to make optimal use of the risk engine. Since risks are stored and retrieved from the table, their retrieval is faster when loading the Technology Portfolio Management timeline or the Capability Based Planning portal. Execute the Load TPM Risk Parameters and compute Business Service Risks scheduled job daily to obtain the real-time status of risks your business applications are exposed to in a given day. Running this job populates the business risks table.
- Relate the software models that the suggestions engine picks up to your application service instead of searching for and then mapping them manually. You can easily manage the results of two subsequent runs of the software models suggestions engine by reviewing the new software models suggested by the engine in the latest run.
- Navigate to Business Application Risk Values in the applications menu to view the risk record of each business application.
- View the risk scores at the risk parameter level by clicking the risk bubble of the software model in the TPM timeline.
- Filter business applications based on their risk factor using the business application risk filter.
- Select the By Product Classification view to dynamically load software models, business applications, and application services in the timeline. All technology categories or product classifications are loaded as the page loads.

Application roadmap

Use the graphical view of the application roadmap that opens in an investment portal, which is exclusive to Application Portfolio Management, to view all the projects and demands that are planned for a business application in a fiscal year.

Application assessment indicators

- Fetch cost data from the IT Financial Management buckets using the seven cost indicators to assess the performance of business applications in Application Portfolio Management. Know the exact amount that is allocated to a business application from a cost bucket using the preconfigured L2 Costing — Business Applications cost model.
- Use the APM application indicators to get the count of all incidents that are associated to a business application, and derive the relative weight of the application. The incident indicators gather data at an instance level and then bundle them up at the application level.

Quick start tests for Application Portfolio Management

Validate the continued functionality of Application Portfolio Management after any configuration change such as an upgrade or after developing a new application. All test suites and tests should pass using a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Changes in TPM timeline view

- The character notation for the life cycle phases on the timeline has been changed to denote the first character of the source name.
- If there are internal as well as publisher records for a life cycle phase, then the internal record overrides the publisher record in that phase.
- The timeline view range is not configurable.

Changes in UI labels

- Label of Business Service Risk Values table has been changed to Application Service Risk Values table.
- Label of Business Service Software Models table has been changed to Application Service Software Models table.

- Business Services has been changed to Application Services in the Business Application and Technology Category views of the TPM timeline.
- By Technology Category view has been renamed to By Product Classification view in the TPM timeline.

Removed in this release

- End date of a life cycle phase has been removed from the TPM timeline. The start date of a subsequent life cycle phase marks the end date of the prior phase.
- Preconfigured indicators including Total opex, Total capex, External labor cost, and Cost of support have been removed from Application Portfolio Management.

Activation information

Activate the Application Portfolio Management (com.snc.apm) plugin if you have the admin role.

Financial Management release notes

ServiceNow® Financial Management product enhancements and updates in the Madrid release.

The Financial Management application provides a streamlined approach to allocate, track, and report on expenses in your organization. Use the Financial Modeling module to identify, aggregate, and allocate costs to various business segments. Apply the Financial Charging module to report the cost of your business services to your stakeholders.

New in the Madrid release

Prescriptive cost models

Use the prescribed preconfigured Level 2 Costing – Business Services and Level 3 Costing – Business Capabilities cost models along with their default metrics to weight the allocation of various business costs.

ITFM prescribed weighted metrics

Choose from a library of ITFM-prescribed metrics that support weighted rollup. This library of metrics sources data directly from other applications within the Now Platform®.

ITFM prescribed scripted metric to allocate to business capabilities

Track the relationship between business applications and business capabilities in Application Portfolio Management (APM) for purposes of cost allocation. APM integrates with ITFM using a scripted metric logic, so that you can allocate cost between applications and business capabilities at whatever levels the applications are related to the business capabilities.

ITFM prescriptive dashboards

View all your expenses on a consolidated and easy-to-read dashboard based on a specific cost model that you select. There are a number of preconfigured dashboard layouts to choose from. In dashboards, you can drill down to get details of spending for each segment in the hierarchy. The following dashboards are available in Madrid:

- Application TCO
- Level 1 Costing – Shared Services
- Level 2 Costing – Business Applications
- Level 2 Costing – Business Services
- Level 3 Costing – Business Capabilities

Total weight support in allocation metrics

Use the total weight metric to allocate cost based on total consumption capacity. The weighted metric allocates cost based on the total number of available units of consumption instead of allocating cost based on the sum of all values that were actually consumed in the weight table. The Enforce total weight option helps when the total allocation is greater than the sum of the consumed values.

Financial Charging guided setup

Follow the Financial Charging guided setup steps to set up the reporting aspect of Financial Management. Understand the tasks and configure statement items, statement item drilldowns, and showback statement definitions to generate a showback statement of the cost items. Show back the IT costs associated with each department to the head of the business unit, providing visibility on the reasons behind the cost.

Quick start tests for Financial Management

Validate the continued functionality of Financial Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Changes in UI label

The IT Chart of Accounts has been changed to Hierarchy of Segments in Financial Modeling.

Removed in this release

- The Chart of Accounts stage has been removed from the Financial Management Workbench tab.

Activation information

You can activate the Financial Management Core (com.snc.financial_management) plugin if you have the admin role.

Localization information

Right-to-left languages in custom UI pages are not supported. Alternatively, you can use platform lists and forms.

Project Portfolio Management release notes

ServiceNow® Project Portfolio Management product enhancements and updates in the Madrid release.

Project Portfolio Management (PPM) provides a simplified, team-oriented approach to project portfolio management and IT development by combining several individual applications. It enables you to manage your demands, resources, portfolios, and projects, and gives you full visibility from idea to execution. Agile management and test management help you improve productivity and service delivery.

Madrid upgrade information

Two new dashboards have been added with the new Performance Analytics – Content Pack – Project Portfolio Suite with Financials (com.snc.pa.pmo_dashboards) plugin. If you are upgrading and you activate the new plugin, two new navigation links are available in PPM:

- Portfolio dashboard

- Program dashboard

The following pre-Madrid navigation links are still available after upgrading. Review the existing and the new dashboards and deactivate the older ones if required.

- Portfolio manager dashboard
- Program manager dashboard
- PMO dashboard

New in the Madrid release

Rate Model

Use the Rate Model feature to derive date-effective, criteria-driven hourly rates for calculating planned and actual costs for a project or demand. The labor rate cards are based on the user attribute only, but the rate model provides options to define rates based on resource, group, user, and other attributes from various entities. It helps to determine resource costs (requested, confirmed, and allocated) associated with a project or demand. When a resource working on the project submits a time sheet, the rates are picked from the associated rate model.

Resource Management

- Derive hourly rates from the rate model during resource plan Request, Confirm, or Allocation stages.
- Derive hourly rates for an operational resource plan using the Rate Model field on the operational resource plan form.
- Use the com.snc.resource_management.plan.auto_async_threshold resource property to set the maximum number of daily resource allocation records that should be considered in synchronous mode during confirmation and allocation. The property improves the system performance when the number of allocation daily records is more than the value set in the property.
- Use the com.snc.resource_management.plan.max_duration resource property to restrict the maximum number of days for which a resource plan can be created.

PMO Dashboard

Use the PMO dashboard to view trends of historical data as well as regular reports for your portfolios, programs, and projects. The dashboard is not available in Teamspaces.

Investment Portal

- View the details of a demand from the demands list in the Timeline tab.
- Open a project in the Planning tab in the Project Workspace from the projects list in the Timeline tab.
- View the details of a cost plan from the cost plans list in the Financials tab.
- Configure the default list of active investment widgets included on the new boards and on the existing boards that do not have widget selection configured.

Project Management

- Associate a rate model with a project to derive hourly rates for the resource plans and time cards associated with the project.
- Compare financial baselines to see the differences in the financials of a project between the two baselines.
- Change the planned start date of a project using the Move project feature from the Planning Console or Project form.
- When importing a Microsoft Project file into a project with subprojects on the ServiceNow instance:
  - The WBS order of imported tasks is regenerated after import.
  - The Planned Start Date and Planned End Date of the parent project are rolled up.
  - The State of the parent project and tasks are rolled up.
  - The % Complete on the top task is rolled up.
- To view the project name of an external dependency, point to the link icon () in the Planning Console.

Demand Management

- Associate a rate model with a demand to derive hourly rates for the resource plans associated with the demand.
- Compare financial baselines to see the differences in the financials of a demand between the two baselines.

- Define the business investment for a demand using the Investment Class and Investment Type fields in the Demand form.
- Trigger a notification email to the portfolio stakeholders when an assessment is sent to them by moving a demand to Screening.

Quick start tests for Project Portfolio Management

Validate the continued functionality of Project Portfolio Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Resource Management properties

The label of the property com.snc.resource_management.run_state_changes_async has been changed from Perform Resource Allocation/Cancellation in asynchronous mode to Perform Resource Confirmation/Allocation/Cancellation in asynchronous mode. The property now also applies when confirming a resource plan. Prior to Madrid, the property was applicable only during allocating and canceling the resource plans.

Removed in this release

- The following dashboards that were installed with the PPM plugin (com.snc.financial_planning_pmo) have been deprecated:
  - Portfolio manager dashboard
  - Program manager dashboard
  - PMO director
- The following homepages that were installed as part of the PPM plugin (com.snc.financial_planning_pmo) have been deprecated:
  - Project Manager Dashboard
  - Project Manager Dashboard (FIN)
  - Program Manager Dashboard
  - Program Manager Dashboard (FIN)
  - Portfolio Manager Dashboard

    - Portfolio Manager (FIN) Dashboard
    - PMO Director Dashboard
    - PMO Director Dashboard (FIN)
    - Project Workbench Dashboard

      Note: Existing and upgrade customers can still access these dashboards and homepages. Alternatively, you can use the enhanced features available in Investment Portal, Project Workspace, and the new Madrid PMO dashboard.

- The Performance Analytics – Content Pack – Project Portfolio Suite (com.snc.pa.ppm) plugin has been deprecated.
- The option to change planned start date of a project through Portfolio Workbench has been removed. Instead, use the Move project option from the Planning Console or Project form.

Activation information

You can activate the Project Portfolio Management (com.snc.financial_planning_pmo) plugin if you have the admin role.

The Rate Model plugin (com.snc.rate_model) is new in Madrid and is active by default with activation of the Project Portfolio Suite with the Financials plugin.

Accessibility information

- In UI pages like Planning Console where a Gantt chart is used, a few exceptions such as the date time picker and timeline task bars are not keyboard accessible.
- In the resource allocation workbench, the date time picker is not keyboard accessible.

Localization information

Right-to-left languages in custom UI pages are not supported. Alternatively, you can use platform lists and forms.

Scaled Agile Framework (SAFe) release notes

ServiceNow® Scaled Agile Framework (SAFe) product enhancements and updates in the Madrid release.

The Scaled Agile Framework (SAFe) application helps you apply lean and agile principles to your large enterprise. This enables you to develop and deliver software products with fewer defects in the shortest viable lead time. In addition, SAFe:

- Gives you a broader, high-level perspective as well as the ability to manage development processes throughout all levels of your organization.
- Facilitates collaboration and streamlines the planning and monitoring of activities across business units, departments, and teams.

New in the Madrid release

Portfolio SAFe

Use Portfolio SAFe to align your organizational goals and strategies with your portfolios, and apply lean and agile principles to manage and deliver the portfolio work.

Portfolio SAFe works at three levels for portfolio managers, product managers, and team members.

At the Portfolio level, portfolio managers can capture and prioritize epics in a centralized backlog, and monitor the progress of epics in a visual task board.

At the Agile Release Train (ART) level, product managers can capture, prioritize, and monitor features that are broken out from epics.

At the Team level, team members can implement stories that are broken out from features.

Bulk actions

Perform any action on a set of features in the ART backlog, and on a set of stories in the Team backlog. Bulk actions save you time and effort since you are not required to edit each record (feature or story) separately.
For more information on performing bulk actions:

- On the ART backlog, see Manage your ART backlog.
- On the Team backlog, see Manage your team backlog.

Quick start tests for Essential SAFe

Validate the continued functionality of Essential SAFe after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Combine ART backlog planning and program increment planning

Prior to the Madrid release, under the ART level on the SAFe Board, there were two separate tabs for managing the backlog and for planning program increment activities. These two tabs are now combined into a single tab, Backlog, from which you can manage your backlog and plan your program increment activities.

Combine team backlog planning and sprint planning

Prior to the Madrid release, under the Team level on the SAFe Board, there were two separate tabs for managing the team backlog and for planning sprint activities. These two tabs are now combined into a single tab, Backlog, from which you can manage your backlog and plan your sprint activities.

Rename the plugin

The Scaled Agile Framework (SAFe) plugin (com.snc.sdlc.safe) has been renamed Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe). This plugin provides the features of the most basic configuration of SAFe, Essential SAFe.

Prior to the Madrid release, the Scaled Agile Framework (SAFe) plugin (com.snc.sdlc.safe) was available as a development plugin. The Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe) is now available as a system plugin.

Activation information

ServiceNow provides plugins that support two different configurations of SAFe: Essential SAFe and Portfolio SAFe.

- Activate the Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe) if you have the admin role. This plugin provides the features of Essential SAFe only.
- Activate the Agile - Scaled Agile Framework - Portfolio SAFe plugin (com.snc.sdlc.portfolio_safe) if you have the admin role. This plugin provides the features of both Essential SAFe and Portfolio SAFe.

Accessibility information

Except for the Big Room Planning tab, all other tabs on the ART level and Team level are Web Content Accessibility Guidelines (WCAG) compliant.

Test Management 2.0 release notes

ServiceNow® Test Management 2.0 product enhancements and updates in the Madrid release.

The Test Management 2.0 application streamlines the management of testing processes to help you deliver software products more efficiently and with fewer errors. It is also integrated with the Agile Development 2.0 product. With Agile integration, you can handle different testing scenarios, such as release readiness testing, and sprint testing.

New in the Madrid release

Test Board

Track, manage, and complete your testing activities from an intuitive user interface called the Test Board.

- Aggregate all your test plans and view them as cards in a single location. At a glance, you can review key details of your test plans, such as start date, end date, and percentage of tests that have passed and failed.
- Create a test plan in the Test Board, and structure the test plan in the Planning tab. The Planning tab is built from the Test plan work item hierarchy and Gantt chart components.
- Break down the test plan into phases to precisely plan what must be tested and when.

Standalone test execution suite

Use the Test Execution Suites module to create a short test plan. This is useful when your testing effort is minimal and you do not want to go through the overhead of creating a test plan and a test cycle for a test execution suite.

Quick start tests for Test Management 2.0

Validate the continued functionality of Test Management 2.0 after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Activation information

Activate the Test Management 2.0 plugin (com.snc.test_management.2.0) if you have the admin role.

Accessibility information

The Test version form and the Run Tests user interface are Web Content Accessibility Guidelines (WCAG) compliant.

Time Card Management release notes

ServiceNow® Time Card Management product enhancements and updates in the Madrid release.

Use the Time Card Management application to report and track time for your assigned tasks. Time Card Management works with the Task table to record time worked on projects, incidents, problems, and change requests.

New in the Madrid release

Reject a time sheet

Use the Reject button on the Time Sheet Portal to reject a time sheet. Pre-Madrid, the Reject button was available only on the Time Sheet form.

Activation information

You can activate the Time card management (com.snc.time_card) plugin if you have the admin role.

Time Card is also activated as part of the Project Portfolio Suite with Financials (com.snc.financial_planning_pmo) plugin.

Customer Service Management release notes

Customer Service Management has new and updated features in the Madrid release.

- Customer Service Management release notes

  ServiceNow® Customer Service Management product enhancements and updates in the Madrid release.

- Communities release notes

  ServiceNow® Communities product enhancements and updates in the Madrid release.

- Field Service Management release notes

  ServiceNow® Field Service Management product enhancements and updates in the Madrid release.

Customer Service Management release notes

ServiceNow® Customer Service Management product enhancements and updates in the Madrid release.

Madrid upgrade information

Create field-level ACL rules for some of the fields on the Contact (customer_contact) table. For details, see KB0724239.

New in the Madrid release

Case action status

Identify cases that require attention and quickly prioritize workload using visual indicators in the Action Status column on the Case list.

Customer Service integration with Service Management

Provides an integration between Customer Service Management and the Incident, Problem, Change, and Request Management applications. Agents can create incident, problem, change, and request records from customer service cases.

Agent Workspace for Customer Service Management

Integrates the platform functionality specific to tier 1 customer service agents and puts these features into an easy-to-use interface. These features enable agents to be more efficient, such as a multi-tab interface for managing multiple cases and a heads-up contextual display that provides quick orientation to the task at hand.

Lookup and verify

Enables agents using Agent Workspace for Customer Service Management to quickly look up contacts or consumers using information such as the name, phone number, account, or record number, and verify that information on the interaction record.

Advanced Work Assignment for Customer Service Management

Automatically route and assign cases as work items in Agent Workspace to customer service agents based on availability, capacity, and skills. Define work item queues, routing conditions, and assignment criteria that AWA uses to distribute work items. From the agent inbox, agents can see pending assignments, set availability, and accept or reject work items.

Similar cases

Provides an easy way for an agent working on a case or a problem to find similar, already resolved records. The agent can link the current record to a similar record and also copy resolution notes to the current record.

Quick start tests for Customer Service Management

Validate the continued functionality of Customer Service Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Major issue management

Enhancements to the major issue management feature include the following:

- Provide a reason when proposing a customer service case as a major case candidate.
- Notify the major issue manager when a major case is proposed.
- Identify and add existing customer service cases as child cases to a major case.
- View major issue-related indicators on the Customer Service dashboards.

OpenFrame

Enhancements to OpenFrame include the following:

- Collapse or expand the OpenFrame window. When collapsed, users can still access call control actions.
- New APIs and events support the collapse and expand functionality.
- Open configured URLs within the OpenFrame window.
- Update to OpenFrame version 1.0.4.
- Integration with Interaction Management. When the OpenFrame plugin (com.sn_openframe) is activated, Phone is an available option for the Type field on the interaction record.

Computer Telephony Integration (CTI)

Provides an additional Twilio driver (com.snc.notify.twilio_direct).

Email client enhancements

Provides support for multiple outbound email addresses.

Out-of-the-box Customer Service Management - Advanced Performance Analytics Solution

Preconfigured Performance Analytics indicators and breakdowns for Customer Service Management. Has the contents of the previous OOTB Customer Service Performance Analytics Solution, but also supports the following features:

- Major Issue Management
- Customer Service Case Action Status
- Customer Service with Request Management
- Customer Service with Service Management
- Agent Chat
- Advanced Work Assignment for CSM
- Performance Analytics - Content Pack - Advanced Work Assignment

See also Major issue management analytics.

Activation information

You can activate the Customer Service Management plugin (com.sn_customerservice) if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

Communities release notes

ServiceNow® Communities product enhancements and updates in the Madrid release.

New in the Madrid release

Community profile time zone

Set a preferred time zone when registering with the community or from the community profile.

Antivirus protection for community attachments

If antivirus protection is enabled, all attachments that are uploaded into or downloaded from the community are scanned for viruses.

Forum hierarchy

Create sub forums and map them to a parent forum. The forum hierarchy is displayed on the community pages.

Last updated time stamp

Displays when updates were last made to replies, comments, answers marked as correct, and which user made the updates.

Enhancements to the community TinyMCE editor

Change the font and add tables when creating community content.

Automatic addition of secondary content types

Adds the respective secondary content types automatically when configuring primary content types for a community forum.

Exclude self-award

Checks that a user is not awarded gamification points for content they authored.

Created date sort option

Sort by the date on which content was created from the community homepage or forum landing page.

Contributions on the community profile page

Displays a list of the number of user contributions to the community.

Additional notification preferences

Select My Blog marked as helpful, My comment marked as helpful, My Question upvoted, and My Answer marked as helpful as activity feed options or email notifications.

Full-sized images

Open an image from community content, such as a question, to view a full-sized image.

Quick start tests for Communities

Validate the continued functionality of Communities after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Activation information

Communities is only available for customers who are licensed for Customer Service Management. To activate Communities, activate the Customer Communities plugin (com.sn_customer_communities).

To implement knowledge harvesting, activate the Knowledge Management Service Portal plugin (com.snc.knowledge_serviceportal).

Field Service Management release notes

ServiceNow® Field Service Management product enhancements and updates in the Madrid release.

Madrid upgrade information

When you upgrade from a previous release, six event type schedule entries are available by default. You can choose to activate these event type configurations to create schedule entries. You must deactivate any existing Events configuration that overlaps with the newly created schedule entries. For more information on configuring event types, see Configure the agent calendar.

You can optimize the agent task routes for the current date. However, if the SMTaskRouting script was modified in an earlier release, the agent route is optimized, but it does not take the agent schedule and agent time off into consideration. For more information on optimizing task routes, see Route optimization.

New in the Madrid release

Field Service Mobile

Manage your field service tasks anywhere using the Field Service mobile application. With this application, you stay connected at all times, can access information in real time, and complete your tasks quickly. You can even access task information and complete tasks in locations where your mobile device is not connected to the Internet.

Quick start tests for Field Service Management

Validate that Field Service Management still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Adding knowledge to work order and work order task forms

Recommend additional information to complete tasks. Search for related knowledge articles and if helpful, add that to a work order or work order task.

Changed in this release

Team calendar and schedule management enhancements

- Agent profile management: View or edit an agent's personal information, work status, schedule, location, and time zone using the team calendar. Start a chat session with an agent from a profile preview.
- Agent event management: View, edit, or create events for agents in your assignment group so that you can use available time slots and maximize resource allocation.
- Searching agents and agent groups: Search an agent group on the team calendar or search for agents within a group.
- Event type configurations: Create configurations for each type of schedule entry that is displayed on the agent calendar to track and manage the agent schedule.

Appointment booking enhancements

Display a 12-hour or a 24-hour time format on the appointment booking window that is based on your user's preferred format.

Route optimization

Reorder the tasks that an agent has to execute in a day by optimizing the route that the agent takes to complete those tasks.

Activation information

The Field Service Mobile plugin (com.sn_fsm_mobile) enables the Field Service mobile application. This plugin is activated when you activate the Field Service Management (com.snc.work_management) plugin.

Governance, Risk, and Compliance release notes

Governance, Risk, and Compliance has new and updated features in the Madrid release.

The GRC product offering includes:

- Policy and Compliance Management
- Risk Management
- Audit Management: No changes in this release.
- Vendor Risk Management
- GRC: Policy and Compliance Management release notes

  ServiceNow® Policy and Compliance Management product enhancements and updates in the Madrid release.
- GRC: Risk Management release notes

  ServiceNow® Risk Management product enhancements and updates in the Madrid release.
- GRC: Vendor Risk Management release notes

  ServiceNow® Vendor Risk Management product enhancements and updates in the Madrid release.

GRC: Policy and Compliance Management release notes

ServiceNow® Policy and Compliance Management product enhancements and updates in the Madrid release.

New in the Madrid release

Quick start tests for GRC: Policy and Compliance Management

Validate the continued functionality of GRC: Policy and Compliance Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Attestation question bank

Compliance managers can add questions or categories from a control attestation to a question bank. Conversely, they can build a control attestation by adding questions and categories from the question bank.

Changed in this release

Out-of-the-box GRC: Policy and Compliance Management Performance Analytics Solution

Preconfigured Performance Analytics indicators and breakdowns for GRC Policy and Compliance. Improved visualizations presented on the following dashboards:

- Control Owner
- Compliance Manager
- Compliance Executive

Activation information

Before you run Policy and Compliance Management in your instance, you must download it from the ServiceNow Store.

GRC: Risk Management release notes

ServiceNow® Risk Management product enhancements and updates in the Madrid release.

New in the Madrid release

Quick start tests for GRC: Risk Management

Validate the continued functionality of GRC: Risk Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Risk assessment question bank

Risk Managers can add questions or categories from a risk assessment to a question bank. Conversely, they can build a risk assessment by adding questions and categories from the question bank. Risk managers can copy the whole risk assessment.

Continuous monitoring for vulnerabilities with public exploits affecting critical business services

Through integration with Vulnerability Response, risk administrators, managers, or users can monitor critical vulnerabilities through indicators, which enables them to observe the effect on risk posture.

Changed in this release

Out-of-the-box GRC: Risk Management Performance Analytics Solution

Preconfigured Performance Analytics indicators and breakdowns for GRC Risk Management. Improved visualizations presented on the Compliance Executive dashboard.

Activation information

Before you run Risk Management in your instance, you must download it from the ServiceNow Store.

GRC: Vendor Risk Management release notes

ServiceNow® Vendor Risk Management product enhancements and updates in the Madrid release.

New in the Madrid release

Vendor assessment resubmission process

Vendor risk managers or assessors can return assessments to vendors with comments explaining the need for further information. Vendors can resubmit the requested responses and also communicate with the vendor risk manager through comments in the Notes and Comments section under a Questionnaire or Document Request. This real-time communication provides an easier and more timely resubmission of the assessment.

Issue creation based on response

Using issue generation rules, issues can be created automatically when a vendor selects the incorrect answer. Vendor risk managers can also create issues manually during review of the vendor response.

Vendor risk assessment question bank

Vendor risk managers can add questions or categories from a questionnaire, document request, or tiering questionnaire to a question bank. Reversely, they can build a questionnaire, document request, or tiering questionnaire by adding questions and categories from the question bank. Vendor risk managers can copy the whole questionnaire, document request, or tiering questionnaire.

Changed in this release

2018 SIG Questionnaire support

Enhanced support for The Santa Fe Group's updated Standardized Information Gathering Questionnaire (SIG), which includes new content for GDPR and the NY State Department of Financial Services regulations. The latest standard also introduced major scoping changes, including a new SIG Core questionnaire. Several sections such as Business Resiliency, Privacy, Cloud Hosting, and others were also updated.

Activation information

Before you run Audit Management in your instance, you must download it from the ServiceNow Store.

HR Service Delivery release notes

ServiceNow® HR Service Delivery product enhancements and updates in the Madrid release.

HR Service Delivery is an integrated suite of applications designed to create a consumer-like service experience while increasing HR productivity. Whether it is a simple request for information, or a multi-departmental process like onboarding, employees have a single place for all their service needs.

Madrid upgrade information

> Note: When upgrading from the Istanbul release, HR document templates have a new field. The Document type field helps to filter a list of document types so that HR Criteria can apply the necessary document based on the conditions of an employee. HR criteria works with this field to further narrow the list of document templates you want available for an HR case. Because Istanbul did not have this field, you must create new or select an existing document type for your document templates. See Document Types.

New in the Madrid release

Case and Knowledge Management

Standardize the documentation, interaction, and fulfillment of employee inquiries and requests, improving HR efficiency and services over time.

Preview a knowledge article with knowledge blocks

Preview published knowledge articles with knowledge blocks by user and date. You can see how the article appears or hides block content based on the user criteria and date.

Automated Test Framework for HR

Validate the continued functionality of HR Service Delivery after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

> Note: When running, demo data is required.

Employee Service Center

Provide a single, unified portal for employees to get all the information, services, and help that they need.

> Note: Employee Service Center is also available as a standalone application.

Employee to-dos page

The to-dos page is where employees can view and complete all their to-dos on a single page in the Employee Service Center. You can configure the to-dos page by applying filters to show a user's approvals, content tasks, HR acceptances, HR tasks, and more.

Employees requests page

The requests page is where employees can view all their requests on a single page in the Employee Service Center. You can configure the requests page by applying filters to show a user's service catalog requests, IT incidents, HR cases, and more.

Employee knowledge page

The knowledge page is where employees can browse knowledge articles and find answers to their questions in the Employee Service Center. You can associate one or more knowledge bases with the Employee Service Center.

Employee catalog page

The catalog page is where employees can request catalog items such as services and product offerings in the Employee Service Center. You can associate one or more service catalogs with the Employee Service Center.

Employee live chat

Employees can chat directly and in real-time with support agents in the Employee Service Center. When an employee initiates a chat, a pre-chat window appears and the employee selects a category that routes them to the appropriate chat queue. You can control what categories appear by configuring the pre-chat categories.

Link the HR ticket page with the Employee Service Center

If you are using Employee Service Center as part of HR Service Delivery, use the Portal Configuration module to link the HR ticket page with the Employee Service Center portal.

HR ticket page

If you are using Employee Service Center with HR Service Delivery, the HR ticket page is where users can view the details of an HR case. Different users have different views of the HR ticket page, and you can configure the HR ticket page header for individual HR services.

Employee Forums

Employee Forums help your employees connect, engage, and collaborate with other employees. Forums can be used to share business information, promote employee engagement, encourage ideas and feedback, and give your employees a voice.

Add or modify task (to-do) content

You can assign tasks to your employees as part of a campaign and, if needed, trigger additional content once a task is completed. To-dos can also be sent via email or posted to the Employee Service Center.

Manage content for a campaign

Campaign bundles and content can be edited after being published. Content can be removed or changed for employees that have not yet viewed it.

Content Automation (campaigns) analytics

Use Content Automation Analytics to view event-based reports measuring employee engagement with your Employee Service Center and campaign content engagement.

Enterprise Onboarding and Transitions

Automate onboarding and other employee lifecycle events that span multiple departments, improving employee satisfaction and efficiency across HR and other departments.

Monitor the status of lifecycle event cases

Use activity set execution contexts to monitor the status of lifecycle event cases. You can report on the activity set contexts table along with the HR case table.

Show activity sets timeline to the subject person on the HR ticket page

If you are using Employee Service Center with Enterprise Onboarding and Transitions, you can show the activity sets timeline on the HR ticket page to the subject (subject person) of the lifecycle event case.

Wait for generated tasks to complete before closing the activity set

For lifecycle event activities that generate new tasks, you can wait for the generated task to complete before the activity closes.

Employee Document Management

Provide electronic storage and filing of employee documents. Security policies determine who can view and access employee documents. Retention policies determine how long employee documents should be retained and reduces compliance risks.

Create or modify an employee document

Employee Document Audit Trail provides insight into all actions for an employee document from creation, updates, and to the time it was purged.

Employee document management bulk imports

You can upload multiple employee documents from an external cloud storage or a local network directory to Employee Document Management.

Changed in this release

Enterprise Onboarding and Transitions

Create or modify lifecycle events

The Lifecycle Event builder provides an easier way to build, test, and maintain a lifecycle event. You can also customize the Lifecycle Event UI.

Configure the lifecycle event UI

Use LE UI Configuration to customize the look of your Activity Sets section of Lifecycle Events.

> Note: In some situations, Internet Explorer 11 does not update the Manage Lifecycle Events form after creating or updating an activity set or activity. ServiceNow recommends updating your browser to the latest version for optimal performance. Refer to Generally supported browsers.

Out-of-the-box Performance Analytics Solutions

Each OOTB Performance Analytics Solution contains preconfigured indicators and breakdowns, along with visualizations presented on dashboards. The following new Performance Analytics Solutions have been added for HR Service Delivery:

- Content Analytics (com.snc.pa.premium.content_analytics)

- Content Automation (com.snc.pa.premium.content_automation)Content Automation (com.snc.pa.premium.content_automation)

Parent field of HR case hidden

For instance efficiency and best practices, the parent field on the HR case form was hidden using a UI policy. This field is set automatically when sub cases or tasks are created. To view the hidden field:

- Manually populate the parent field.
- Disable the UI policy to view the empty parent field.

Removed in this release

- The preconfigured Workday integration was removed from the HR Integrations application.

Activation information

HR Service Delivery is available as a separate subscription. You can activate one or more of the following plugins:

- Case and Knowledge Management plugin (com.sn_hr_core)
- Employee Service Center plugin (com.sn_hr_service_portal)
- Enterprise Onboarding and Transitions plugin (com.sn_hr_lifecycle_events)

When integrating HR Service Delivery with a third-party HR management system or background check system, the HR Integrations plugin (com.sn_hr_integrations) is automatically activated with the Case and Knowledge Management plugin (com.sn_hr_core) to help with the integrations process.

If you are subscribed to both HR Service Delivery and Performance Analytics, you can activate one or more of the following content packs:

- Performance Analytics - Content Pack - Human Resources Scoped App [com.sn_hr_pa]
- Performance Analytics - Content Pack - Human Resources Lifecycle Events Scoped App [com.sn_hr_lifecycle_pa]

When migrating from the legacy (non-scoped) version to the scoped version of HR Service Delivery, you can activate the HR Migration plugin (com.sn_hr_migration) to help with the migration process.

When licensed to both HR Service Delivery and Facilities Service Management, activate the Facilities Move Management plugin (com.snc.facilities_service_automation.move) first. Activating the Facilities Move Management plugin first ensures that your building map appears in the Employee Service Center.

If you are using Employee Document Management, activate:

- Employee Document Management [com.sn_employee_document_management]

If you are using Employee Document Management Bulk Import, activate:

- Employee Document Management [com.sn_employee_document_management]
- Orchestration [com.snc.runbook_automation]
- ServiceNow IntegrationHub Installer [com.glide.hub.integrations]

If you are using Content Analytics, activate:

- Content Analytics [com.sn_content_analytics]

IT Operations Management release notes

IT Operations Management has new and updated features in the Madrid release.

- Cloud Management release notes

  ServiceNow®Cloud Management product enhancements and updates in Madrid release.

- Discovery release notes

  ServiceNow® Discovery product enhancements and updates in the Madrid release.

- Event Management release notes

  ServiceNow® Event Management product enhancements and updates in the Madrid release.

- Operational Intelligence release notes

ServiceNow® Operational Intelligence product enhancements and updates in the Madrid release.

- Service Mapping release notes

  ServiceNow® Service Mapping product enhancements and updates in the Madrid release.

Cloud Management release notes

ServiceNow®Cloud Management product enhancements and updates in Madrid release.

Madrid upgrade information

- If you are on Jakarta and above, an upgrade from any version of Cloud Management platform version 2 (CMPv2) is supported.
- Catalog items created based on cloud-native templates in releases prior to Madrid on CMPv2, will be treated as blueprint-based catalog items, which means that the underlying template cannot be modified.

New in the Madrid release

Simplify creation of service offering in Service Catalog using cloud-native templates

Taking a service-centric view, this feature allows the service designer to start with a catalog item and design the end user catalog experience. The service is driven by importing cloud-native templates or ServiceNow blueprints.

Enable use of technologies like Orchestration to drive day 1 and day 2 operations

Cloud services and operations continue to grow at breakneck speeds. This feature allows customers, partners, and field personnel to add new services and operations using Orchestration workflows. This is especially useful for creating new day 2 operations for various cloud resources.

Performance improvement for Cloud User Portal and Admin Portal

The Cloud Management platform includes both an Admin and a User Portal, each serving a different role. This release focuses on user interface performance improvements for both the Admin and the User portals. The performance-related changes are transparent to the user.

Activation information

The Cloud Management(com.snc.cloud.mgmt) plugin requires a separate subscription. You must request activation from ServiceNow personnel.

Discovery release notes

ServiceNow® Discovery product enhancements and updates in the Madrid release.

New in the Madrid release

Discovery performance metrics

Use metrics collected by the Discovery performance framework to monitor the processing times of probes, patterns, and sensors for specific discoveries. View performance data aggregated over time that shows probe execution by build, status, or target IP address. Use the roll-up data by build to compare performance between versions after an upgrade.

File-based discovery

Improves visibility into your installed software via file signature-based discovery. This is a limited access feature for the Madrid release that enables you to scan a file system and identify file fingerprints on UNIX and Windows servers from a list of established signatures. Use the comprehensive software normalization library from ServiceNow to match the results to installed software. This feature integrates with the ServiceNow® Software Asset Management Professional application to help you manage your software licenses.

File-based discovery is built with the same high-quality engineering as the rest of the Now Platform® and is optimized for performance. The product team will use the limited access time frame to get participant validation of the core feature set.

If you are interested in participating in this limited availability program, email discoverypm@servicenow.onmicrosoft.com.

PowerShell remoting

Use PowerShell remoting to communicate directly with Windows servers using the WinRM protocol. The PowerShell process establishes a secure PSSession (PowerShell Remoting session) that stays open until the MID Server finishes querying a Windows server. New MID Server configuration parameters manage SSL certificates and port assignments for using PowerShell over HTTPS.

Removed in this release

These Shazzam probe parameters were deprecated in the Madrid release:

- DNS_alternativePort: Defines an alternative port number for the DNS scanner.
- NBT_alternativePort: Defines an alternative port number for the NBT scanner.
- SNMP_alternativePort: Defines the alternative port number for the SNMP scanner.

Activation information

Discovery is available as a separate subscription from the rest of the Now Platform® and requires the Discovery (com.snc.discovery) plugin.

Event Management release notes

ServiceNow® Event Management product enhancements and updates in the Madrid release.

Event Management helps you to identify health issues across the datacenter on a single management console. It provides alert aggregation and root cause analysis (RCA) for discovered services, application services, and automated alert groups.

Madrid upgrade information

The upgrade process moves your instance to a new ServiceNow release version. Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, create upgrade plans and test your upgrade on non-production instances before upgrading your production instance.

New in the Madrid release

Alert intelligence

Alert Intelligence is implemented in the multi-tab interface of Agent Workspace. You can manage alerts in Workspace in the Event Management implementation of Agent Workspace.

View alert group reasoning

As alerts are added to a group, a message is added to the Work notes field of the alert to indicate the reason for aggregating that alert into the group. When an alert is added to or removed from the group, that information is shown in the Work notes of the selected alert.

Monitor event processing metrics

Extract statistics from the instance and monitor metrics related to event processes.

Configure event collection from an Icinga2 connector

Configure the Icinga 2 (Icinga) connector instance to receive events while monitoring your network resources.

Alert similarity

Find alerts that are similar to the alert that you are currently investigating. Save time in resolving the current alert by seeing how the similar alerts were resolved. In this way, like alerts are resolved in the same way and there is a reduction in the mean time to resolve alerts. Alert similarity applies natural language processing (NLP) based on Now Platform® machine learning (ML) as implemented in Agent Intelligence.

Quick start tests for Event Management

Validate the continued functionality of Event Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Filter the events that an event rule applies to

Filter on timestamps can be defined in event rules. Glide date time is supported. You can filter events using time conditions. For example, filter on Time of event according to `before`, and specify a date or time period.

Scheduled jobs for impact calculation

Calculate the impact of connected services. The building of the impact tree is affected with the addition of the following scheduled jobs:

- Event Management — Handle Impact Stuck Service
- Event Management — Impact Calculator Trigger
- Event Management — Impact Topology Consumer

- Event Management — Impact Tree Builder

Activation information

Event Management is available as a separate subscription from the rest of the Now Platform and requires the Event Management (com.glideapp.itom.snac) plugin. For more information, see Event Management.

Operational Intelligence release notes

ServiceNow® Operational Intelligence product enhancements and updates in the Madrid release.

Operational Intelligence is an add-on application to Event Management, with a key preventive role in a service-centric solution for reducing service outages. With Operational Intelligence, you can proactively identify service issues, pinpoint service outages, and automate remediation.

Operational Intelligence captures raw metric data from various data sources such as the SolarWinds monitoring server and the Nagios XI server. Then, based on the analysis of the historical metric data, Operational Intelligence detects anomalies that Event Management may not capture. Operational Intelligence generates anomaly alerts that you can promote to regular Event Management alerts. Those alerts appear on the Alert Console and service health dashboard, and you can use Alert Intelligence in Agent Workspace to manage.

Madrid upgrade information

- In Madrid, user-specified width override values are replaced by new advanced settings that are used internally to calculate width values. Width override values are preserved through an upgrade to Madrid and are being used internally. However, they do not appear in the UI and you cannot modify them. When you use the Bounds Settings wizard in an upgraded instance and you select a metric class that has a width override value, a notification appears. To use the new advanced settings in the Bounds Settings wizard, accept the notification to delete the width override values from an earlier release.

  For more information about the Bounds Settings wizard, see Custom bounds settings.

- During the upgrade to Madrid, the Apache Ignite software that runs on Operational Intelligence MID Servers in MID Server distributed clusters is upgraded to version 2.5.3. After you upgrade all the MID Servers in the MID Server distributed cluster to Madrid, restart these Operational Intelligence MID Servers to complete the Apache Ignite upgrade.

You might have some data loss during the time that the MID Servers upgrade starts until the MID Servers are restarted. To minimize this data loss, before you start the upgrade to Madrid, disable the metric connectors. After the upgrade completes, set the max_fetch_interval_min parameter to how long the connectors were down and then enable the connectors so that the missing data is pulled.

New in the Madrid release

Self-health monitoring

Monitor essential Operational Intelligence components and processes, and generate alerts about potential issues. Operational Intelligence uses pre-configured self-health monitors for Event Management which enables you to proactively remediate issues and minimize data loss.

Quick start tests for Operational Intelligence

Validate that Operational Intelligence still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Changed in this release

Setup

When you initially set up Operational Intelligence, use the Setup Operational Intelligence related link on a MID Server form to automatically do the following:

1. Configure a MID Server for Operational Intelligence
2. Create a MID Server distributed cluster that contains the Operational Intelligence MID Server
3. Create an Operational Intelligence Metrics Extension and start it
4. Create the MID Web Server extension configured with the 'Enable REST Listener' option

Custom bounds settings

The Bounds Settings wizard enables you to specify custom upper and lower bounds for a metric. Custom control bounds override the learned control bounds for a metric, which affects the resulting anomaly scores. The Bounds Settings wizard also enables you to preview anomaly analysis of actual data using the new custom settings. This preview is similar to previews that are generated by anomaly model testing.

The Bounds Settings wizard automatically calculates statistical models, such as Static Centered or Static Skewed, and width values that are based on your settings. The Bounds Settings wizard also automatically creates the metric class and configuration setting rule. Therefore, there is no need to manually set or create any of those items.

Resource binding

Monitor resources, such as disks and processors, without creating CIs, which saves you the maintenance that those CIs would require. Resource binding also enables you to monitor an entity that is not a CI, such as a web page, which is an application.

Resource binding creates a resource record for each resource (such as a disk), which streamlines metric data and results in a meaningful aggregation.

Metric to CI mappings

View the status of metric to CI and resource mappings, including details about unsuccessful mappings. CI or resource mapping can fail because of a missing or duplicate CI, or because a resource table is missing. If Operational Intelligence cannot map a metric to a CI, then that CI is not included in anomaly detection until it is properly mapped.

Use the details provided for a failed mapping to investigate and remedy common mapping problems.

Anomaly detection

Exclude metrics for CIs that are in maintenance mode from model learning. When the system property sa.model_learner.maint_event_record_history_enabled is set to true (default), Operational Intelligence stores historical information about the times CIs enter and exit maintenance mode. When the system property sa_metric.maint_exclusion is set to true (default), metrics from CIs that are in maintenance mode are excluded from model learning. Change the settings of these properties to include or exclude metric data for CIs while they are in maintenance mode.

The Stationary Nonparametric statistical model creates control bounds that can fit actual data better than other statistical models. Once learned, the control bounds persist until the next learning cycle of incoming data.

User interface navigation

Operational Intelligence modules in the navigation bar are now logically grouped by function areas so that you can quickly find what you are looking for.

Activation information

Operational Intelligence plugin (com.snc.sa.metric) requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active.

Service Mapping release notes

ServiceNow® Service Mapping product enhancements and updates in the Madrid release.

New in the Madrid release

Support for huge payloads

> Attention: The method used by the MID Server to prevent out-of-memory errors when handling very large payloads did not perform as well as anticipated. These controls were removed from Madrid Patch 1 for additional development and will be restored later.

Configure the MID Server to temporarily save data used during pattern-based discovery in files on the MID Server instead of in random-access memory (RAM). Once Discovery and Service Mapping finish discovering and identifying the configuration items (CIs), the data used for discovery is saved from the MID Server.

Quick start tests for Service Mapping

Validate that Service Mapping still works after you make any configuration change such as apply an upgrade or develop an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Changed in this release

Quality enhancements

The Madrid release is a quality release for Service Mapping. There are significant performance improvements. For example, service maps refresh quicker to reflect the current service state.

Activation information

Service Mapping is available as a separate subscription and requires activation by ServiceNow personnel.

The following plugins are activated automatically when Service Mapping (com.snc.service-mapping) is activated:

- Discovery (com.snc.discovery)
- Pattern Designer (com.snc.pattern.designer)
- Cloud Management Core (com.snc.cloud.core)
- Performance Analytics - Content Pack - Service Mapping (com.snc.service-mapping.pa.content)
- Event Management and Service Mapping Core (com.snc.service-watch)

    Note: The Event Management and Service Mapping Core (com.snc.service-watch) plugin is different from the Event Management plugin (com.glideapp.itom.snac).

IT Service Management release notes

IT Service Management has new and updated features in the Madrid release.

- Change management release notes

  ServiceNow® Change Management product enhancements and updates in the Madrid release.

- Coaching release notes

  ServiceNow® Coaching is a new application in the Madrid release.

- Continual Improvement Management release notes

  ServiceNow® Continual Improvement Management (CIM) product enhancements and updates in the Madrid release.

- Incident Management release notes

ServiceNow® Incident Management product enhancements and updates in the Madrid release.

- ITSM Agent Workspace release notes

  ServiceNow® ITSM Agent Workspace product enhancements and updates in the Madrid release.
- ITSM Virtual Agent release notes

  ServiceNow® ITSM Virtual Agent product enhancements and updates in the Madrid release.
- Notify release notes

  ServiceNow® Notify product enhancements and updates in the Madrid release.
- On-Call Scheduling release notes

  ServiceNow® On-Call Scheduling product enhancements and updates in the Madrid release.
- Problem Management release notes

  ServiceNow® Problem Management product enhancements and updates in the Madrid release.
- Service Catalog release notes

  ServiceNow® Service Catalog product enhancements and updates in the Madrid release.
- Service Level Management release notes

  ServiceNow® Service Level Management product enhancements and updates in the Madrid release.
- Walk-up Experience release notes

  ServiceNow® Walk-up Experience product enhancements and updates in the Madrid release.

Change management release notes

ServiceNow® Change Management product enhancements and updates in the Madrid release.

Change Management provides a systematic approach to control the life cycle of changes, allowing you to make changes with minimum disruption to IT services. This release includes enhancements and new capabilities that enable organizations to manage change, including organizations that employ DevOps teams to integrate changes initiated from a continuous delivery pipeline.

Madrid upgrade information

After you upgrade, you can:

- Use the new com.snc.change_management.enforce_data_requirements property that provides additional controls along with the existing UI policy and client scripts. When true, it ensures that any updates made from a change request form, such as Workflow, REST/SOAP, JavaScript, or GlideRecord updates adhere to the same mandatory data requirements. This property is installed with Change Management - Core and is set to False by default for upgrade customers. Change the property value to True to use this feature.
- Activate the Change Management - Approval Policy plugin so that you can use the new change approval policies. Configuration details are described in Change approval policy.

New in the Madrid release

New features added to Conflict detection

- Change conflict scheduling: When potential change scheduling conflicts are identified, change conflict scheduling identifies dates and times where no conflict exists and provides a new Scheduling Assistant user interface that allows a change requester or fulfiller to select a date and time with no conflicts. To take advantage of this new feature, activate the following two new properties:
  - Define the number of days to be factored after the respective Planned start/end date of a Change record when searching for the next available time (change.conflict.next_available.schedule_window).
  - Define the number of suggestions to be calculated for the next available time field on a Change (change.conflict.next_available.choice_limit).
- A new conflict type called Assigned to already scheduled is introduced to identify when the assignee of a change request is already assigned to another change request scheduled on the same date and time.

Change REST API suite

Empower your DevOps teams to easily integrate Change Management from their Continuation Integration or Continuous Delivery pipeline by using the REST API suite. This suite of APIs allows any of the supported change types to be created, updated, approved, and worked on from creation to closure. Use the REST API suite for the Change Management application to empower DevOps teams to integrate from their Continuation Integration or Continuous Delivery pipeline with Change Management.

The new com.snc.change_management.enforce_data_requirements property is introduced to provide additional controls to supplement existing UI policy and client scripts. This property is installed with Change Management - Core and is true by default for new customers and false for any upgrading customers.

Change approval policy

Generate and configure approvals in Change Management based on a new platform feature called Decision Tables. Change Approval Policies allow conditional approval policies to be configured using simple platform records and then generated as an integral part of change workflows. With Change Approval Policies you can apply varying levels of approval governance dynamically based on platform data, the introduction of additional approval users or groups, or automated approvals tied to users for Normal and Emergency change types.

Enhanced refresh impacted services

The Refresh Impacted Services UI action can populate the Impacted Services/CIs related list with any application service impacted by a configuration item listed in the Affected CIs related list. Previously, Refresh Impacted Services only worked against the Primary configuration item referenced on the form.

The new Impacted CIs/Services related list is generated from all CIs listed in affected CIs related list (change.refresh_impacted.include_affected_cis) property is introduced to use this capability. This property is enabled by default. For more information, see Change Management properties.

Quick start tests for Change Management

Validate the continued functionality of Change Management during application development and after upgrades. Copy and configure these automated tests to identify customizations needing review.

Standard Change catalog for support for workspaces

Added a Standard Change Catalog support for Workspace. When a standard change template is initiated from a workspace form view of another task type, for example, an Incident, Change Management redirects to a workspace form view of the standard change request.

Now Platform® branding

Updated the CAB workbench portal and Change Conflict Calender to align to the base system platform color palette.

Changed in this release

Disabled Cancel change action

When a change request reaches the Review state, the Cancel change UI action is disabled.

Activation information

Change Management provides the following plugins:

- Change Management - Approval Policy plugin (sc_chg_pol_appr) helps in generating and configuring approvals using the Change Approval policies.

  Note: This plugin is activated by default for new and existing customers.

- Change Management - ATF Tests (com.snc.change_management.atf) loads ATF tests for Change Management when the Change Management - State Model plugin is active. The demo data for this plugin is required to successfully execute these ATF tests.

  Note: This plugin is activated for new customers. Existing customers must activate the plugin to use it.

Coaching release notes

ServiceNow® Coaching is a new application in the Madrid release.

Coaching lets a manager (coach) monitor specific behaviors in a user (trainee), or group of trainees, so they can be coached on a consistent basis. Coaching moments are defined to provide quick feedback and learning recommendations for the trainee so they can continue to improve their skills each time.

Coaching consists of a generic framework that can be applied to any task- or non-task-based process on the ServiceNow platform (such as Incident Management, Change Management, HR Onboarding Management, and Customer Service Management).

Virtual coaching is also supported, which automatically provides coaching assessment feedback and real-time learning recommendations to save time.

Coaching features

Coaching moment definitions

Define coaching moments using a single coaching opportunity form. The coaching opportunity state model is simple to use, while providing full transparency to both coach and trainee.

Coaching assessment tasks and feedback

Review the coaching assessment task as a coach, provide improvement feedback notes, assign learnings, and submit survey-based rating feedback for the trainee.

Recommendation learning list

Create a recommended learning list of knowledge base articles, videos, and internal or external links to learning content. Assign recommendations manually, or set up the coaching opportunity to use a virtual coach.

Virtual coach

Assign a virtual coach to a coaching opportunity to assign learning recommendations and automatically resolve the coaching assessment.

Integration with Continual Improvement Management (CIM), Skills Management, and Knowledge Management

- Create an improvement initiative from a coaching opportunity with one click to identify trainees for external training, for example. Plan and deliver that initiative using the Continual Improvement Management process.
- Assess trainee skills using Skills Management to identify gaps so the trainee can be coached to acquire new skills, or to enhance their existing skill level.
- Assign knowledge base articles in Knowledge Management as recommended learning for the coaching opportunity.

Dashboards for coach and trainee users

- Use the Coach Dashboard as a coach to see real-time analytics on open assessments, list of follow-up actions, coaching survey feedback scores, number of tasks auto-resolved by the virtual coach, and performance of all trainees of the coach.
- Use the Trainee Dashboard as a trainee to see analytics on your active assessments, your coaching history, your survey results, and a list of all open assessments for the trainee.

Activation information

The Coaching (com.sn_coaching) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active. The Coaching application is available with all Professional subscriptions. Please contact your account manager for more information. See Request Coaching for more information.

See Coaching for more information.

Continual Improvement Management release notes

ServiceNow® Continual Improvement Management (CIM) product enhancements and updates in the Madrid release.

Use Continual Improvement Management to implement service, process, and function improvements. Improvement initiatives contain goals to measure success, and phases that contain tasks with specific actions to complete the improvement.

New in the Madrid release

Integration with ITOM and GRC applications

- Link new and existing records from IT Operations Management (ITOM) and Governance, Risk, and Compliance (GRC) to Continual Improvement Management on the base system with one click.
- ITOM Configuration Management Database (CMDB) application integration includes a related link to create an improvement initiative on the Remediate Duplicate Tasks form. CIM integration allows easy submittal of an improvement initiative to address issues around de-duplication of CMDB tasks.

- GRC application integration includes a related link to create an improvement initiative on the Issues form. You can also create multiple improvement initiatives from a single audit control task and view the associated tasks in a related list.

Enhanced linking with implementing tasks outside of CIM

Link a single CIM task to multiple integrated application tasks (problem, incident, demand, for example), and link multiple CIM tasks to a single integrated application task for more flexible improvement initiatives.

Quick tests for Continual Improvement Management

Validate the continued functionality of Continual Improvement Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Removed in this release

Continual Improvement Management properties removed. All task types are set by default.

- List of comma-separated task types to which Create Improvement Initiative UI action can be added (sn_cim.show_cim_ui_action)
- List of task types which can be created from Improvement Initiative (sn_cim.show_derivative_task_ui_action_cim_initiative)
- List of task types which can be created from Improvement Task (sn_cim.show_derivative_task_ui_action_cim_task)

The Implementing task field and the Knowledge field on the CIM Task form were removed because they were replaced by related lists.

Activation information

The Continual Improvement Management (com.sn_cim) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active. The Continual Improvement Management application is available with the ITSM Professional subscription only. Please contact your account manager for more information. For more information, see Request Continual Improvement Management for more information.

Incident Management release notes

ServiceNow® Incident Management product enhancements and updates in the Madrid release.

The Incident Management product helps to restore normal service operation during incidents while minimizing impact to business operations and maintaining quality.

New in the Madrid release

Major incident workbench features

- Access on-call escalation details: Access on-call roster and escalation details from the major incident workbench to reach out to a support group.
- Make outbound calls from the browser : Make an outbound call from the Workbench UI to the device of the user by populating the sn_major_inc_mgmt.notify_webrtc_number property with a valid notify number that has voice capability.

Associate similar incidents

Associate the current incident to a similar incident or copy resolution notes to the current incident.

- Add similar incidents: Find similar incidents to a current major incident so that the support teams can work on the parent record for a coordinated response process.
- Similar incidents in contextual search : Use the Similar Incidents additional resource on the Incident form to search for and link similar incidents.

Advanced Work Assignment for Incident plugin

Activate the Advanced Work Assignment for Incidents (com.snc.incident.awa) plugin to automatically assign work items to agents based on their availability, capacity, and skills. Define work item queues, routing conditions, and assignment criteria that Advanced Work Assignment (AWA) uses to distribute work items. From the agent inbox, agents can see assignments, set availability, and accept or reject work items.

Contextual search

Use contextual search to view Knowledge articles relevant to the incident. On the Incident form, a choice list next to the Related Search field enables you to select a category such as Knowledge (All), Pinned Articles, Open Incidents, Resolved Incidents, and Open Major Incidents to indicate where you want to search for the entered text.

Quick start tests for Incident Management

Validate the continued functionality of Incident Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

New mobile app for Incident Management

- Access work assigned to you or your group.
- Add comments or work notes or reassign incidents.
- Receive push notifications for incidents assigned or commented.
- Review group workload for incidents by priority and state.
- Approve or reject change requests, requests, and requested items.

ServiceNow add-in for Microsoft Outlook

Create an incident or VTB task in your ServiceNow instance from within Microsoft Outlook using the ServiceNow Add-in for Microsoft Outlook feature. This add-in lets you engage with IT directly from an email or, for IT users, quickly create an incident from an email and immediately assign it to the correct team. It also lets you create a VTB task.

Activation information

- Activate the On-Call Scheduling (com.snc.on_call_rotation) plugin to access on-call roster and escalation details from the major incident workbench.
- Activate the Advanced Work Assignment for Incidents (com.snc.incident.awa) plugin to automatically assign work items to agents

ITSM Agent Workspace release notes

ServiceNow® ITSM Agent Workspace product enhancements and updates in the Madrid release.

The ITSM Agent Workspace application integrates the platform functionality specific to ITSM tier 1 agents and puts these features into an easy-to-navigate interface.

New in the Madrid release

ITSM Agent Workspace for Problem Management

- All fields that are available on the ITSM problem form are available on the Agent Workspace problem form.
- State transitions are not available on the Agent Workspace for Problem and Problem task records.

Activation information

Activate the Agent Workspace for ITSM (com.snc.agent_workspace.itsm) plugin to access the functionality of Agent Workspace for ITSM.

> Note: The Agent Workspace plugin is inactive by default for both upgrade and new customers. Users must request plugin activation.

ITSM Virtual Agent release notes

ServiceNow® ITSM Virtual Agent product enhancements and updates in the Madrid release.

ITSM Virtual Agent includes several predefined chatbot conversations designed to help your IT users complete common tasks, such as password reset and creating an incident.

New in the Madrid release

Additional ITSM Virtual Agent conversations

Benefit from the following additional pre-built ITSM Virtual Agent topic conversation flows:

- Escalate IT Ticket
- Update Change Request
- Identify Scheduled Changes
- Create Problem
- Identify Available Change Windows

- Resolve Incident

Out-of-the-box Virtual Agent Performance Analytics Solution

Preconfigured Performance Analytics indicators and breakdowns for the Virtual Agent along with visualizations presented on the Virtual Agent Overview Dashboard.

Changed in this release

Modified ITSM Virtual Agent conversations

Existing ITSM Virtual Agent topics are refined, improved, and enhanced for a smoother and simplified conversational flow.

- Create Change Request — Text enhanced for better flow.
- My Assigned Equipment — Text revised and streamlined due to redundancy.
- Check IT Ticket Status — Text revised and streamlined due to redundancy.
- Open IT Ticket — Knowledge base search returns a single column of rows with hyperlinks to article titles.

Activation information

- Virtual Agent must be activated before you can use the ITSM Virtual Agent chatbot topics.
- To activate this feature, request the Virtual Agent plugin (com.glide.cs.chatbot) through the HI Customer Service system.
- You must have the admin role to activate the ITSM Virtual Agent Conversations plugin (com.snc.itsm.virtualagent) to access the predefined ITSM Virtual Agent topics.

For more information, see ITSM Virtual Agent.

Notify release notes

ServiceNow® Notify product enhancements and updates in the Madrid release.

Madrid upgrade information

The legacy Notify-Twilio driver (com.snc.notify.twilio) plugin is now being replaced by a Notify-Twilio Direct driver (com.snc.notify.twilio_direct). A Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided.

The Notify core plugin now provides JS Telephony Driver support that enables you to code your own integrations in JavaScript by using the platform capability of JS Extension Point.

In prior releases, the Notify-Twilio Driver (com.snc.notify.twilio) enabled voice and SMS services provided by Twilio. This driver has been replaced by the Notify-Twilio Direct Driver (com.snc.notify.twilio_direct). Both the drivers work simultaneously provided they are configured with two separate accounts.

The migration to the new driver has the following impact.

1. Notify participant records will remain inactive until a participant joins a conference. Previously, they were set to active by default.
2. If you are using the previous driver, the participant record is activated after a minor delay.

Note: New customers will have access only to the new Notify-Twilio Direct driver plugin.

New in the Madrid release

Notify-Twilio Direct driver

A new Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided.

Notify Properties module

Updated Notify properties have been added such as phone numbers to send SMS messages or to allow on-call users to directly call people on the rosters from a browser.

Advanced SMS features

Configure bulk SMS messages to reach multiple lists of users with only one API request through the Twilio Notify integration and intelligent SMS handling to send SMS messages using alphanumeric IDs.

Advanced Voice features

Answering Machine Detection (AMD) enables you to determine whether a human or a machine has picked up an outbound voice API call so you can tailor your call flow accordingly.

WebRTC Calls

Make outbound calls from the browser On-Call and MIM Workbench interface.

Changed in this release

Conference call management

Updated interface enables you to start a conference call from both Incident Communication Tasks and Notify on Task (such as Incident and Case). Users can now view who is speaking in the conference, mute/unmute all the participants with a single click, and add a participant to an active conference call.

Activation information

The Notify plugin requires a separate subscription. This plugin includes demo data and activates related plugins if they are not already active.

On-Call Scheduling release notes

ServiceNow® On-Call Scheduling product enhancements and updates in the Madrid release.

On-Call Scheduling provides the ability to create on-call schedules and escalation policies for a group. An on-call schedule determines who should be notified when a task is assigned to a group. When using the Notify plugin (com.snc.notify), on-call members are notified using voice and SMS capabilities.

New in the Madrid release

User interface for on-call schedules

Review, manage, and correct gaps or conflicts in your on-call schedule from a single view. On-call managers and members can use this interface to view and maintain on-call schedules.

Coverage gaps and conflicts for a shift

Review gaps and conflicts in a shift to ensure proper support coverage. Possible reasons for gaps are:

- Time-off without coverage
- User has been moved out of the group

- User is marked as inactive

A conflict is possible if the same user is assigned as the primary and secondary point of contact for a shift.

Group managers and delegated shift managers can view these gaps and conflicts using any of the following options:

- Info icon for a shift in the calendar view of the on-call calendar
- Info icon for a shift in the timeline view of the on-call calendar
- Info icon for a shift on the On-Call Schedules landing page
- Pending Actions section of the On-Call Schedules user interface

Scheduled job for weekly gaps and conflicts report

Send a weekly report of gaps and conflicts in on-call schedules to the respective admin, shift managers, and group managers using the On-Call Gaps Conflicts Report.

Group Preferences module

Use this module to set the following group preferences for your group's on-call shift:

- Shift overlap and escalation rule for overlaps
- Time-off request approval
- Shift managers

Overlapping shifts

Create overlapping shifts to have a hand-off period between shifts. With this capability, multiple shifts can be on-call during the same time and on-call members from multiple shifts can be contacted. Overlapping shifts for a group are displayed as different shift cards on the On-Call Schedules landing page.

Custom escalation policy type and escalation designer

Use the custom escalation type for a shift to customize the escalation process. After setting the custom escalation type, use the escalation designer to customize the escalation details for each step of the process. These customizations are also reflected in the escalation path of a roster.

Roster and escalation details

View the roster and escalation details of a group using any of the following options:

- Shift cards on the On-Call Schedules landing page.
- On-Call section in the Overview tab of the On-Call Schedules user interface.
- Summary tab on the Major Incident Management workbench.
- UI action on the Incident form.

Deletion or replacement of coverage on the calendar

Use the Delete coverage or Replace coverage UI actions to delete or replace a coverage from the on-call calendar.

Weekday for starting the roster rotation

Use the Day of week for rotation field on the Roster form to specify the weekday on which the roster rotation should start. When this field is specified, the roster rotation is set based on the specified frequency, start date, and weekday.

Escalation in conference calls

Set the com.snc.iam.conference_call_follow_on_call_escalation property to true to set an automatic escalation hierarchy in conference calls initiated from an Incident Communication Task. When you add a user group to the call, the group itself is added to the call, and the escalation hierarchy is followed once you start the call. This feature is applicable only when the Incident Communications Management (com.snc.iam) plugin is active.

On-Call Scheduling properties

Use the On-Call Scheduling > Administration > On-Call Properties module to access commonly used On-Call Scheduling properties that are organized into logical groups.

OnCallRotation

Use the following methods of the OnCallRotation () global API to manage overlapping shifts and custom escalation in on-call schedules:

- getPrimaryUsers()
- getPrimaryUserByRota()

- getPrimaryUserNameByRota()
- getEscalateesAt()

Changed in this release

Renaming of the rota label

The Rota label is now renamed Shift. This renaming introduced the following keyboard shortcuts for the on-call calendar:

- S: Select next shift/time off in the timeline.
- Shift + S: Select previous shift/time off in the timeline.

Modules of the On-Call Scheduling application

All modules of the On-Call Scheduling application have been organized into logical groups.

Modifications to the Create On-Call Schedule wizard

The tabs and the fields in the Create On-Call Schedule wizard have been organized into logical groups.

User search on the On-Call Schedules landing page

The User filter has been added to the existing group and schedule to search on-call schedules by user name. This search is also applicable for users not available in the current view. If you are a manager or roster member of the shift and click the shift card, you are redirected to the On-Call Schedules user interface. In all other cases, you are redirected to the calendar view.

Coverage of shifts on the on-call calendar

When you manage a shift on the on-call calendar by specifying a start and end date and time for the shift, the coverage is created as per the schedule time of the shift. Prior to Madrid, the coverage is created for the entire duration between the start day and the end day of the shift.
To enable the legacy behavior, create the com.snc.on_call_rotation.coverage.rota_times_only hidden property. By default, this property is set to true and the coverage on the on-call calendar is enabled for shift schedule. For the legacy behavior, set this property to false.

> Note: This hidden property is not available by default.

Modifications to On-Call Scheduling workflows

All On-Call Scheduling workflows have been modified to support the custom escalation type and overlapping shifts.

Modifications to the timeline view of the on-call calendar

- On-call member information is grouped by shifts.
- Time-offs are displayed as a different group.

OnCallRotation

The following methods of the OnCallRotation () global API have been updated to support overlapping shifts and custom escalation in on-call schedules.

- getEscalationPlan()
- whoAt()
- who()

Removed in this release

- The com.snc.on_call_rotation.pto.approval.required property has been replaced with the com.snc.on_call_rotation.pto.configuration property. For upgrade customers, the com.snc.on_call_rotation.pto.configuration property is automatically updated with the com.snc.on_call_rotation.pto.approval.required property value selected in the pre-upgrade instance.

Activation information

For upgrade customers, the On-Call Scheduling application is available by activating the On-Call Scheduling (com.snc.on_call_rotation) plugin, if the plugin is not already active. For zBoot customers, this plugin is activated by default.

Problem Management release notes

ServiceNow® Problem Management product enhancements and updates in the Madrid release.

The Problem Management product helps to identify the cause of an error in the IT infrastructure, reported as occurrences of related incidents.

New in the Madrid release

Problem Management Best Practice — Madrid plugin

Use the Problem Management Best Practice — Madrid plugin to identify the cause of a service interruption reported by significant or recurring incidents. The plugin provides roles for problem management, including a problem coordinator, problem manager, and problem administrator. It also provides fields to record the category, identify where the issue was first reported, the workaround, the cause notes, and the fix notes. The plugin also searches for and attaches knowledge articles.

Problem Management Best Practice — Madrid — State Model plugin

Use the Problem Management Best Practice — Madrid — State Model plugin to support state management. State management controls how a problem or problem task moves through a predefined list of states.

Problem Management Best Practice — Madrid — Knowledge Integration plugin

Use the Problem Management Best Practice — Madrid — Knowledge Integration plugin to identify the cause of a service interruption reported by significant or recurring incidents. The plugin provides the ability to create Known Error articles for incident deflection (requires activation of the Knowledge Management Advanced plugin).

State management

Manage a problem throughout its life cycle using these states: New, Assess, Root Cause Analysis, Fix in Progress, Resolved, and Closed.

Roles

- Work on a problem and manage it through its life cycle with the Problem Co-ordinator [problem_coordinator], Problem Manager [problem_manager], and Problem Admin [problem_admin] roles.
- Configure problem management settings and act as a problem coordinator with the Problem Manager [problem_ manager] and Problem Admin [problem_admin] roles.
- Manage and delete problems and problem tasks with the Problem Admin [problem_admin] role.

Properties

Use properties to control features such as creating a problem task on a closed problem or re-analyzing a closed or canceled problem.

Business rules

The following business rules have been added for Problem:

- Set State variables on Scratchpad
- Update fields when Problem is Confirmed
- Copy related records to original Problem
- Update fields on Problem Closure
- Update fields when Problem is Resolved
- Raise an event when State changes
- Cascade closure of Problem Tasks
- Update fields on Re-analyzing a Problem
- Sync Workaround fields

The following business rules have been added for Problem Task:

- Set state in scratchpad for Problem Task
- Check if problem task can be created
- Check related Problem Task closure
- Update re-assess (reopen) fields
- Update Closed fields
- Update Started fields
- problem_task events

UI policies

The following UI policies have been added for Problem:

- Show 'Workaround' when 'Workaround applied' is checked - Modal View
- Make Problem State read only
- Hide Resolution Code when state is not resolved or closed

- Hide Duplicate of when Resolution code is not Duplicate
- Hide 'Workaround communicated' and 'Workaround communicated by' fields when they are empty
- Hide 'Fix communicated by', 'Fix communicated by' fields when they are empty
- Show 'Workaround applied' only when 'Resolution code' is 'Risk Accepted'
- Hide Closed By, Closed, and Close notes when Resolution Code is None
- Hide 'Last reopened by', 'Last reopened at' fields when they are empty
- Make 'Workaround' mandatory when 'Workaround applied' is checked
- Hide Subcategory when Category is none
- Priority is managed by Data Lookup - set as read-only

The following UI policies have been added for Problem Task:

- Hide Other Reason when Cause code is not other
- Hide Vendor when Cause code is not Vendor Issue
- Hide Close code when State is not Closed

Data policies

The following data policies have been added for Problem:

- Make 'Duplicate of' mandatory when 'Resolution code' is 'Duplicate'
- Make 'Cause notes' mandatory when State is 'Fix in Progress'
- Make 'Fix notes' mandatory when State is 'Fix in Progress'
- Make 'Canceled reason' mandatory when Resolution code is 'Canceled'
- Make 'Assigned to' mandatory when State is one of 'Assess', 'Root Cause Analysis', 'Fix in Progress', 'Resolved' or 'Closed'
- Make 'Risk accepted reason' mandatory when Resolution code is 'Risk Accepted'
- Make 'Resolution code' mandatory when State is 'Resolved'
- Make 'Resolution code' mandatory when State is 'Closed'

The following data policies have been added for Problem Task:

- Assigned to is required when state is one of 'Assess, Work in Progress or Closed' and Close code is not 'Canceled'
- Fix notes is required when state is Closed Completed for RCA task
- Cause code is required when state is Closed
- Close notes is required when state is Closed for General task
- Close notes is required when state is closed canceled for rca task
- Vendor is required if Cause code is Vendor Issue
- Other reason is required when Cause code is Other

Notifications

The following notifications have been added for Problem:

- Problem Fixes Closed
- Problem Tasks closed

Script includes

The following script includes have been added:

- ProblemState
- ProblemStateSNC
- ProblemStateUtils
- ProblemStateUtilsSNC
- ProblemTaskState
- ProblemTaskStateSNC
- ProblemTaskStateUtils
- ProblemTaskStateUtilsSNC
- ProblemUtilsClientsSNC

- ProblemV2Util
- ProblemV2UtilSNC

Known Error articles

Use Known Error articles as reference material. The Known Error articles document the root cause and the workaround of the Problem to help with deflecting Incidents.

Contextual search

Use contextual search to view Knowledge articles. On the Problem form, a choice list next to the Related Search field helps you select a category, such as Knowledge (All), Pinned Articles, Incidents, Open Problems, and Resolved Problems in which you want to search for the entered text.

Communicate outcome

Communicate workarounds and fixes using related links, which notify related incidents that a workaround or fix is available.

Quick start tests for Problem Management

Validate the continued functionality of Problem Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Guided setup

Updated guided setup to include new state management.

Associate multiple records

Use a list view to associate multiple incidents, affected CIs, or change requests to a Problem at once. The related lists on the Problem form display the selected records.

Workaround functionality

The Workaround (work_around) journal input field is hidden if you activate the Problem Management Best Practice — Madrid plugin. A new HTML Workaround field (workaround) is added to document the workaround information.

Problem Dashboard

Use the Problem Dashboard, which replaces the Problem Overview Homepage, to view trends in open and closed problems.

Removed in this release

- Post News: Deprecated the Post News UI action in Knowledge v3.
- Post knowledge: Deprecated the Post knowledge UI action and introduced the Create Known Error Article link.
- Create Knowledge: Removed the Create Knowledge from Problem plugin (com.snc.problem_kb).
- Resolve incidents: Removed the Resolved incidents UI action.
- Closed Problem: Removed the Close Problem UI action.

Activation information

Problem Management provides the following plugins:

- Activate the Problem Management Best Practice — Madrid (com.snc.best_practice.problem.madrid) plugin if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

  Note: The plugin is activated by default for new customers. Existing customers can activate the plugin.

- Activate the Problem Management Best Practice — Madrid — State Model (com.snc.best_practice.problem.madrid.state_model) plugin. This plugin includes demo data.

-

  Note: The plugin is activated by default for new customers. Existing customers cannot activate the plugin.

- Activate the Problem Management Best Practice — Madrid — Knowledge Integration (com.snc.best_practice.problem.madrid.knowledge) plugin if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

  Note: New as well as existing customers can activate the plugin.

Service Catalog release notes

ServiceNow® Service Catalog product enhancements and updates in the Madrid release.

Service Catalog provides you with a requester view of available services and products that are offered by departments within your organization.

Madrid upgrade information

Before upgrading, you should be aware of changes that were made to the underlying Service Catalog data model. These changes affect the way that you implement multiple service catalogs. For details, see Upgrade to multiple service catalogs. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts.

New in the Madrid release

Multiple catalog support in Service Portal

Enable requesters to browse and search for items across multiple catalogs by adding these catalogs to the Catalogs related list when configuring a portal.

Portal settings

Define the catalog item behavior in Service Portal using portal settings. You can configure the following settings for a requester:

- Request method.
- Display of the quantity and delivery time of the item.
- Options to add an attachment to the item, or make the attachment mandatory.
- Options to add the item to the wish list or cart.

When you upgrade to Madrid, if the No cart or No quantity fields are already selected in the Now Platform®, a migration script propagates these settings to the portal settings.

My Requests menu in Service Portal

Enable requesters to view open or closed requests, incidents, and tasks in Service Portal using the My Requests menu. This menu uses the My Requests (my-requests-v2) widget that is based on the filter conditions and display settings defined in the My Request Filter module.

Service Catalog enhancements for Automated Test Framework

- Write automated end-to-end tests for requester flows to validate the following for Service Catalog:
  - Order guide in Service Portal.
  - Multi-row variable sets of a catalog item in Service Portal.
  - Variable editor in the Now Platform®.

    Note: When you upgrade or modify an instance, run these tests to confirm that the instance still works as designed.
- All Service Catalog step configurations support parametrized tests.

Mobile experience for a fulfiller

Approve catalog requests, requested items, or change requests using the ServiceNow Agent application.

User Criteria Diagnostics

Debug whether a user can access a catalog item based on the associated user criteria and fix issues without contacting ServiceNow Customer Support.

Regular expressions for variable validations

Use a regular expression (regex) to validate the value that is entered for a Single Line Text or Wide Single Line Text variable.

Request cloning in Service Portal

Clone a submitted request by selecting multiple users in the Also request for list of the Additional Actions section.

Embedded catalog approval request within the Outlook email client

Embed an interactive approval request for service catalog requests and requested items in the email notification sent to a user. The user can accept or reject the approval request from the email client.

Enhanced scoping support

Reference any request item variable from a script in a scoped environment.

Response parameters for methods in Service Catalog REST API

Use the parent_id and parent_table parameters that are added in the response body of the following methods:

- checkout
- checkout_guide
- submit_order
- submit_producer
- order_now

Changed in this release

Reparenting of the My Request Filter table

The My Request Filter [request_filter] table has been reparented to the Filter [sys_filter] table. The Short Description field from the My Request Filter table has been migrated to the Title field in the Filter table. The Table Name field from the My Request Filter table has been migrated to the Table field in the Filter table.

> Note: If the My Request Filter form is modified, the form still displays the Short Description and Table Name fields that are no longer valid. Delete these invalid fields from the form and add Title and Table fields to the form.

Help information for a variable in Service Portal

The Expand help for all questions field at the catalog item level and the Always Expanded field at the variable level are applicable in Service Portal.

Modifications to variables

- The g_form.setValue() function is supported for a List Collector variable even if it is not defined as a glide list.
- The auto-complete feature for a reference variable is applicable in Service Portal.
- For a group of check box variables, the following scenarios apply:
  - If any check box variable in the group is mandatory, the entire group becomes mandatory even if the check box variable is not visible.

- If all other check box variables of a mandatory check box group are hidden and not selected, the following scenarios apply:
  - The group remains mandatory as long as there is one check box in the group that is visible and not selected.
  - You must select the last check box of this group to hide it.

Activation of the Flow Designer for Service Catalog

You can now activate the Flow Designer support for the Service Catalog plugin (com.glideapp.servicecatalog.flow_designer) without contacting ServiceNow Customer Support.

Activation information

Active by default.

Service Level Management release notes

ServiceNow® Service Level Management product enhancements and updates in the Madrid release.

New in the Madrid release

SLA offline support

Provides support for accurate SLA timing for tasks updated from the ServiceNow mobile client while offline. Field service agents sometimes work offline at customer locations, and updates to their tasks are cached on their mobile devices. The data can be synchronized and repaired as needed when the field service agent is back online.

Maximum allowed duration for SLAs

In the Maximum duration allowed in SLA Definition (com.snc.sla.maximum_duration) property, specify the maximum time that an SLA can run. The default is 1095 days (3 years).

Changed in this release

Refreshed SLA timeline

The SLA timeline style was refreshed to use the new colors and styles to match the instance.

Asynchronous SLA processing

Process all SLAs triggered by a start condition using asynchronous SLA processing, regardless of the timing of the stop condition. By default, SLAs process synchronously, based on the com.snc.sla.engine.async system property.

Out-of-the-box ITSM Performance Analytics Solutions

Preconfigured Performance Analytics indicators and breakdowns for ITSM. Improved visualizations presented on the following dashboards:

- IT Agent
- IT Manager
- IT Executive

Activation information

Active by default.

Walk-up Experience release notes

ServiceNow® Walk-up Experience product enhancements and updates in the Madrid release.

Walk-up Experience enables your IT organization to set up a contact channel to support online check-in, onsite check-in, and appointment scheduling for a pre-established walk-up service center. Walk-up Experience is for anyone who prefers to meet face-to-face with an experienced IT technician in a welcoming and supportive environment.

Madrid upgrade information

Before upgrading, be aware that the following feature changes can affect your customizations:

- Your online check-in, as well as the onsite queue and onsite check-in interfaces are updated to reflect the new data model and features.
- Reports using Queue for grouping should use Location due to a change in the Interaction [interaction] table. Filtering is done based on Channel instead of Type.
- Notifications may no longer trigger due to State changes in interactions, such as the On Hold state. Reevaluate your custom notification conditions.

- Business rules and other logic running on fields that are deprecated, for example, Queue on the Interactions form.

New in the Madrid release

Agent Workspace for Walk-up Experience fulfillers

Use Agent Workspace to access and complete interactions at a walk-up queue location. This enhancement moves technicians away from the list and form interaction fulfillment experience to a configurable service desk application. Agent Workspace for Walk-up Experience provides a more efficient, integrated, and intuitive fulfiller experience. Using Agent Workspace, technicians can:

- Access a personal inbox where interactions are automatically pushed for assignment based on schedules and rule configurations in the Advanced Work Assignment feature.
- Open an incident or request consumables directly from an interaction.
- Consume assets directly from an associated stockroom.
- Access relevant knowledge base information.
- Display the ability to accept walk-up interactions via an availability toggle.
- Enable channels other than Walk-up, such as Chat or traditional Incident Management, to remain productive when the walk-up queue is not busy.

Walk-up appointment scheduling

- Schedule appointments online or onsite to receive IT support at a walk-up queue location. You can cancel an appointment, as well as reschedule an existing appointment. Scheduling places you at the head of the queue at your appointment time.
- View upcoming appointments scheduled for a walk-up queue. Managers and technicians can view appointments to best plan for interaction demand. Appointments can be viewed in platform view or in Agent Workspace.
- Receive a reminder notification for an upcoming scheduled appointment 15 minutes prior to the appointment.
- Configure custom appointment scheduling by location.

Walk-up queue length notification

Configure and receive queue-length threshold notifications. When a queue reaches a pre-configured length, a notification is sent to the manager of the assignment group for the walk up queue location. Knowing that a walk-up queue is crowded with a long waiting line means that managers can add additional support to the queue.

Walk-up support when a queue is closed

Get IT support even when a walk-up queue location is closed. Display an IT support phone number online and onsite at a queue providing requesters with an immediate option when the queue is closed. Requesters can also create an incident directly online or onsite at the check-in queue.

Tables

Use the Walk-up Appointment [wu_appointment] table to configure scheduled appointments.

Walk-up service channel

- Use the Walk-up service channel to route walk-up interactions. Work items originate from the Advanced Work Assignment feature. Configure the channel to meet your needs. The Walk-up service channel includes a default assignment inbox layout. Inbox capacity represents the number of walk-up interactions a technician can work on concurrently. By default, the capacity is set to 1.
- Configure the Service channel field on the Walk-up Location Queue form to specify Walk-up channel.
- Route work items to the correct queue location by specifying the Walk-up service channel in the Queue [awa_queue] table.

Changed in this release

Walk-up Location Queue table

- The Walk-up Location Queue [wu_location_queue] table, used to configure a walk-up location, is based on an advanced work routing data model. The table extends the Queue [awa_queue] table. Administration of walk-up queue assignment routing uses the Advanced Work Assignment feature. Queues must be linked to service channels, such as the Walk-up service channel.
- A Service channel field is added and defaults to Walk-up.

- A Work item routing condition is added and defaults to the physical location of the walk-up queue. The location is auto-generated if not present on the queue.
- The Assignment group field is migrated to an Assignment Eligibility related list.

Walk-up Interaction records

The On Hold state is added to interactions. Walk-up technicians can place an interaction on hold if the requester is not present for an appointment or if the interaction entails a lengthy process, for example, an OS upgrade. Putting an interaction on hold enables technicians to take on more work.

Dashboard and reporting

With the update from Queue to Location on the interaction record configuration, reports are altered to group by location instead of queue.

Removed in this release

- The Queue field is deprecated in the Interaction [interaction] table. TheLocation field replaces the Queue field to indicate the physical address of a walk-up queue. The walk-up interaction depends on the platform interaction model because the Advanced Work Assignment system uses a unique queuing concept.
- For security purposes, the survey_admin contained role has been removed from the sn_walkup.walkup_admin role.

Activation information

You can activate the Walk-up Experience plugin (com.snc.walkup) if you have the admin role. This plugin includes demo data.

For more information, see Walk-up Experience.

Mobile platform release notes

The mobile platform has new and updated features in the Madrid release.

- ServiceNow mobile release notes

  ServiceNow® mobile platform and application are new features in the Madrid release.
- ServiceNow Classic mobile release notes

ServiceNow® Classic mobile app product enhancements and updates in the Madrid release.

ServiceNow mobile release notes

ServiceNow® mobile platform and application are new features in the Madrid release.

Manage incidents, collaborate with your team, respond to approval requests, access the knowledge base, and receive push notifications all on the go with your mobile device. Access all of these options from the new ServiceNow Agent mobile app.

ServiceNow Agent features

ServiceNow Agent mobile app

Access an instance on a mobile device using the new iOS and Android native mobile apps.

Configure the new mobile app using ServiceNow Studio

Use ServiceNow® Studio to configure applications, applets, screens, and other mobile features for the native mobile app.

Mobile application and modules

The new mobile application includes new modules and tables in the platform. However, configuring an app in Studio provides a more secure configuration, so most configuration should take place in Studio. Only use modules in the platform for more advanced customization such as creating scripted conditions or carried parameters.

Push notifications

Receive push notifications on your mobile device for events that you are following, such as a work task assignment or record.

Location tracking

Turn on location tracking from your mobile device and in the mobile app so that you can keep a record of where you were when you last worked on an instance

Offline mode

Access and submit actions to records even if you do not have an internet connection.

Screen UI policies

Use screen UI policies to control whether a field is mandatory or visible on a screen, depending on the conditions that you define for the policy.

New mobile app for Incident Management

- Access work assigned to you or your group.
- Add comments or work notes or reassign incidents.
- Receive push notifications for incidents assigned or commented.
- Review group workload for incidents by priority and state.
- Approve or reject change requests, requests, and requested items.

Field Service Mobile

Manage your field service tasks anywhere using the Field Service mobile application. With this application, you stay connected at all times, can access information in real time, and complete your tasks quickly. You can even access task information and complete tasks in locations where your mobile device is not connected to the Internet.

Mobile experience for Approvals

Approve catalog requests, requested items, or change requests from anywhere using the ITSM ServiceNow Agent application.

Activation information

Depending on your device, go to the iTunes Store or the Google Play store and search for ServiceNow to download the native mobile app.

For more information, see Mobile documentation and configuration.

ServiceNow Classic mobile release notes

ServiceNow® Classic mobile app product enhancements and updates in the Madrid release.

Changed in this release

Name change for the ServiceNow mobile app

The original mobile app name has changed from ServiceNow to ServiceNow Classic. The name change is to differentiate the original app from the new ServiceNow app. For more information on using the new mobile app, see Get started with the ServiceNow mobile app.

Name change for the mobile application in the application navigator

In the application navigator, the mobile application formerly known as System Mobile UI is now System Classic Mobile UI.

Activation information

Download the classic app from the iTunes Store or the Google Play store by searching for ServiceNow Classic.

Now Platform administration release notes

ServiceNow® Now Platform® administration product enhancements and updates in the Madrid release.

Use Now Platform administration features to address the business needs of your organization. Administration features are active by default on all instances.

- Antivirus Scanning release notes

  ServiceNow®Antivirus Scanning is a new feature in the Madrid release.

- Authentication release notes

  ServiceNow® Authentication enhancements and updates in the Madrid release.

- Contextual Search release notes

  ServiceNow® Contextual Search feature enhancements and updates in the Madrid release.

- Credentials release notes

  ServiceNow® credentials product enhancements and updates in the Madrid release.

- Edge Encryption release notes

  ServiceNow® Edge Encryption™ product enhancements and updates in the Madrid release.
- Embedded help release notes

  ServiceNow® Embedded help product enhancements and updates in the Madrid release.
- Import and export release notes

  ServiceNow® import and export product enhancements and updates in the Madrid release.
- Knowledge Management release notes

  ServiceNow® Knowledge Management product enhancements and updates in the Madrid release.
- MID Server release notes

  ServiceNow® MID Server product enhancements and updates in the Madrid release.
- Platform security release notes

  Now Platform® security product enhancements and updates in the Madrid release.
- System Clone release notes

  ServiceNow® System Clone product enhancements and updates in the Madrid release.
- UI release notes

  ServiceNow® UI product enhancements and updates in the Madrid release.

Antivirus Scanning release notes

ServiceNow®Antivirus Scanning is a new feature in the Madrid release.

Use Antivirus Scanning to help protect your instance against virus infections that can be introduced by file attachments to your system records, such as incidents, problems, and stories.

New in the Madrid release

Configure Antivirus Scanning

Configure Antivirus Scanning across your instance and at the table level.

Dictionary attributes for Antivirus Scanning

As an administrator, you can set the values of dictionary attributes to modify the behavior of the default Antivirus Scanning configuration.

Review antivirus activity

The Antivirus Activities log tracks all activities that occur on potentially infected files from the point that they are discovered and placed into quarantine.

Review quarantined files

Review quarantined file attachments and take further action as needed.

Activation information

To use the Antivirus Scanning feature, activate the Antivirus Protection (com.glide.snap) plugin.

Authentication release notes

ServiceNow® Authentication enhancements and updates in the Madrid release.

New in the Madrid release

Support JSON Web Tokens (JWT) for external API providers

JWTs provide the capability to configure server-to-server API interactions between ServiceNow and external API providers without requiring any user intervention. This support enables IntegrationHub or other automated tasks using JWTs to configure API and Service integrations with different providers.

Guest Session Timeout property

This new property, glide.guest.session_timeout, decouples a session timeout for a guest session from the glide.ui.session_timeout.

Support Facebook authentication

Your Facebook user account can link to your ServiceNow user account to perform actions, such as pre-set conversations or notifications, through a conversational bot platform.

Changed in this release

Support PKCE credential for Mobile Authentication

Supports AppAuth, which enables Proof Key for Code Exchange (PKCE) credentials for OAuth authorization requests when using Mobile authentication.

'Remember Me' cookie expiration

Adds two properties, glide.ui.user_cookie.life_span_in_days and glide.ui.user_cookie.max_life_span_in_days, to control the glide_user system generated cookie expiration value.

Activation information

Authentication is a Now Platform® feature and is active by default.

Contextual Search release notes

ServiceNow® Contextual Search feature enhancements and updates in the Madrid release.

The Contextual Search feature enables you to add and configure contextual search functions for fields in forms and record producers.

New in the Madrid release

Source selector

Specify a resource to search from the choice list next to the Related Search field.

Search on tab field

Configure the search so that it searches only when the agent enters text in the Short description field or in a search field and then removes the cursor from the field.

Disable actions

You can now disable search actions except the This helped action.

Attach note field

Specify a field where the attached knowledge article should be copied by selecting the Use custom field for attach note check box and putting the field name in Attach note field. Earlier, the attached knowledge article was copied to the field set in the glide.knowman.attach.fields property.

Changed in this release

View complete titles when pointing to a truncated title

View the complete title when you point to a truncated search result title. In previous releases, the title was truncated and only after previewing the result was the complete title visible.

Activation information

Activate the Contextual Search plugin (com.snc.contextual_search) to display related articles or service catalog items within a form or record producer. This plugin is activated by default for upgrade and existing customers.

Credentials release notes

ServiceNow® credentials product enhancements and updates in the Madrid release.

All application integrations in the Now Platform® require connection information, credentials, and connection and credential aliases to their respective applications to access resources.

New in the Madrid release

Credential aliases for Discovery

Allows an administrator to use specific credentials on Discovery schedules. Credential aliases provide more control over which credentials a Discovery schedule is allowed to use and prevents the unnecessary exposure of credentials with elevated privileges.

Changed in this release

CyberArk credential lookup

In previous releases, if the MID Server did not find the necessary credentials in the CyberArk vault when looking up by credential identifier, the MID Server tried to look up the credentials by IP address. In the Madrid release, the MID Server only looks up credentials by IP address if no credential identifier is provided.

Activation information

Credentials are a Now Platform® feature and is active by default.

Edge Encryption release notes

ServiceNow® Edge Encryption™ product enhancements and updates in the Madrid release.

Madrid upgrade information

Upon an upgrade, the newly installed proxy has the same folder name as the previous proxy folder name, and the previous proxy folder is renamed. For example, the previous proxy folder is renamed from EdgeProxy_16001 to backup.dist-upgrade_20181204-144650461, and the new proxy folder is named EdgeProxy_16001.

New in the Madrid release

Authenticate an Edge Encryption proxy server

Specify that a proxy is a trusted source so that Edge Encryption can process the requests that come from that proxy.

Changed in this release

Date and Date/Time encryption

You can create encrypted field configurations to encrypt existing Date and Date/Time fields. You can add a new encryption configuration to a parent table only. You cannot add a new encryption configuration to a child table.

Setting and managing default keys

Default keys that are set in the edgeencryption.properties file are now set and managed on the instance in Madrid and later releases.

Activation information

Active by default.

Embedded help release notes

ServiceNow® Embedded help product enhancements and updates in the Madrid release.

Embedded help provides targeted help content to a user in a UI page, based on their role. Some embedded help content comes with the base instance. Your organization can add or replace embedded help content.

New in the Madrid release

Create embedded help content records after you upgrade

Reduce the downtime of missing embedded help content when pages load after an upgrade.

Download all embedded help content for the family you are upgrading to. This execution is for out-of-family upgrades only. For example, when upgrading from Jakarta Patch 3 to London Patch 5. This enhancement is not for in-family upgrades, such as Kingston Patch 3 to Kingston Patch 4.

Create sys_embedded_help_content records by downloading and unzipping the sys_embedded_help.zip file.

Activation information

The Embedded Help (com.glide.embedded_help) plugin is active by default for all new and upgraded instances.

Additional requirements

Embedded help is only available in UI16. Embedded help is not compatible with UI15.

Import and export release notes

ServiceNow® import and export product enhancements and updates in the Madrid release.

New in the Madrid release

Concurrent imports

Split incoming data into multiple import sets and transform the import sets concurrently to reduce processing time.

You can partition import sets to maintain the processing order within each partition.

WebSockets

WebSockets are turned on by default. WebSockets connections may be limited by your network configuration. You can check your browser's compatibility by entering the following URL (you do not have to be logged on to an instance): https://yourinstance.service-now.com/$websocket_test.do.

Activation information

Active by default.

Knowledge Management release notes

ServiceNow® Knowledge Management product enhancements and updates in the Madrid release.

Madrid upgrade information

The Knowledge Management Core plugin (com.glideapp.knowledge) is active by default for new or upgrade customers.

The Knowledge Management with KCS plugin (com.glideapp.knowledge2) is planned for deprecation.

New in the Madrid release

Guided setup

Follow step-by-step instructions to configure Knowledge Management on your instance. Perform structured configuration activities and monitor your progress.

Ownership groups

Create ownership groups to own knowledge articles and maintain article quality, manage approvals, and ensure the timely resolution of feedback.

Full-sized images

Open an image from a knowledge article on the Knowledge Management Service Portal article view page to view a full-sized image.

Domain enhancement to user criteria diagnostics

Displays whether a user has access to a knowledge article or knowledge base based on their domain.

Facets for glide list field types

Configure facets for glide list field types on the Knowledge Service Portal search results page.

Import a Word document using the platform UI

Create a knowledge article by importing a Word document directly using the platform UI.

Multi-language search facet

Select which languages to display your search results using the language facet in the Knowledge Management Service Portal.

Performance improvements to scripted user criteria

Evaluates user access to knowledge bases once per session if scripted user criteria is defined for a knowledge base. If the script results in changes after a session cache is built, the result takes effect in the next session. Changes to a user's role, groups, company, location, or department take immediate effect.

Extension points for Knowledge Management plugins

Use UI extension points to customize knowledge article headers and footers and article feedback notification emails. Use scripted extension points to customize the article subscription email template.

Quick start tests for Knowledge Management

Validate the continued functionality of Knowledge Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Preview a knowledge article with knowledge blocks

Preview a knowledge article with knowledge blocks by user or, if published, date. For an unpublished article, you can preview the article by user by impersonating different users to see how the article displays or hides block content based on the user criteria set at the knowledge base and knowledge block level. For published articles, you can preview the article by both user and date to see how the article appears in past versions for different users.

Activation information

The Knowledge Management Service Portal plugin (com.snc.knowledge_serviceportal) is active by default for new customers.

Activate the Knowledge Management Advanced plugin (com.snc.knowledge_advanced) to enable advanced features for Knowledge Management. For more information on activating the plugin, see Activate the Knowledge Management Advanced plugin.

MID Server release notes

ServiceNow® MID Server product enhancements and updates in the Madrid release.

Madrid upgrade information

If an unsupported version of the Java Runtime Environment (JRE) is running on a MID Server when the MID Server is upgraded, the upgrade process replaces that JRE with the OpenJDK that is bundled with the MID Server installer. If a supported JRE is running on the MID Server host, the upgraded MID Server uses that Java version.

MID Server hosts for instances upgraded from London do not require connection to the download site at install.service-now.com. The auto-upgrade process for MID Servers in Madrid is handled through the instance. However, upgrades from Kingston or earlier require that each MID Server host machine have access to the download site. For additional details about how MID Server upgrades are managed and where to look for errors, see MID Server upgrade.

For additional information about MID Server upgrades, see:

- MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade.
- Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

New in the Madrid release

TrustStore configuration parameters

Sets the path to the trustStore for the MID Server to use and defines the trustStore password for HTTPS connections with the Asynchronous Message Bus (AMB) Client.

- mid.https.truststore.path
- mid.https.truststore.password

Changed in this release

Java version support

The MID Server installer package installs OpenJDK on the host server and configures it to run in your environment. It is not necessary to install the JRE manually on MID Server host machines, as in the London release.

MID Server role validation

The mid_server and security_admin roles now permit the selection of the Web service access only and Internal Integration User options.

Activation information

Now Platform® feature active by default.

Platform security release notes

Now Platform® security product enhancements and updates in the Madrid release.

New in the Madrid release

Instance security center

Monitor the compliance level of instance security controls, view security event monitoring metrics, and configure and maintain instance security settings all from within the Instance Security Center. The Instance Security Center consolidates several key security components into a single control console that helps you detect, protect, and respond to instance-based security events.

Changed in this release

Date and Date/Time encryption

You can create encrypted field configurations to encrypt existing Date and Date/Time fields. You can add a new encryption configuration to a parent table only. You cannot add a new encryption configuration to a child table.

Instance security dashboard usage

Using the Instance Security Center and dashboards, you can monitor the security compliance score for your instance and detect, protect, and respond to instance-based security events. These functions have evolved over time, and certain rules govern their use in specific releases.
As of the Madrid release, the following rules apply:

- The Instance Security Dashboard, introduced in Jakarta, has been deprecated and is not available in Madrid.
- The Instance Security Dashboard (PA), introduced in London, is an enhanced version of the Instance Security Dashboard that uses the Performance Analytics framework. It is only available in Madrid if you activated it in the earlier release.
- The Instance Security Center, introduced in Madrid, consolidates several key security components into a single central console. It replaces both the Instance Security Dashboard and Instance Security Dashboard (PA).

Activation information

Now Platform® feature – Instance Security Center is active by default.

To use Date and Date/Time encryption, activate the Encryption Support plugin (com.glide.encryption).

System Clone release notes

ServiceNow® System Clone product enhancements and updates in the Madrid release.

Use the System Clone application to clone data from one instance to another.

New in the Madrid release

Admins can roll back a clone

Roll back clones for up to seven days from the date a cloning completes.

Changed in this release

Clones of large tables limited to 90 days of historical data

When cloning large tables, the historical data that is cloned is limited to 90 days by default. The other option is to load all of the historical data.

User tables preserved on clones

User and user-related tables are preserved on target clones by default. You can overwrite this default.

Use a watch list for cloning notifications

On the Clone Request form, you can use a watch list to enter the names of internal users instead of their email addresses to specify who to send cloning notifications to. You can also enter email addresses.

Activation information

System clone is part of the core platform and does not require special activation.

UI release notes

ServiceNow® UI product enhancements and updates in the Madrid release.

Madrid upgrade information

When you upgrade to this release, your instance is updated with the new ServiceNow branding. Any customizations you have made to the system theme are not updated. You can revert to the previous theme by changing the system defaults in the Basic Configuration UI16 module. For more information on switching the system defaults, see Configure logo, colors, and system defaults for UI16.

UI15 is not affected by these changes, with the exception of the icon that appears on the browser tab. You can update the icon by changing the value for the glide.product.icon system property.

New in the Madrid release

Themes

Select from two new themes in the system settings window. The cobalt and cobalt contrast UI themes use the same styles as the previous UI.

Theme previews (under System Settings > Themes) have been updated so that the colors are determined by three configurable variables. The following variables provide the colors for the theme preview.

- $navpage-header-bg
- $navpage-header-color
- $nav-highlight-bar-active

For more information on customizing a theme, see Create or customize a theme.

Base theme property

Change the base theme for the main content on the page. Find the Selected base theme [glide.ui.base_theme.selected_theme] by navigating to System Properties > Basic Configuration UI16. Only the main content on the screen (any content not included in the application navigator and the banner frame) is updated with this theme. Choose from:

- La Jolla: The default base system theme. The properties for this theme are consistent with the new branding.
- Cobalt: The properties for this theme match the previous branding.

Keyboard shortcut preferences

Determine which keyboard shortcuts are available to users from the list of user preferences.

Changed in this release

Platform rebranding

The system theme defaults have been updated with the latest ServiceNow styles, including the new logo and color scheme.

Basic Configuration UI16 properties

The following properties were added to the Basic Configuration UI16 properties page. Changes to these properties affect the system theme UI.

- Navigation background expanded items [css.$subnav-background-color]
- Navigation selected tab divider bar color [css.$nav-highlight-bar-active]
- Navigation unselected tab divider bar color [css.$nav-highlight-bar-inactive]
- Selected base theme [glide.ui.base_theme.selected_theme]

Activation information

Now Platform® feature active by default.

Accessibility information

The Cobalt Contrast UI theme was added to incorporate the contrast UI from the previous theme. The Contrast UI theme was updated with the new theme to include an accessible theme.

Now Platform capabilities release notes

Now Platform® capabilities enhancements and updates in the Madrid release.

Expand the services your system of action delivers with Now Platform capabilities. Activate and configure these optional features to create custom business logic, manage and secure data, and build alternate user interfaces.

- Advanced Work Assignment release notes

  ServiceNow® Advanced Work Assignment is a new platform feature in the Madrid release.

- Agent Workspace release notes

  ServiceNow® Agent Workspace has new and updated features in the Madrid release.

- Agent Intelligence release notes

  ServiceNow® Agent Intelligence product enhancements and updates in the Madrid release.

- Approvals release notes

  ServiceNow® approvals product enhancements and updates in the Madrid release.
- Assessments and Surveys release notes

  ServiceNow® Assessments and Surveys product enhancements and updates in the Madrid release.
- Configuration Management Database (CMDB) release notes

  ServiceNow® Configuration Management Database (CMDB) product enhancements and updates in the Madrid release.
- Document Viewer release notes

  ServiceNow® Document Viewer is a new application in the Madrid release.
- Flow Designer release notes

  ServiceNow® Flow Designer product enhancements and updates in the Madrid release.
- Guided Tour Designer release notes

  ServiceNow® Guided Tour Designer product enhancements and updates in the Madrid release.
- IntegrationHub release notes

  ServiceNow® IntegrationHub product enhancements and updates in the Madrid release.
- MetricBase release notes

  ServiceNow® MetricBase product enhancements and updates in the Madrid release.
- Notifications release notes

  ServiceNow® Notifications product enhancements and updates in the Madrid release.
- Service Portal release notes

  ServiceNow® Service Portal product enhancements and updates in the Madrid release.

- Subscription Management release notes

  ServiceNow® Subscription Management product enhancements and updates in the Madrid release.

- Virtual Agent release notes

  ServiceNow® Virtual Agent product enhancements and updates in the Madrid release.

Advanced Work Assignment release notes

ServiceNow® Advanced Work Assignment is a new platform feature in the Madrid release.

The Advanced Work Assignment (AWA) feature automatically routes and assigns work items to your agents, based on their availability, capacity, and optionally, skills. AWA pushes work to qualified agents using work item queues, routing conditions, and assignment criteria that you define. Agents use their ServiceNow® Agent Workspace inbox to set their availability, see their work items, and accept or reject work items.

With AWA, agents no longer manually choose work items from queues, because work is delivered directly to their inbox.

Advanced Work Assignment features

Service channels

Configure the base service channels through which customer service is provided: Chat, Case, Incident, and Walk-up. For each service channel, you can set attributes such as agent capacity and utilization conditions to control the work handled in the channel.

Work item queues

Define the queues that AWA uses to route work items, based on specific routing conditions or requirements that you provide, such as product or customer attributes. For each queue, assign the agent groups handling the incoming work items. You can define agent pools that expand the agent groups eligible for assignment when an overflow of work items occurs. You can also set the sort order of work items in a queue to determine which items are handled first.

Agent assignment rules

Configure the assignment rules that determine how work items are pushed to qualified agents. You can set rules that determine how work items are handled when agents are not available or whether agents can reject work items.

Agent experience controls

Define the agent availability (presence) states by service channel. Agents use these states to manage their availability in their agent inbox.

Advanced Work Assignment APIs

- Get or set agent presence states and channel availability
  - JavaScript Agent API
  - REST Agent API
- Update work item queues
  - JavaScript Queue API
  - REST Queue API

Advanced Work Assignment dashboard

Monitor service channel activity. The AWA dashboard contains various indicators that managers can use to gain insights on agent availability and capacity.

Out-of-the-box Advanced Work Assignment Performance Analytics Solution

Preconfigured Performance Analytics indicators and breakdowns for Advanced Work Assignment, along with visualizations and a dashboard.

Madrid upgrade information

If you are using Connect Support and want to move to Advanced Work Assignment and Agent Chat, see Migrate from Connect Support to AWA and Agent Chat.

Activation information

Advanced Work Assignment requires activation of the Advanced Work Assignment plugin and related AWA plugins that enable AWA service channels.

For more information, see Advanced Work Assignment.

Agent Workspace release notes

ServiceNow® Agent Workspace has new and updated features in the Madrid release.

Agent Workspace is a configurable service desk application that provides an integrated and intuitive user experience enabling tier 1 agents to be more efficient. Agent Workspace features include:

- A multi-tab interface for agents to efficiently manage multiple cases or incidents
- Real-time handling of calls and chats via an Interaction Management System
- Task resolution assistance via Agent Assist
- Intuitive search capabilities enabling agents to quickly find relevant content
- A heads-up display of contextual information helping agents quickly get oriented to the task at hand

Agent Workspace features

Agent Intelligence (AI) for Agent Assist

Adds AI to the Agent Workspace Contextual Sidebar, which can then surface similar incidents or problems using a combination of contextual search, Zing, and machine learning.

Advanced Work Assignment (AWA)

Automatically route and assign work items in Agent Workspace to agents based on availability, capacity, and skills. Define work-item queues, routing conditions, and assignment criteria that AWA uses to distribute work items. Agents work from an agent inbox, where they see assignments, set their availability, and accept or reject work items.

Agent Chat

Agent Chat is a real-time messaging system specifically for Agent Workspace. From a chat, agents can respond to questions, create a record for an incident or case, or escalate the chat to another agent.

Lookup and verify for Agent Workspace

Enables agents to quickly look up contacts or consumers using information such as the name, phone number, or account number, and verify that information for the interaction.

UI notifications

Agent situational-awareness improves through on-screen notifications from pre-defined notification triggers. For example, triggers can notify agents of newly assigned or updated records. The on-screen notification gives context to the change and enables an agent to link directly to the record.

Form and list enhancements

- You can resize the form versus the activity stream to provide better focus on current agent activity.
- Separate tabs for Lists and My Lists
- Add Last refreshed list update, relocate Refresh and New buttons
- Reference fields can link within a list to open the corresponding record
- Easier access to create a new list and personalize columns on the list
- Improve filtering capabilities, add a new filter panel, and enable access to the full condition builder
- Designate an associated URL for each list, for quick access and deep-linking functionality

SNAP for Agent Workspace

Notifies agents that an attachment on the record they are viewing potentially contains a virus.

Activation information

Active by default.

Agent Intelligence release notes

ServiceNow® Agent Intelligence product enhancements and updates in the Madrid release.

Agent Intelligence is a platform function that provides a layer of artificial intelligence (AI) that empowers features and capabilities across ServiceNow applications to provide better work experiences. For example, you can use machine-learning algorithms to set field values when you are creating a record. You can also train predictive models to automatically categorize and route work that is based on your past record-handling experience.

Madrid upgrade information

These ML Solution Definition templates are deprecated in the Madrid release and are replaced by a Classification Template:

- Assignment Template
- Category Template
- Priority Template

This new template prompts you to choose specific record fields that you can use to build a classification solution.

If you upgrade to the Madrid release and you have existing solutions that use one of these deprecated templates, you must update and retrain the solutions to use the new Classification Template. For more information on how to update these solutions in Madrid, see Create and train a classification solution.

New in the Madrid release

Similarity framework

Use the Agent Intelligence similarity framework to build a word corpus (a collection of machine-readable text that is assembled for the purpose of research) to compare trained records that are based on textual similarity.

Create and train a similarity solution

Create and train a solution that applies machine learning to train the word corpus to target and recommend similar records in your instance data set.

Review solution similarity examples

Review the similarity examples and scores that the system provides during solution training. Determine if you need to update the similarity score threshold of your trained solution.

Update your similarity score threshold

Update the similarity score threshold value if you want the results that are returned by the solution to be more or less similar.

Agent Intelligence for Event Management

Use your instance records to build Event Management-specific machine-learning solutions.

MLPredictor - Global

Use the utility methods in this API for Agent Intelligence predictions.

Activation information

Agent Intelligence is included in these packages: ITSM Professional, CSM Professional, HR Professional, HR Enterprise, ITOM Standard, ITOM Professional, ITOM Enterprise, and Standalone Event Management. When you subscribe to any of these packages, you can activate Agent Intelligence on your production instance. For activation instructions, see Activate Agent Intelligence.

Approvals release notes

ServiceNow® approvals product enhancements and updates in the Madrid release.

Require authorization on tasks before the work is done. You can define approvals for all tasks and associate users or groups to a task to approve or reject them.

New in the Madrid release

Embed an approval request within the Outlook email client

Embed an interactive approval request for service catalog requests in the email notification sent to a user. The user can accept or reject the approval request from the email client.

Mobile experience for Approvals

Approve catalog requests, requested items, or change requests from anywhere using the ITSM ServiceNow Agent application.

Activation information

Now Platform® feature active by default.

Assessments and Surveys release notes

ServiceNow® Assessments and Surveys product enhancements and updates in the Madrid release.

With the Assessments and Surveys application, you can create, send, and collect responses for surveys, and use assessments to evaluate, score, and rank records from any table in the system.

New in the Madrid release

Question Bank module

Add question categories (metric categories) and questions (metrics) in the Question Bank module so that you can reuse them when you create or update a survey. This module is available for all evaluation types, that is, surveys, assessments, and quizzes.

The demo data for the question bank is available only when you activate the Survey Question Bank Sample Data plugin (com.snc.question_bank_data). This demo data is available for surveys in the Platform UI and Survey Designer (under Questions and Categories tabs).

Embedded survey within the Outlook email client

Embed an interactive survey in the email notification that is sent to the user by selecting the Outlook Actionable Message check box in the survey definition. Your users can answer the survey questions and submit the survey from the email client instead of opening it in a new browser tab.

> Note: To use this feature, you must activate the Outlook Actionable Messages plugin (com.sn_ms_oam).

Ability to take a survey in the Connect chat client

Configure a survey in the Connect chat client by using the Chat Survey module. When a support agent ends the chat, the survey URL is displayed.

> Note: To use this feature, you must activate the Connect Support plugin (com.glide.connect.support).

Recipients list

Send a survey invite to a targeted set of users by using a recipients list. Using the dynamic condition method, you can create a dynamic recipients list that can be used for multiple surveys.

Localization for a public survey

Use the Enable/Disable whether to show language picker when a public survey is taken property to enable a language picker for a public survey. When a survey user takes the survey, it is first available in the language that you set. However, the user can use the language picker to change the language of the survey. Localization is also applicable to Service Portal.

> Note: You must activate the language plugins for each language that you want your surveys to be available in.

Quick start tests for surveys

Validate that Assessments and Surveys still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Activation information

Now Platform® feature active by default.

Localization information

Localization is available for a public survey. When a user takes the survey, it is first available in the set language. However, the user can use the language picker to change the language of the survey. Localization is also applicable to Service Portal. For information on localization of a public survey, see Enable localization for a survey.

> Note: You must activate the language plugins for each language that you want your surveys to be available in.

Configuration Management Database (CMDB) release notes

ServiceNow® Configuration Management Database (CMDB) product enhancements and updates in the Madrid release.

With Configuration Management Database (CMDB), you can build logical representations of assets, services, and the relationships between them that comprise the infrastructure of your organization. Details about these components are stored in the CMDB. Use the CMDB to monitor the infrastructure, which helps to ensure integrity, stability, and continuous service operation.

Madrid upgrade information

Upgraded instances include the new cmdb_read role. However, the system does not enforce the requirement to use cmdb_read when an application reads data from the cmdb_ci table hierarchy. For information about enforcing the usage of cmdb_read after an upgrade and other related issues, see the New role to read data from CMDB [KB0694559] article in the HI Knowledge Base.

The CMDB Workspace plugin (com.cmdb-workspace) is not activated in an upgraded instance. Activate CMDB Workspace to get the functionality of CMDB Agent Workspace.

New in the Madrid release

Agent Workspace for CMDB

Access the following essential CIs and related details from Agent Workspace for CMDB:

- Timeline view to access changes, change requests, and incidents for CIs
- Health widget to view health scores for CIs
- Relationships widget to view level 1 relationships (direct relationships) for CIs
- All critical attributes related to CIs
- Ability to create incidents and change request from the CI form view

CMDB Health

Use the system property glide.cmdb.health.src.cmdb_health_audit_only to configure CMDB Health to disregard data from other sources, such as cloud discovery.

CMDB roles

Control read access to the CMDB by using the cmdb_read role. The cmdb_read role is required for reading any CMDB table, and it is contained in existing roles such as admin and itil.

CMDB Search

Search the CMDB by using queries that are more complex than the basic global text search. Enter an almost free-style search text with configurable synonyms and stop words. CMDB Search then converts that text into a properly formulated query on CMDB CIs and relationships.

Quick start tests for Configuration Management Database (CMDB)

Validate that Configuration Management Database (CMDB) still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Changed in this release

Query Builder

- Share a direct URL to a saved query: When you save a query, the query URL is automatically updated to include the parameter and the sys_id of the query. You can then share that URL with other users who can paste the URL into a browser to directly access the query.
- Build a CMDB query with up to second level relationships: Build a query for CIs that are indirectly connected to each other, without specifying the connecting CI in the middle.
- Export and import a query as an update set: Export the definition of a saved query to an XML file as an update set, which you can later import. For example, export a query definition to port a query from a development environment to a production environment.
- Use the cmdb_query_builder_read role to restrict access to only viewing and running saved queries. Using this role enables you to protect a saved query from modifications by unauthorized users.

CMDB Identification and Reconciliation

- Hybrid identifier entry: Create a hybrid identifier entry, which is a combination of a regular identifier entry and a lookup identifier entry, in an identification rule. A hybrid identifier entry enables you to choose attributes from both the selected table and a lookup table such as the Serial Number table. In some situations, a hybrid identifier entry might be necessary to uniquely identify CIs that regular identifier entries cannot identify. The CI Class Manager supports the hybrid identifier entry option.

- Performance and memory optimization improvements to the identification engine: For optimization, allow local caching of the default number of query result entries for related/lookup items and dependent items. These numbers are set by the system properties glide.identification_engine.dependent_items_local_cache_count and glide.identification_engine.related_items_local_cache_count.

Activation information

Now Platform® feature active by default.

Document Viewer release notes

ServiceNow® Document Viewer is a new application in the Madrid release.

Use Document Viewer to view documents directly within the Now Platform® rather than having to download the files to your file system.

New in the Madrid release

Enable Document Viewer

Enable Document Viewer on a specific table by adding the use_document_viewer attribute.

View attachments with Document Viewer

Use Document Viewer to view documents directly within the Now Platform® rather than having to download them to your own file system.

Activation information

To use the Document Viewer feature, activate the Document Viewer (com.snc.documentviewer) plugin.

Flow Designer release notes

ServiceNow® Flow Designer product enhancements and updates in the Madrid release.

Flow Designer is a Now Platform® feature that enables rich process automation capabilities in a consolidated design environment. It enables process owners to use natural language to automate approvals, tasks, notifications, and record operations without having to code.

Use a single design environment to author flows and actions and manage flow executions. Lower the barrier for automation and accelerate development by creating an ecosystem of reusable content available to any flow. Reduce upgrade times and technical debt by replacing customized business logic with native Now Platform actions.

Madrid upgrade information

- Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow.
- Flows using the Always option for Created or Updated or Updated trigger types in previous releases use the Only if not currently running option. Use the For each unique change option to trigger a flow for every unique change, even if the flow is running.

New in the Madrid release

Call a Workflow flow logic

Reuse existing business logic by running a published and active workflow from a flow. Flow designers can use flow data as workflow inputs such as specifying the current record.

Core attachment actions

Use core actions to copy, delete, look up, and move attachments in the Attachments [sys_attachments] table.

Do the following in parallel flow logic

Branch a flow into blocks of actions and subflows that run in parallel.

Do the following until flow logic

Apply one or more actions repeatedly until an end condition is met. Flow designers can use flow data to specify the end conditions.

End flow logic

Stop running a flow from within a conditional flow logic block, such as an If, Else If, or Else flow logic block. Use this flow logic to stop flow execution when certain conditions are met.

GlideFlow API

Perform client-side interactions with actions, flows, and subflows. Flow designers must enable a flow, subflow, and action to be called from the client.

Make a decision flow logic

Use decision table branching logic in situations where multiple conditional paths are required, as an alternative to nested If, Else If, or Else flow logic. For example, inputs such as location, age, crash history, car make, car model, and car year will determine a level of insurance coverage. This logic can save time and present a more readable format than nested if conditions or switch case statements.

Run As advanced option

Choose whether the flow runs as System User or the user who initiates the session. Use the user who initiates the session option when the update should come from the user who triggered the flow. For example, comments to incident records that should come from the current user, or approval emails that should originate from the approver. Settings on a flow do not apply to child subflows. Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow.

FlowAPI

Execute actions, flows, or subflows in server-side scripts using either blocking or non-blocking methods. Non-blocking methods enable the client to execute other code in the script without waiting for the flow to complete.

Wait for a duration flow logic

Pause a flow for a specified time period. Flow designers must specify the duration and schedule for the wait period.

Changed in this release

API access to Flow Designer

Application developers can access Flow Designer functionality through APIs for flows, subflows, and actions. Flow designers can enable individual flows, subflows, and actions to be client callable during design.

Flow - Scoped

This API is deprecated and replaced by the ScriptableFlowAPI.

Subflow - Scoped

This API is deprecated and replaced by the ScriptableFlowAPI.

Activation information

Now Platform® feature active by default.

Guided Tour Designer release notes

ServiceNow® Guided Tour Designer product enhancements and updates in the Madrid release.

Create a guided tour so that your users can learn how to use a feature.

New in the Madrid release

Single callout placement

The four directional callouts used to associate a tour step to a page element have been replaced by a single multidirectional callout. This multidirectional callout enables you to flexibly position your callouts so they point to an element from any direction.

Changed in this release

Role change

The embedded_help_admin role is no longer used by the Guided Tour Designer.

Activation Information

Now Platform® feature active by default.

IntegrationHub release notes

ServiceNow® IntegrationHub product enhancements and updates in the Madrid release.

Automate integration tasks using ServiceNow-built components for Flow Designer, or develop custom integrations. Requires a separate subscription.

New in the Madrid release

Payload Builder step

Enable action designers to easily create name-value pairs in JSON and XML payloads using dynamic data.

SOAP step

Enable action designers to send outbound SOAP web service requests to external systems.

Slack spoke

Use Slack APIs to post messages and manage access to channels. Authorize spoke actions with OAuth tokens. The webhook-based spoke from the previous release has been renamed to the Slack webhooks spoke. Only the new spoke supports Slack APIs and OAuth.

Microsoft SCCM spoke

Automate management of user collections, device collections, and application deployments on a Microsoft System Center Configuration Management (SCCM) server.

Changed in this release

Slack webhooks spoke

Use Slack webhooks to post messages and record details for ServiceNow incidents, problems, and changes to Slack channels. This spoke contains Slack spoke actions from the previous release.

Microsoft Azure AD spoke

Use additional actions and sample flows to manage users, security groups, and office groups in Microsoft Azure AD.

Microsoft AD spoke

Use additional actions and sample flows to create, delete, and manage objects in Microsoft Active Directory, such as users, groups, and computers.

Activation information

The ServiceNow IntegrationHub Installer plugin (com.glide.hub.integrations) requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active.

MetricBase release notes

ServiceNow® MetricBase product enhancements and updates in the Madrid release.

Use the MetricBase application to collect, retain, analyze, and visualize time series data on the Now Platform®.

Changed in this release

Use new aggregations in the resample transform

The resample transform supports new aggregators: STDDEV, MEDIAN, and CHISQUARE.

New aggregators for time series metrics compactions

Admins can specify one of the following aggregators to use in time series metric data compaction: AVG, MIN, MAX, and LAST.

Activation information

MetricBase requires a separate subscription and activation by ServiceNow personnel. Include in your request the free MetricBase demo plugin, which contains sample tables, metrics, triggers, and data.

Notifications release notes

ServiceNow® Notifications product enhancements and updates in the Madrid release.

Madrid upgrade information

This release introduces a new Email Client Configuration feature and a Connection Security option on the Email Account form for choosing the secure connection for your email server. These features are enabled in new and upgraded instances. When you upgrade to this release, the following items are migrated if you previously set them in your instance:

- The secure connection mode that you selected for your email server in the Email Account form (Enable TLS and Enable SSL fields).

- The email client property settings for controlling:
  - Email address autocomplete (glide.ui.email_client.autocomplete.group)
  - From and Reply To email addresses displayed in the email client (glide.ui.email_client.from and glide.ui.email_client.reply_to)
  - Email address recipient qualifiers (glide.ui.email_client.email_adresss.disambiguator and glide.ui.email_client.email_address.disambiguator_search)

  The email client property settings are preserved in a default email client configuration created during upgrade. You can view the default configuration in the new Email Client Configuration [sys_email_client_configuration] table.

  These email client properties are also deprecated in this release because these features can be set using email client configurations.

New in the Madrid release

Email client configurations

Control how your email client works:

- Use email client configurations to manage the behavior of your email client. Each configuration consists of different email controls for setting the allowable email recipients and email addresses and for defining the allowable sender (From) email addresses.
- Use the Email Client Template (enhanced for this release) to define the default content for an email client message. The template provides a Sender Configuration tab for specifying how the sender email address (From field) is generated. You can choose from four different configuration methods: SMTP, Select from List, Script, or Text.

Multiple email readers

Organize your email accounts into email account groups (subsets of email accounts) for processing by multiple email reader jobs. Activate this feature with the glide.email.inbound.account_group_processing property and assign your email accounts to email account groups.

Changed in this release

Connection Security field on the Email Account form

The Email Account form features a new field, Connection Security, for selecting the secure connection for your email server. This option replaces the Enable TLS and Enable SSL fields on the Email Account form.

Push notification apps in the Push Applications table

Two different ServiceNow push apps are available for notifications: the ServiceNow Classic mobile app and the ServiceNow Agent.

Activation information

- Now Platform® feature active by default.
- To activate notifications in messaging applications, request the Messaging Notification plugin (com.glide.notification.messaging) through the HI Customer Service system. This plugin activates related plugins if they are not already active. Integrations with third-party systems also require a separate IntegrationHub subscription.

Service Portal release notes

ServiceNow® Service Portal product enhancements and updates in the Madrid release.

Service Portal is a portal framework that helps you build a mobile-friendly self-service experience.

New in the Madrid release

Error messages appear for invalid TinyMCE property configurations

View an error message when you enter an invalid entry for TinyMCE toolbars, fonts, and font families.

Use multifactor authentication with Service Portal

Configure your instance to support multifactor authentication for login in Service Portal. If you configure your instance to require multifactor authentication, your users are automatically directed to set up multifactor authentication upon initial login. For setup instructions, see Set up multifactor authentication upon initial login. If multifactor authentication is optional on your instance, your users can still enable or disable authentication from their user profile.

Use date picker with screenreader and keyboard

Access date picker in Service Portal via screen reader, mobile screen reader, mouse and keyboard, and touch devices.

Activate La Jolla theme branding

Activate the Service Portal La Jolla brand to apply the latest ServiceNow branding, which meets WCAG-AA standard for color contrast. This plugin is active by default on new instances, but you must activate the plugin on instances that are upgraded from earlier versions.

Changed in this release

Debug runtime information disabled by default

In new instances, the Angular.js flag $compileProvider.debugInfoEnabled is set to false. This flag allows debug runtime information in the compiler, such as adding binding information and a reference to the current scope on Document Object Model (DOM) elements. Disabling this flag can make a significant difference in performance. Re-enable this flag for debugging by setting the glide.sp.debug property to true.

Dependency changes for Service Portal widgets

You must add ng-sortable.min.js and angular-tooltips-1.1.8 as dependencies for any custom widgets that use this functionality. To improve instance performance, these dependencies are no longer loaded by default. The upgrade includes these dependencies where needed in all out-of-box widgets that require them. Any custom widgets that rely on these scripts must be updated to include them.

Multiple catalog support

Associate one or more Service Catalogs with a portal. Service Portal search returns results from all associated catalogs. By default, the base system Service Portal is associated with Service Catalog.

Multiple knowledge base support

Associate one or more knowledge bases with a portal. Service Portal search returns results from all associated knowledge bases. By default, the base system Service Portal is associated with the IT knowledge base.

Activation information

Service Portal is active by default on new instances. For upgraded instances, activate the Service Portal for Enterprise Service Management plugin (com.glide.service-portal.esm) if you have the admin role. Activating the Service Portal plugin does not affect any existing Content Management System (CMS) configuration. For more information, see Content Management and Service Portal.

Subscription Management release notes

ServiceNow® Subscription Management product enhancements and updates in the Madrid release.

With Subscription Management, you can review and manage how purchased subscriptions are used on your instance. By monitoring the usage of your subscribed applications, you can make better decisions about your subscription purchases.

Madrid upgrade information

A fix job runs during the upgrade and creates an inventory of all global and scoped custom tables that currently exist in your production instance. A scheduled job runs after the completion of the upgrade and creates an inventory of the number of custom tables that each user can access.

New in the Madrid release

Support for platform subscriptions that include custom table allotments

Use the Subscriptions module to allocate custom tables that are created in a production instance against custom table allotments in certain subscriptions. A usage administrator allocates custom tables only if a subscription contains custom table allotments.

Activation information

Now Platform® feature active by default.

Virtual Agent release notes

ServiceNow® Virtual Agent product enhancements and updates in the Madrid release.

Madrid upgrade information

- Migrating Virtual Agent topics: Conversation topics created in the London release are fully supported in this release and are not changed during upgrade. After upgrade, you can update your topics, for example, to use new features such as the no-code controls available in Virtual Agent Designer.
- Using Slack Enterprise Grid after upgrading:
  - If you have Slack Enterprise Grid workspaces, your end users can move between those workspaces and use the Virtual Agent bot from any workspace.
  - Your end users must relink their ServiceNow accounts to the Virtual Agent messaging integration for Slack.
  - If you upgrade to Slack Enterprise Grid after upgrading to this release, an upgrade script runs automatically to complete the upgrade for the Slack messaging integration.

New in the Madrid release

Messaging integration with Workplace by Facebook

Install and configure the Virtual Agent integration for the Workplace messaging application. End users must link their ServiceNow accounts to the Workplace integration before they can use the Virtual Agent bot in Workplace.

No-code topic authoring in Virtual Agent Designer

Use no-code controls during conversation design instead of using JavaScript for:

- ServiceNow (GlideRecord) queries
- ServiceNow (GlideRecord) inserts and updates
- Dynamic display logic
- Decision branching logic

Virtual Agent Overview dashboard

Monitor conversation usage with the Virtual Agent Overview dashboard, which provides data visualizations of usage information collected daily and weekly. This dashboard is part of the Out-of-the-box Performance Analytics Solutions.

Changed in this release

Enhancements to the Virtual Agent web client and messaging integrations

- The Card control (bot response) has a new layout. If a topic involves updates to a ServiceNow table (for example, the Incident table), the card contains a link to the related record.
- Slack integration: The Yes button displayed in Boolean choices is colored green.
- Microsoft Teams integration: Improved usability for calendar input (easier Date and Time selection), choice list display, and card layout.
- Topic discovery: Improved user experience when the Virtual Agent bot matches a user search phrase with a bot conversation topic.

Predefined ITSM Virtual Agent topics

New chatbot conversations are available for common IT-related tasks.

Activation information

To use Virtual Agent, activate the Virtual Agent (com.glide.cs.chatbot) plugin.

Performance Analytics and Reporting release notes

Performance Analytics and Reporting have new and updated features in the Madrid release.

- Performance Analytics release notes

  ServiceNow® Performance Analytics product enhancements and updates in the Madrid release.

- Reporting release notes

  ServiceNow® Reporting product enhancements and updates in the Madrid release.

- Dashboards release notes

  ServiceNow® Dashboards product enhancements and updates in the Madrid release.

Performance Analytics release notes

ServiceNow® Performance Analytics product enhancements and updates in the Madrid release.

New in the Madrid release

Analytics Hub

The Analytics Hub is the central interface where you assess, compare, and predict the performance of an indicator over time. Set on the indicator record whether that indicator is to be included in the Analytics Hub.

The Analytics Hub replaces the Detailed Scorecard.

New API for dynamic retrieval of analytics in formula indicators

The new methods retrieve calculated values from the Analytics Hub for use inside a formula indicator. The values are retrieved dynamically, as you change your selections in the Analytics Hub. This API simplifies scripting formulas, especially for indexing multiple indicators, getting changes in scores, or filtering particular breakdown and element combinations.

Changed in this release

Handling no-score indicators in formulas

To enable the detection and handling of indicators with no scores inside a formula, you can now set a formula to run when a component indicator has a null value.

More flexible word occurrence cutoff values for displaying words in text widgets

Expanded ability to specify the cutoff criteria for showing a word or phrase in a text widget. Previously, you could set only a minimum word occurrence. Now you can set:

- Whether the cutoff value is a numerical count or a relative percentage. For example, you can set the cutoff at 5 occurrences of a word or phrase, or at 10% of all the words in the field being that word or phrase.
- Whether the widget shows words or phrases when there are at least as many occurrences as the cutoff value. In other words, the widget shows only the most common words.
- Whether the widget shows words or phrases when there are no more occurrences than the cutoff value. In other words, the widget shows only the least common words.

Note: For new and changed Out-of-the-box Performance Analytics Solutions, see Changes to plugins.

Removed in this release

- Detailed Scorecard, replaced by the new Analytics Hub (see New in the Madrid Release). The Analytics Hub does not support the following detailed scorecard functionality in this release:
  - Cannot visualize scores calculation for formula indicators on the Info panel.
- The following properties for the Detailed Scorecard are deprecated. They do not affect the Analytics Hub:
  - com.snc.pa.breakdown_element_ui_max_records
  - com.snc.pa.navigator_mask_fill_color

Activation information

Now Platform® feature — Complimentary Performance Analytics for Incident Management is active by default.

- Full Performance Analytics functionality requires a separate subscription. For more information, see Get licensed Performance Analytics.

Reporting release notes

ServiceNow® Reporting product enhancements and updates in the Madrid release.

New in the Madrid release

Quick start tests for Reporting

Validate the continued functionality of Reporting after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Highcharts 6

Highcharts 6 supports an expanded collection of charts, client-side analytics, annotations, and a performance upgrade, and replaces Highcharts 5.

Activation information

- Now Platform® feature active by default.

Dashboards release notes

ServiceNow® Dashboards product enhancements and updates in the Madrid release.

New in the Madrid release

Dashboard picker enhancements

Find dashboards more quickly. On each dashboard, the dashboard picker enables you to choose from the dashboards you have permission to view, with the most recently opened dashboards shown first. Previously, this list showed all dashboards by default. Click Load all dashboards to see a list of all dashboards available to you.

Quick start tests for Dashboards

Validate the continued visibility and sharing functionality of dashboards after any configuration change such as an upgrade. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Upgraded dashboards don't overwrite customized records

When you install or upgrade a Performance Analytics solution, out of the box content in the instance is overwritten and new content is added to the dashboard. Any content that you have previously customized on the dashboard is not changed.

Administrator can restrict responsive dashboard sharing

Configure the glide.cms.share_dashboards.role system property to specify the roles that can share their own dashboards.

Configure the glide.cms.dashboards.sharing_with_secure_search system property to specify that security rules are applied to the lists of users, user groups, and roles that are visible when users share responsive dashboards.

Activation information

- Responsive dashboards are enabled by default on new instances.
- On upgraded instances, responsive dashboards must be enabled by an administrator.
- Dashboards upgrade information

  Dashboards upgrade information for the Madrid release.

Dashboards upgrade information for the Madrid release.

Enable Responsive Dashboards

To use Responsive Dashboards, both the Responsive Dashboards and Responsive Canvas plugins need to be active.

- If Responsive Canvas was enabled in a release from Helsinki onward, Responsive Dashboards functionality is enabled on upgrade to Madrid. After upgrade all dashboards are responsive, including dashboards that were not responsive in Helsinki. All users on your instance can create, edit, and share dashboards.
- If Responsive Canvas was not enabled in a release from Helsinki onward, Responsive Dashboards functionality is not enabled on upgrade to Madrid. The plugins are activated by default, but the glide.cms.enable.responsive_grid_layout system property is set to false. To enable Responsive Dashboards, set this property to true.

  Note: If the glide.cms.enable.responsive_grid_layout does not exist or if it exists and is set to true, Responsive Dashboards functionality is enabled.

If you are upgrading from a release prior to Helsinki, Responsive Dashboards functionality is not enabled on upgrade to Madrid. The plugins are activated by default, but the glide.cms.enable.responsive_grid_layout system property is set to false. To enable Responsive Dashboards, set this property to true.

Review dashboard layouts after enabling Responsive Canvas

- During conversion to Responsive Canvas, the layout of dashboards may slightly change. Highly customized dashboards may have significant changes, such as different widget layouts. After upgrading, review each dashboard for changes and adjust the layout as necessary on the drag-and-drop canvas.

Dashboard versions of homepages after enabling Responsive Canvas

- If you have Responsive Canvas enabled, you will be prompted to convert your homepages to responsive dashboards. During conversion to Responsive Canvas, the layout of dashboards may slightly change. Highly customized dashboards may have significant changes, such as different widget layouts. After upgrading, review each dashboard for changes and adjust the layout as necessary on the drag-and-drop canvas.

Migration of permissions

- For releases prior to Istanbul, Performance Analytics roles were required to view and edit dashboards. Starting in Istanbul, dashboards use a new permissions system and Performance Analytics roles are no longer required to view or edit dashboards. To ensure access to existing dashboards remains the same after migration, the pa_viewer, pa_admin, and pa_power_user roles are added to a dashboard or its group during migration to the Madrid permissions.

  These roles are typically added directly to the dashboards they apply to. However, when no role permissions are defined for the dashboard or the group a dashboard belongs to, the pa_viewer view permissions is applied to the dashboard group. (pa_power_user and pa_admin roles are still applied to the dashboard.)

  Additionally, during the upgrade all existing dashboards are configured to require the pa_viewer role to view with the Restrict to role field on the dashboard properties form. This restriction provides an extra layer of security.

Related Topics

- Upgrade your instance
- Enable responsive dashboards

Security Operations release notes

Security Operations has new and updated features in the Madrid release.

- Security Incident Response release notes

ServiceNow® Security Incident Response product enhancements and updates in the Madrid release.

- Vulnerability Response release notes

  ServiceNow® Vulnerability Response product enhancements and updates in the Madrid release.

- Threat Intelligence release notes

  ServiceNow® Threat Intelligence product enhancements and updates in the Madrid release.

- Trusted Security Circles release notes

  ServiceNow® Trusted Security Circles product enhancements and updates in the Madrid release.

Security Incident Response release notes

ServiceNow® Security Incident Response product enhancements and updates in the Madrid release.

With Security Incident Response (SIR), manage the life cycle of your security incidents end-to-end from initial analysis to containment, eradication, and recovery. Security Incident Response enables you to get a comprehensive understanding of incident response procedures performed by your analysts over time and understand trends and bottlenecks in those procedures with analytic-driven dashboards and reporting.

Built-in integrations with third-party cybersecurity solutions and partner-developed integrations from the ServiceNow Store enable security automation and orchestration for efficient and accurate incident response.

Madrid upgrade information

If you are upgrading directly from Jakarta or Kingston to this release (skipping the London release), navigate to System Definition > Fix Scripts, and run the Update integrations to multi domain fix script to allow certain integrations to have multiple configurations defined. For example, if you have multiple Splunk instances, you can create connections and queries that run sighting searches across multiple Splunk instances. After the fix script has run, return to System Definition > Fix Scripts and deactivate the fix script. It is important that the script is not allowed to run more than one time.

New in the Madrid release

Features available from the ServiceNow Store:

Security Incident Response

You no longer need to wait for the platform family release of Security Incident Response to enjoy new features, updates, and fixes. The latest version of Security Incident Response is published in the ServiceNow Store and available for download.

Setup Assistant is part of the Security Incident Response plugin available in the ServiceNow Store

Download Setup Assistant from the ServiceNow Store for a simple, step-by-step approach to setting up Security Incident Response. Setup Assistant helps you discover which capabilities of Security Incident Response require configuration, identify what permissions are required to configure these capabilities, and learn what settings are recommended for your environment. Setup Assistant helps you deploy Security Incident Response and associated integrations quickly and efficiently.

Sighting Search for Phishing and Malware Response

Perform sighting searches on emails or observables to determine how often certain types of attacks, such as user-reported phishing attacks or communications with a malicious IP address or URL, occur in your network. As you start analyzing a phishing incident, you can use this feature to identify other users in your organization who are impacted by the same phishing attack by clicking the phishing link.

Flow Designer and Actions for Incident Response playbooks

Using the Flow Designer, security administrators and flow design authors can more easily transition from manual or undocumented playbooks to automated and repeatable playbooks using an intuitive and flexible drag-and-drop experience, as well as condition checks, parallel branching, decision tables, and more.

Changed in this release

Security Analyst Workspace enhancements

SOC admins can create incident queues from customized filters to suite their needs.

Columns in lists and related lists can be sorted and you can change the order of columns.

You can create new security incident tasks and assign them from inside a security incident. You can add or remove tags in observables and security incidents. You can also send email on the incident or task level, using predefined or blank templates.

Removed in this release

- The Out-of-the-box Security Incident Response Performance Analytics Solution is currently unavailable in this release. An updated version of this Performance Analytics Solution will be available in the ServiceNow Store. If you have upgraded from a previous release in which you activated this Performance Analytics Solution, you can continue to use that version of the Solution in Madrid.

Activation information

Activate the Security Incident Response Dependencies plugin. Download and install the Security Incident Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.

Vulnerability Response release notes

ServiceNow® Vulnerability Response product enhancements and updates in the Madrid release.

The Vulnerability Response application in Security Operations helps you identify and prioritize software vulnerabilities affecting your organization, and respond faster using workflows, automation, and orchestration.

Madrid upgrade information

For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have a large number of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Response activities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see the Kingston Vulnerability Response release notes.

If you are upgrading from Kingston, existing CI Identifier Rules are disabled by default, but not removed. These rules appear in Security Operations > CMDB > CI Lookup Rules. To reenable, open a rule and enter values for the Source and Source field fields, select the Active check box, and click Submit.

To reduce upgrade time, if you have the Qualys product or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information.

Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you add custom tables that rely on inherited ACLs, you must recreate the ACLs in that custom table. If you add custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration.

Note: Once enabled, Application administration cannot be disabled.

If you upgraded from a previous version of Vulnerability Response, your original Overview page is stored in the Overview (Legacy) module in the left navigation pane. If you created a customized homepage overview, the overview is overwritten by the new reports dashboard. To access your customized homepage, Create a new module for your customized homepage and add it to the Vulnerability Response application.

If you are upgrading from a previous version, you can begin using the Vulnerability Response new features immediately. All updates to Vulnerability Response are only available in the ServiceNow Store.

If you have previously installed Vulnerability Response and want an update from the ServiceNow Store, you do not need to activate the Dependencies (com.snc.vul_dep) plugin prior to installing the Vulnerability Response update.

For customers upgrading to this release, third-party vulnerability records are read-only.

New in the Madrid release

Features available from the ServiceNow Store:

Vulnerability Response

You no longer have to wait for the platform family release of Vulnerability Response to enjoy new features, updates, and fixes. The latest version of Vulnerability Response is published in the ServiceNow Store and available for download.

Setup Assistant is part of the Vulnerability Response application available in the ServiceNow Store

Setup Assistant walks you through the Vulnerability Response setup process in a simple, step-by-step fashion. Setup Assistant helps you discover which capabilities of Vulnerability Response require configuration, identify what permissions are required to configure these capabilities, and learn what settings are recommended for your environment. Setup Assistant helps you deploy Vulnerability Response quickly and efficiently.

Vulnerability Response overview homepage

The Vulnerability Response Overview homepage has become a responsive dashboard.

Performance Analytics Performance Analytics - Content Pack - Vulnerability ResponsePerformance Analytics - Content Pack - Vulnerability Response

Using business objective definitions, trending, and forecasting, the Performance Analytics – Content Pack – Vulnerability Response application contains over 40 report widgets. These reports help you monitor metrics across all stages of the vulnerability management lifecycle. This release includes vulnerability KPIs rolled-up to the business service level. KPI rollups give you a better understanding of vulnerability exposure and remediation performance in terms of business operations, rather than technical infrastructure. A Remediation dashboard, using standard Now Platform® reports, is also provided for the IT operations personnel that execute vulnerability remediation activities. This application, is available in the ServiceNow Store.

Exploit enrichment

Exploit information imported from third-party integrations has been added to vulnerability entries. You can use exploit information to prioritize which vulnerabilities to address first.

CVSSv3 support

Vulnerability entries display CVSSv3 metrics. By showing CVSS v3 in addition to the CVSS v2, you can prioritize based on the newest algorithm used to calculate the severity of your vulnerabilities.

Vulnerability Assignment Rules

You can define the assignment rules at the vulnerable item level. These assignment rules apply to the group rules by default, and group vulnerabilities by assignment group.

Vulnerable Item Risk Rating

A new Risk Rating field on vulnerable item breaks the existing 0-100 risk score tiers into five tiers (Critical, High, Medium, Low, and None) for easier reporting and prioritization.

Normalized Severity

Vulnerability assessment products often report vulnerabilities with proprietary integer-based severity scales. These severities are normalized into a common and configurable scheme for improved readability, reporting, and comparison.

Updated default form and list views

Various Vulnerability Response default forms and list view forms for have been updated for improved usability. These entities include but are not limited to: Vulnerability entries, Vulnerable Item, Vulnerability Group, Discovered Item, and Approvals.

ACLs were updated to ensure that fields that should not be modified are marked read-only.

New Features in Existing Integrations

The latest version of Qualys Vulnerability Integration is published in the ServiceNow Store and available for download.

Rapid7 version 6.2 adds imports using the Rapid7 InsightVM API for discovery, detection, verification, risk classification, and impact analysis to manage risk and remediation. This integration does not require the Rapid7 Nexpose data warehouse.

> Note: To migrate from the Rapid7 Nexpose vulnerability integration see KB0743164.

New Integrations

Shodan Exploit Integration imports exploit information that helps you prioritize the vulnerabilities in your environment based on risk.
This integration enables exploit information enrichment that helps you understand the following exploitability metrics to prioritize the remediation of vulnerabilities:

- Is there any exploit associated with the vulnerability?
- What skill level is required to exploit the vulnerability based on the exploit code rank?
- What is the exploit attack vector? Can the vulnerability be remotely exploited?

Once your vulnerabilities are enriched with exploit intelligence, you can define the risk score and group the vulnerabilities based on these parameters. You can also filter key reports to see the high-risk vulnerabilities.

Changed in this release

The Vulnerability Overview homepage has been converted to a dashboard. If you have the Performance Analytics – Content Pack – Vulnerability Response application installed and activated, interactive reports are available.

Updated remediation target rule behavior

Remediation target behavior has been updated for easier reporting.

- No Target status added for records without a remediation target date.
- Target Met added for records closed before their remediation target date.
- Target Met added for records closed before their remediation target date.
- Target Missed renamed from Past Target for consistency with Target Met.

Remediation target dates and statuses are also rolled-up from vulnerable items to their associated vulnerability groups.

Integration changes

Qualys Ticket Integration records have moved to a related list in the vulnerable item record.

Qualys Ticket Integration records are no longer imported as VIs. Instead ticket records are listed on an existing vulnerable item under a related list. Where no VI exists, one is created and the ticket is listed in the related list.

Removed in this release

Manual creation of third-party vulnerabilities has been removed.

Activation information

Activate the Vulnerability Response Dependencies plugin (com.snc.vul_dep). Download and install the Vulnerability Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.

Threat Intelligence release notes

ServiceNow® Threat Intelligence product enhancements and updates in the Madrid release.

The Threat Intelligence application allows you to access and provide a point of reference for your company's Structured Threat Information Expression (STIX™) data. Included in Threat Intelligence is the Security Case Management application, which provides a means for analyzing threats to your organization posed by targeted campaigns or state actors.

New in the Madrid release

Threat Intelligence

You no longer need to wait for the platform family release of Threat Intelligence to enjoy new features, updates, and fixes. The latest version of Threat Intelligence is published in the ServiceNow Store and available for download.

Threat Intelligence Integrations

The latest versions of third-party malware-detection software packages that integrate with Threat Intelligence are now available for download on the ServiceNow Store.

Activation information

Activate the Security Incident Response Dependencies (com.snc.si_dep) plugin. Download and install the Security Incident Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.

Trusted Security Circles release notes

ServiceNow® Trusted Security Circles product enhancements and updates in the Madrid release.

The Trusted Security Circles application allows you and other users to generate and receive community-sourced observables (in the form of IP addresses, hashes, domains, URLs, and so forth) with the goal of improving threat prioritization and to shorten the time to identify and remediate threats.

New in the Madrid release

Trusted Security Circles

You no longer need to wait for the platform family release of Trusted Security Circles to enjoy new features, updates, and fixes. The latest version of Trusted Security Circles is published in the ServiceNow Store and available for download.

Activation information

Activate the Security Incident Response Dependencies plugin. Download and install the Security Incident Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.

Software Asset Management release notes

ServiceNow® Software Asset Management product enhancements and updates in the Madrid release.

The Software Asset Management application lets you manage your software assets by automatically normalizing, reconciling, and reclaiming software assets.

Madrid upgrade and installation information

> Warning: You must revert customizations after installing Software Asset Management for the first time, or upgrading from Software Asset Management Foundation plugin, for all features to function as intended. The Revert Customizations module in Software Asset Management administration reverts customizations of files related to Software Asset Management to base configuration that were skipped during the installation or upgrade process. For more information, see Revert Software Asset Management customizations.

> Warning: If you upgrade to the Software Asset Management (com.snc.samp) plugin from the Software Asset Management plugin (com.snc.software_asset_management), you cannot revert to the Software Asset Management plugin (com.snc.software_asset_management).

New in the Madrid release

SAP publisher pack

- Use the SAP publisher pack to identify user access and named user assignments in a SAP environment to compare against signed SAP contracts. Identify non-compliant scenarios for named user licensing and optimize named user assignments based on user attributes.
- SAP dashboard using Performance Analytics is activated with this publisher pack to forecast compliance and consumption.

License Workbench

Use the License Workbench to view reconciliation results for a given publisher from a single location to remediate compliance without clicking through the hierarchy of results.

Normalization and Content Service dashboard

Use the Normalization and Content Service dashboard to see current normalization rates and health of the content service in one view.

Reclamation by software last-used date

Identify and reclaim unused software using the last-used (activity) date as a proxy for usage metering data. The software last-used date can be collected using SCCM 2016 or SCCM 2012.

Quick tests for Software Asset Management

Validate the continued functionality of Software Asset Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.

Changed in this release

Software Model and Software Entitlement changed form views

The Software Model form and Software Entitlement form have changed.

Work with your system administrator to ensure that updates to these forms are successfully applied if these forms have been previously customized.

Reconciliation Results navigation item changed to Historical Results

The Reconciliation Results list is located in Software Asset > Reconciliation > Historical Results navigation item.

Activation information

The Software Asset Management Professional (com.snc.samp) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data. Depending on your environment, you may choose to request one or more related plugins which also must be activated by ServiceNow personnel. See Request Software Asset Management.

For the Software Asset Management plugin (com.snc.software_asset_management) and Software Asset Management Foundation plugin (com.snc.sams) features of Asset Management, see ITSM Software Asset Management.

Release notes summaries for Madrid features

Consolidated release notes information for new and updated Madrid features.

Learn about specific themes for multiple Madrid products

In the Madrid family, ServiceNow® features and products were introduced or updated. Every new or updated feature and product has its own individual release notes topic, which includes information such as upgrade tasks, new features, changed features, browser requirements, and other specifications. These product-specific release notes are listed in Features and changes by product.

To help users look over different classes of information at a glance, each release notes section has its own summary topic. For example, the aggregates all browser requirements for features that were introduced or updated in Madrid.

- Upgrade information for all Madrid features and products

  Cumulative release notes summary on upgrade information for Madrid features and products.
- New features and products in Madrid

  Cumulative release notes summary on new Madrid features and products.
- Changes to Madrid features and products

Cumulative release notes summary on changes to Madrid features and products.

- Removed features and products in Madrid

  Cumulative release notes summary on features that were removed from Madrid features and products.
- Activation information for all Madrid features and products

  Cumulative release notes summary on activation information for Madrid features and products.
- Additional requirements for all Madrid features and products

  Cumulative release notes summary on additional requirements for Madrid features and products.
- Browser requirements for all Madrid features and products

  Cumulative release notes summary on browser requirements for Madrid features and products.
- Accessibility information for all Madrid features and products

  Cumulative release notes summary on accessibility information for Madrid features and products.
- Product localization information in Madrid

  Cumulative release notes summary on new Madrid features and products.

Upgrade information for all Madrid features and products

Cumulative release notes summary on upgrade information for Madrid features and products.

Upgrade and migration information

Before you upgrade to Madrid, review the upgrade information for any products you may have. Some products require you to complete specific tasks before you upgrade.

Application or feature	Details
Advanced Work Assignment	If you are using Connect Support and want to move to Advanced Work Assignment and Agent Chat, see Migrate from Connect Support to AWA and Agent Chat.
Agent Intelligence	These ML Solution Definition templates are deprecated in the Madrid release and are replaced by a Classification Template: • Assignment Template • Category Template • Priority Template This new template prompts you to choose specific record fields that you can use to build a classification solution. If you upgrade to the Madrid release and you have existing solutions that use one of these deprecated templates, you must update and retrain the solutions to use the new Classification Template. For more information on how to update these solutions in Madrid, see Create and train a classification solution.
Automated Test Framework	Copy and customize ServiceNow-provided quick start tests to validate that your instance still works after you make any configuration changes such as apply an upgrade or develop an application. Quick start tests are disabled and read-only test templates. By default, they only produce a pass result when you run them with the default demo data that is provided with the application or feature plugin. To make quick start tests produce a pass result when you run them with your instance-specific data, copy and configure them to use your instance data. See Available quick start tests by application or feature. The Run Server Side Script test step supports version 3.1 of the Jasmine testing framework. You can upgrade individual test

Application or feature	Details
	steps from Jasmine version 1.3 to Jasmine version 3.1. See Run Server Side Script.
Change management	After you upgrade, you can: • Use the new com.snc.change_management.enforce_data_requirements property that provides additional controls along with the existing UI policy and client scripts. When true, it ensures that any updates made from a change request form, such as Workflow, REST/SOAP, JavaScript, or GlideRecord updates adhere to the same mandatory data requirements. This property is installed with Change Management - Core and is set to False by default for upgrade customers. Change the property value to True to use this feature. • Activate the Change Management - Approval Policy plugin so that you can use the new change approval policies. Configuration details are described in Change approval policy.
Cloud Management	• If you are on Jakarta and above, an upgrade from any version of Cloud Management platform version 2 (CMPv2) is supported. • Catalog items created based on cloud-native templates in releases prior to Madrid on CMPv2, will be treated as blueprint-based catalog items, which means that the underlying template cannot be modified.
Configuration Management Database (CMDB)	Upgraded instances include the new cmdb_read role. However, the system does not enforce the requirement to use cmdb_read when an application reads data from the cmdb_ci table hierarchy. For information about enforcing the usage of cmdb_read after an upgrade and other related issues, see the

Application or feature	Details
	New role to read data from CMDB [KB0694559] article in the HI Knowledge Base. The CMDB Workspace plugin (com.cmdb-workspace) is not activated in an upgraded instance. Activate CMDB Workspace to get the functionality of CMDB Agent Workspace.
Customer Service Management	Create field-level ACL rules for some of the fields on the Contact (customer_contact) table. For details, see KB0724239.
Edge Encryption	Upon an upgrade, the newly installed proxy has the same folder name as the previous proxy folder name, and the previous proxy folder is renamed. For example, the previous proxy folder is renamed from EdgeProxy_16001 to backup.dist-upgrade_20181204-144650461, and the new proxy folder is named EdgeProxy_16001.
Event Management	The upgrade process moves your instance to a new ServiceNow release version. Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, create upgrade plans and test your upgrade on non-production instances before upgrading your production instance.
Field Service Management	When you upgrade from a previous release, six event type schedule entries are available by default. You can choose to activate these event type configurations to create schedule entries. You must deactivate any existing Events configuration that overlaps with the newly created schedule entries. For more information on configuring event types, see Configure the agent calendar. You can optimize the agent task routes for the current date. However, if the SMTaskRouting script was modified in an earlier

Application or feature	Details
	release, the agent route is optimized, but it does not take the agent schedule and agent time off into consideration. For more information on optimizing task routes, see Route optimization.
Flow Designer	• Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow. • Flows using the Always option for Created or Updated or Updated trigger types in previous releases use the Only if not currently running option. Use the For each unique change option to trigger a flow for every unique change, even if the flow is running.
HR Service Delivery	Note: When upgrading from the Istanbul release, HR document templates have a new field. The Document type field helps to filter a list of document types so that HR Criteria can apply the necessary document based on the conditions of an employee. HR criteria works with this field to further narrow the list of document templates you want available for an HR case. Because Istanbul did not have this field, you must create new or select an existing document type for your document templates. See Document Types.
Knowledge Management	The Knowledge Management Core plugin (com.glideapp.knowledge) is active by default for new or upgrade customers. The Knowledge Management with KCS plugin (com.glideapp.knowledge2) is planned for deprecation.
MID Server	If an unsupported version of the Java Runtime Environment (JRE) is running on a MID Server when the MID Server is upgraded, the upgrade process replaces that JRE with the OpenJDK that is

Application or feature	Details
	bundled with the MID Server installer. If a supported JRE is running on the MID Server host, the upgraded MID Server uses that Java version. MID Server hosts for instances upgraded from London do not require connection to the download site at install.service-now.com. The auto-upgrade process for MID Servers in Madrid is handled through the instance. However, upgrades from Kingston or earlier require that each MID Server host machine have access to the download site. For additional details about how MID Server upgrades are managed and where to look for errors, see MID Server upgrade. For additional information about MID Server upgrades, see: • MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade. • Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

Notifications	This release introduces a new Email Client Configuration feature and a Connection Security option on the Email Account form for choosing the secure connection for your email server. These features are enabled in new and upgraded instances. When you upgrade to this release, the following items are migrated if you previously set them in your instance:
	
	• The secure connection mode that you selected for your email server in the Email Account form (Enable TLS and Enable SSL fields).
	• The email client property settings for controlling:
	  ◦ Email address autocomplete (glide.ui.email_client.autocomplete.group)
	  ◦ From and Reply To email addresses displayed in the email client (glide.ui.email_client.from and glide.ui.email_client.reply_to)

Application or feature	Details
	• Email address recipient qualifiers (glide.ui.email_client.email_adresss.disambiguator and glide.ui.email_client.email_address.disambiguator_search) The email client property settings are preserved in a default email client configuration created during upgrade. You can view the default configuration in the new Email Client Configuration [sys_email_client_configuration] table. These email client properties are also deprecated in this release because these features can be set using email client configurations.
Notify	The legacy Notify-Twilio driver (com.snc.notify.twilio) plugin is now being replaced by a Notify-Twilio Direct driver (com.snc.notify.twilio_direct). A Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided. The Notify core plugin now provides JS Telephony Driver support that enables you to code your own integrations in JavaScript by using the platform capability of JS Extension Point. In prior releases, the Notify-Twilio Driver (com.snc.notify.twilio) enabled voice and SMS services provided by Twilio. This driver has been replaced by the Notify-Twilio Direct Driver (com.snc.notify.twilio_direct). Both the drivers work simultaneously provided they are configured with two separate accounts. The migration to the new driver has the following impact. 1. Notify participant records will remain inactive until a participant joins a conference. Previously, they were set to active by default. 2. If you are using the previous driver, the participant record is activated after a minor delay.

Application or feature	Details
	Note: New customers will have access only to the new Notify-Twilio Direct driver plugin.
Operational Intelligence	• In Madrid, user-specified width override values are replaced by new advanced settings that are used internally to calculate width values. Width override values are preserved through an upgrade to Madrid and are being used internally. However, they do not appear in the UI and you cannot modify them. When you use the Bounds Settings wizard in an upgraded instance and you select a metric class that has a width override value, a notification appears. To use the new advanced settings in the Bounds Settings wizard, accept the notification to delete the width override values from an earlier release. For more information about the Bounds Settings wizard, see Custom bounds settings. • During the upgrade to Madrid, the Apache Ignite software that runs on Operational Intelligence MID Servers in MID Server distributed clusters is upgraded to version 2.5.3. After you upgrade all the MID Servers in the MID Server distributed cluster to Madrid, restart these Operational Intelligence MID Servers to complete the Apache Ignite upgrade. You might have some data loss during the time that the MID Servers upgrade starts until the MID Servers are restarted. To minimize this data loss, before you start the upgrade to Madrid, disable the metric connectors. After the upgrade completes, set the max_fetch_interval_min parameter to how long the connectors were down and then enable the connectors so that the missing data is pulled.
Project Portfolio Management	Two new dashboards have been added with the new Performance Analytics – Content Pack – Project Portfolio Suite with Financials (com.snc.pa.pmo_dashboards) plugin. If you are upgrading and you activate the new plugin, two new navigation links are available in PPM:

Application or feature	Details
	• Portfolio dashboard • Program dashboard The following pre-Madrid navigation links are still available after upgrading. Review the existing and the new dashboards and deactivate the older ones if required. • Portfolio manager dashboard • Program manager dashboard • PMO dashboard
Security Incident Response	If you are upgrading directly from Jakarta or Kingston to this release (skipping the London release), navigate to System Definition > Fix Scripts, and run the Update integrations to multi domain fix script to allow certain integrations to have multiple configurations defined. For example, if you have multiple Splunk instances, you can create connections and queries that run sighting searches across multiple Splunk instances. After the fix script has run, return to System Definition > Fix Scripts and deactivate the fix script. It is important that the script is not allowed to run more than one time.
Service Catalog	Before upgrading, you should be aware of changes that were made to the underlying Service Catalog data model. These changes affect the way that you implement multiple service catalogs. For details, see Upgrade to multiple service catalogs. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts.

Application or feature	Details
Software Asset Management	Warning: You must revert customizations after installing Software Asset Management for the first time, or upgrading from Software Asset Management Foundation plugin, for all features to function as intended. The Revert Customizations module in Software Asset Management administration reverts customizations of files related to Software Asset Management to base configuration that were skipped during the installation or upgrade process. For more information, see Revert Software Asset Management customizations. Warning: If you upgrade to the Software Asset Management (com.snc.samp) plugin from the Software Asset Management plugin (com.snc.software_asset_management), you cannot revert to the Software Asset Management plugin (com.snc.software_asset_management).
Subscription Management	A fix job runs during the upgrade and creates an inventory of all global and scoped custom tables that currently exist in your production instance. A scheduled job runs after the completion of the upgrade and creates an inventory of the number of custom tables that each user can access.
UI	When you upgrade to this release, your instance is updated with the new ServiceNow branding. Any customizations you have made to the system theme are not updated. You can revert to the previous theme by changing the system defaults in the Basic Configuration UI16 module. For more information on switching the system defaults, see Configure logo, colors, and system defaults for UI16. UI15 is not affected by these changes, with the exception of the icon that appears on the browser tab. You can update the icon

Application or feature	Details
	by changing the value for the glide.product.icon system property.

Virtual Agent	• Migrating Virtual Agent topics: Conversation topics created in the London release are fully supported in this release and are not changed during upgrade. After upgrade, you can update your topics, for example, to use new features such as the no-code controls available in Virtual Agent Designer.
	• Using Slack Enterprise Grid after upgrading:
	  • If you have Slack Enterprise Grid workspaces, your end users can move between those workspaces and use the Virtual Agent bot from any workspace.
	  • Your end users must relink their ServiceNow accounts to the Virtual Agent messaging integration for Slack.
	  • If you upgrade to Slack Enterprise Grid after upgrading to this release, an upgrade script runs automatically to complete the upgrade for the Slack messaging integration.

Vulnerability Response	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have a large number of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Response activities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see the Kingston Vulnerability Response release notes.

Application or feature	Details
	If you are upgrading from Kingston, existing CI Identifier Rules are disabled by default, but not removed. These rules appear in Security Operations > CMDB > CI Lookup Rules. To reenable, open a rule and enter values for the Source and Source field fields, select the Active check box, and click Submit. To reduce upgrade time, if you have the Qualys product or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you add custom tables that rely on inherited ACLs, you must recreate the ACLs in that custom table. If you add custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. If you upgraded from a previous version of Vulnerability Response, your original Overview page is stored in the Overview (Legacy) module in the left navigation pane. If you created a customized homepage overview, the overview is overwritten by the new reports dashboard. To access your customized homepage, Create a new module for your customized homepage and add it to the Vulnerability Response application. If you are upgrading from a previous version, you can begin using the Vulnerability Response new features immediately. All updates to Vulnerability Response are only available in the ServiceNow Store. If you have previously installed Vulnerability Response and want an update from the ServiceNow Store, you do not need to

Application or feature	Details
	activate the Dependencies (com.snc.vul_dep) plugin prior to installing the Vulnerability Response update.
Walk-up Experience	Before upgrading, be aware that the following feature changes can affect your customizations: • Your online check-in, as well as the onsite queue and onsite check-in interfaces are updated to reflect the new data model and features. • Reports using Queue for grouping should use Location due to a change in the Interaction [interaction] table. Filtering is done based on Channel instead of Type. • Notifications may no longer trigger due to State changes in interactions, such as the On Hold state. Reevaluate your custom notification conditions. • Business rules and other logic running on fields that are deprecated, for example, Queue on the Interactions form.

New features and products in Madrid

Cumulative release notes summary on new Madrid features and products.

New features

New products were introduced in Madrid, and additional features were added to existing ServiceNow products.

Application or feature	Details
API	New scoped classes and additional methods to existing scoped classes <table><tr><th>Class</th><th>Activated with</th><th>Methods</th></tr><tr><td>FlowAPI</td><td>Flow Designer</td><td>• executeAction()</td></tr></table>

Application or feature	Details

Class	Activated with	Methods
		• executeFlow() • executeSubflow() • setEncryptedOutput() • startAction() • startFlow() • startSubflow()
GlideRecord - Scoped	Now Platform	• isEncodedQueryValid()
Notify - Scoped	Notify	• hasCapability()

New global classes and additional methods to existing global classes

Class	Activated with	Methods
Agent	Advanced Work Assignment	• getPresence() • setPresence()
MLPredictor	Agent Intelligence	• applyPrediction() • applyPredictionForSolution() • findActiveSolution()

Application or feature	Details		
	Class	Activated with	Methods
			• findActiveSolutionsForRecord() • getPredictedValue() • getPredictions() • isClassificationSolution() • isSimilaritySolution() • recordFinalValuesInPredictionResults()
	Notify	Notify	• hasCapability()
	OnCallRotation	Now Platform®	• getPrimaryUsers() • getPrimaryUserByRota() • getPrimaryUserNameByRota() • getEscalateesAt()
	Queue	Advanced Work Assignment	• route()

Application or feature	Details
	New client classes and additional methods to existing client classes **Class** / **Activated with** / **Methods**: GlideFlow / Flow Designer / getExecution(), startAction(), startFlow(), startSubflow(), awaitCompletion(), getExecutionStatus(), getOutputs() NotifyClient / Notify / addEventListener(), destroy(), getStatus()

New client classes and additional methods to existing client classes

Class	Activated with	Methods
GlideFlow	Flow Designer	• getExecution() • startAction() • startFlow() • startSubflow() • awaitCompletion() • getExecutionStatus() • getOutputs()
NotifyClient	Notify	• addEventListener() • destroy() • getStatus()

Application or feature	Details
	New REST APIs and additional endpoints to existing REST APIs

API	Activated with	Endpoint
Agent	Advanced Work Assignment	• GET /api/now/awa/agents/{sys_id} • PUT /api/now/awa/agents/{sys_id}
Change Management	Change Management	• DELETE /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • DELETE /sn_chg_rest/change/emergency/{sys_id} • DELETE /sn_chg_rest/change/normal/{sys_id} • DELETE /sn_chg_rest/change/standard/{sys_id} • DELETE /sn_chg_rest/change/{sys_id}/conflict • GET /sn_chg_rest/change/{change_sys_id}/task • GET /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • GET /sn_chg_rest/change/emergency • GET /sn_chg_rest/change/emergency/{sys_id}

Application or feature	Details		
	API	Activated with	Endpoint
			• GET /sn_chg_rest/change/normal • GET /sn_chg_rest/change/normal/{sys_id} • GET /sn_chg_rest/change/standard • GET /sn_chg_rest/change/standard/{sys_id} • GET /sn_chg_rest/change/standard/template • GET /sn_chg_rest/change/standard/template/{sys_id} • GET /sn_chg_rest/change/{sys_id}/conflict • PATCH /sn_chg_rest/change/{change_sys_id}/task/{task_sys_id} • PATCH /sn_chg_rest/change/emergency/{sys_id} • PATCH /sn_chg_rest/change/normal/{sys_id} • PATCH /sn_chg_rest/change/standard/{sys_id} • PATCH /sn_chg_rest/change/standard/{sys_id}/risk • PATCH /sn_chg_rest/change/{sys_id}/approvals

<table>
<tr><th>Application or feature</th><th>Details</th></tr>
<tr><td></td><td>
<table>
<tr><th>API</th><th>Activated with</th><th>Endpoint</th></tr>
<tr><td></td><td></td><td>

POST /sn_chg_rest/change/normal
POST /sn_chg_rest/change/emergency
POST /sn_chg_rest/change/{change_sys_id}/task
POST /sn_chg_rest/change/standard/{standard_change_template_id}
POST /sn_chg_rest/change/{sys_id}/conflict

</td></tr>
<tr><td>Queue</td><td>Advanced Work Assignment</td><td>

POST /api/now/awa/queues/{sys_id}/work_item

</td></tr>
</table>
</td></tr>
<tr><td>Agent Intelligence</td><td>
Similarity framework
Use the Agent Intelligence similarity framework to build a word corpus (a collection of machine-readable text that is assembled for the purpose of research) to compare trained records that are based on textual similarity.
Create and train a similarity solution
Create and train a solution that applies machine learning to train the word corpus to target and recommend similar records in your instance data set.
</td></tr>
</table>

Application or feature	Details
	Review solution similarity examples Review the similarity examples and scores that the system provides during solution training. Determine if you need to update the similarity score threshold of your trained solution. Update your similarity score threshold Update the similarity score threshold value if you want the results that are returned by the solution to be more or less similar. Agent Intelligence for Event Management Use your instance records to build Event Management-specific machine-learning solutions. MLPredictor - Global Use the utility methods in this API for Agent Intelligence predictions.
Agile Development 2.0	Quick start tests for Agile Development 2.0 Validate the continued functionality of Agile Development 2.0 after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Antivirus Scanning	Configure Antivirus Scanning Configure Antivirus Scanning across your instance and at the table level.

Application or feature	Details
	Dictionary attributes for Antivirus Scanning As an administrator, you can set the values of dictionary attributes to modify the behavior of the default Antivirus Scanning configuration. Review antivirus activity The Antivirus Activities log tracks all activities that occur on potentially infected files from the point that they are discovered and placed into quarantine. Review quarantined files Review quarantined file attachments and take further action as needed.
Application Portfolio Management	Enhancements in Technology Portfolio Management Timeline (TPM) • Retrieve the business applications risk data stored in the Business Application Risks [sn_apm_tpm_business_application_risk] table. Risks of all business applications are calculated and the data are stored in the risks table to make optimal use of the risk engine. Since risks are stored and retrieved from the table, their retrieval is faster when loading the Technology Portfolio Management timeline or the Capability Based Planning portal. Execute the Load TPM Risk Parameters and compute Business Service Risks scheduled job daily to obtain the real-time status of risks your business applications are exposed to in a given day. Running this job populates the business risks table. • Relate the software models that the suggestions engine picks up to your application service instead of searching for and then mapping them manually. You can easily manage the results of two subsequent runs of the software models suggestions engine by reviewing the new software models suggested by the engine in the latest run.

Application or feature	Details
	• Navigate to Business Application Risk Values in the applications menu to view the risk record of each business application. • View the risk scores at the risk parameter level by clicking the risk bubble of the software model in the TPM timeline. • Filter business applications based on their risk factor using the business application risk filter. • Select the By Product Classification view to dynamically load software models, business applications, and application services in the timeline. All technology categories or product classifications are loaded as the page loads. Application roadmap Use the graphical view of the application roadmap that opens in an investment portal, which is exclusive to Application Portfolio Management, to view all the projects and demands that are planned for a business application in a fiscal year. Application assessment indicators • Fetch cost data from the IT Financial Management buckets using the seven cost indicators to assess the performance of business applications in Application Portfolio Management. Know the exact amount that is allocated to a business application from a cost bucket using the preconfigured L2 Costing — Business Applications cost model. • Use the APM application indicators to get the count of all incidents that are associated to a business application, and derive the relative weight of the application. The incident indicators gather data at an instance level and then bundle them up at the application level. Quick start tests for Application Portfolio Management Validate the continued functionality of Application Portfolio Management after any configuration change such as an upgrade or after developing a new application. All test suites and tests should pass using a default implementation. To

Application or feature	Details
	validate a custom implementation, copy the automated tests and configure them for your customizations.
Application security	Instance security center Monitor the compliance level of instance security controls, view security event monitoring metrics, configure and maintain instance security settings. The Instance Security Center consolidates several key security components into a single comprehensive control console that helps you detect, protect and respond to instance based security events.
Approvals	Embed an approval request within the Outlook email client Embed an interactive approval request for service catalog requests in the email notification sent to a user. The user can accept or reject the approval request from the email client. Mobile experience for Approvals Approve catalog requests, requested items, or change requests from anywhere using the ITSM ServiceNow Agent application.
Assessments and Surveys	Question Bank module Add question categories (metric categories) and questions (metrics) in the Question Bank module so that you can reuse them when you create or update a survey. This module is available for all evaluation types, that is, surveys, assessments, and quizzes. The demo data for the question bank is available only when you activate the Survey Question Bank Sample Data plugin (com.snc.question_bank_data). This demo data is available for surveys in the Platform UI and Survey Designer (under Questions and Categories tabs).

Application or feature	Details
	Embedded survey within the Outlook email client Embed an interactive survey in the email notification that is sent to the user by selecting the Outlook Actionable Message check box in the survey definition. Your users can answer the survey questions and submit the survey from the email client instead of opening it in a new browser tab. Note: To use this feature, you must activate the Outlook Actionable Messages plugin (com.sn_ms_oam). **Ability to take a survey in the Connect chat client** Configure a survey in the Connect chat client by using the Chat Survey module. When a support agent ends the chat, the survey URL is displayed. Note: To use this feature, you must activate the Connect Support plugin (com.glide.connect.support). **Recipients list** Send a survey invite to a targeted set of users by using a recipients list. Using the dynamic condition method, you can create a dynamic recipients list that can be used for multiple surveys. **Localization for a public survey** Use the Enable/Disable whether to show language picker when a public survey is taken property to enable a language picker for a public survey. When a survey user takes the survey, it is first available in the language that you set. However, the user can use the language picker to change the language of the survey. Localization is also applicable to Service Portal. Note: You must activate the language plugins for each language that you want your surveys to be available in. **Quick start tests for surveys** Validate that Assessments and Surveys still works after you make any configuration change such as applying an upgrade or

Application or feature	Details
	developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.
Authentication	Support JSON Web Tokens (JWT) for external API providers JWTs provide the capability to configure server-to-server API interactions between ServiceNow and external API providers without requiring any user intervention. This support enables IntegrationHub or other automated tasks using JWTs to configure API and Service integrations with different providers. Guest Session Timeout property This new property, glide.guest.session_timeout, decouples a session timeout for a guest session from the glide.ui.session_timeout. Support Facebook authentication Your Facebook user account can link to your ServiceNow user account to perform actions, such as pre-set conversations or notifications, through a conversational bot platform.
Automated Test Framework	Automated Test Framework Properties Enable tests with Custom UI steps to capture page data each time they are run. Custom UI test steps Test customized user interfaces such as UI pages and UI macros by retrieving their HTML and JavaScript page components and identifying the test actions they support. Page Inspector Identify which HTML and JavaScript page components of your user interfaces are available for custom UI testing. Enable

Application or feature	Details
	automated testing by ensuring your user interfaces only contain testable page components. Develop testable custom components Change the testing properties of a particular page component using Automated Test Framework-specific HTML attributes. Parameterized tests Run a test multiple times with different test data for each run. Create parameters to store test data for each test run. Add tests to a suite with a filter Automate the creation of test suites by using a filter to dynamically add tests to a test suite when they match the filter conditions. Reduce the time that your test designers spend manually creating and maintaining test suites. Available quick start tests by application or feature Validate that your instance still works after you make any configuration change such as apply an upgrade or develop an application. Copy and customize the ServiceNow-provided quick start tests to pass when using your instance-specific data.
Change management	New features added to Conflict detection • Change conflict scheduling: When potential change scheduling conflicts are identified, change conflict scheduling identifies dates and times where no conflict exists and provides a new Scheduling Assistant user interface that allows a change requester or fulfiller to select a date and time with no conflicts. To take advantage of this new feature, activate the following two new properties: • Define the number of days to be factored after the respective Planned start/end date of a Change record when searching for the next available time (change.conflict.next_available.schedule_window).

Application or feature	Details
	- Define the number of suggestions to be calculated for the next available time field on a Change (change.conflict.next_available.choice_limit). - A new conflict type called Assigned to already scheduled is introduced to identify when the assignee of a change request is already assigned to another change request scheduled on the same date and time. Change REST API suite Empower your DevOps teams to easily integrate Change Management from their Continuation Integration or Continuous Delivery pipeline by using the REST API suite. This suite of APIs allows any of the supported change types to be created, updated, approved, and worked on from creation to closure. Use the REST API suite for the Change Management application to empower DevOps teams to integrate from their Continuation Integration or Continuous Delivery pipeline with Change Management. The new com.snc.change_management.enforce_data_requirements property is introduced to provide additional controls to supplement existing UI policy and client scripts. This property is installed with Change Management - Core and is true by default for new customers and false for any upgrading customers. Change approval policy Generate and configure approvals in Change Management based on a new platform feature called Decision Tables. Change Approval Policies allow conditional approval policies to be configured using simple platform records and then generated as an integral part of change workflows. With Change Approval Policies you can apply varying levels of approval governance dynamically based on platform data, the introduction of additional approval users or groups, or automated approvals tied to users for Normal and Emergency change types.

Application or feature	Details
	Enhanced refresh impacted services The Refresh Impacted Services UI action can populate the Impacted Services/CIs related list with any application service impacted by a configuration item listed in the Affected CIs related list. Previously, Refresh Impacted Services only worked against the Primary configuration item referenced on the form. The new Impacted CIs/Services related list is generated from all CIs listed in affected CIs related list (change.refresh_impacted.include_affected_cis) property is introduced to use this capability. This property is enabled by default. For more information, see Change Management properties. Quick start tests for Change Management Validate the continued functionality of Change Management during application development and after upgrades. Copy and configure these automated tests to identify customizations needing review. Standard Change catalog for support for workspaces Added a Standard Change Catalog support for Workspace. When a standard change template is initiated from a workspace form view of another task type, for example, an Incident, Change Management redirects to a workspace form view of the standard change request. Now Platform® branding Updated the CAB workbench portal and Change Conflict Calender to align to the base system platform color palette.
Cloud Management	Simplify creation of service offering in Service Catalog using cloud-native templates Taking a service-centric view, this feature allows the service designer to start with a catalog item and design the end user

Application or feature	Details
	catalog experience. The service is driven by importing cloud-native templates or ServiceNow blueprints. Enable use of technologies like Orchestration to drive day 1 and day 2 operations Cloud services and operations continue to grow at breakneck speeds. This feature allows customers, partners, and field personnel to add new services and operations using Orchestration workflows. This is especially useful for creating new day 2 operations for various cloud resources. Performance improvement for Cloud User Portal and Admin Portal The Cloud Management platform includes both an Admin and a User Portal, each serving a different role. This release focuses on user interface performance improvements for both the Admin and the User portals. The performance-related changes are transparent to the user.
Communities	Community profile time zone Set a preferred time zone when registering with the community or from the community profile. Antivirus protection for community attachments If antivirus protection is enabled, all attachments that are uploaded into or downloaded from the community are scanned for viruses. Forum hierarchy Create sub forums and map them to a parent forum. The forum hierarchy is displayed on the community pages. Last updated time stamp Displays when updates were last made to replies, comments, answers marked as correct, and which user made the updates.

Application or feature	Details
	Enhancements to the community TinyMCE editor Change the font and add tables when creating community content. Automatic addition of secondary content types Adds the respective secondary content types automatically when configuring primary content types for a community forum. Exclude self-award Checks that a user is not awarded gamification points for content they authored. Created date sort option Sort by the date on which content was created from the community homepage or forum landing page. Contributions on the community profile page Displays a list of the number of user contributions to the community. Additional notification preferences Select My Blog marked as helpful, My comment marked as helpful, My Question upvoted, and My Answer marked as helpful as activity feed options or email notifications. Full-sized images Open an image from community content, such as a question, to view a full-sized image. Quick start tests for Communities Validate the continued functionality of Communities after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy

Application or feature	Details
	the automated tests and configure them for your customizations.
Configuration Management Database (CMDB)	Agent Workspace for CMDB Access the following essential CIs and related details from Agent Workspace for CMDB: • Timeline view to access changes, change requests, and incidents for CIs • Health widget to view health scores for CIs • Relationships widget to view level 1 relationships (direct relationships) for CIs • All critical attributes related to CIs • Ability to create incidents and change request from the CI form view CMDB Health Use the system property glide.cmdb.health.src.cmdb_health_audit_only to configure CMDB Health to disregard data from other sources, such as cloud discovery. CMDB roles Control read access to the CMDB by using the cmdb_read role. The cmdb_read role is required for reading any CMDB table, and it is contained in existing roles such as admin and itil. CMDB Search Search the CMDB by using queries that are more complex than the basic global text search. Enter an almost free-style search text with configurable synonyms and stop words. CMDB Search

Application or feature	Details
	then converts that text into a properly formulated query on CMDB CIs and relationships. Quick start tests for Configuration Management Database (CMDB) Validate that Configuration Management Database (CMDB) still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.
Contextual Search	Source selector Specify a resource to search from the choice list next to the Related Search field. Search on tab field Configure the search so that it searches only when the agent enters text in the Short description field or in a search field and then removes the cursor from the field. Disable actions You can now disable search actions except the This helped action. Attach note field Specify a field where the attached knowledge article should be copied by selecting the Use custom field for attach note check box and putting the field name in Attach note field. Earlier, the attached knowledge article was copied to the field set in the glide.knowman.attach.fields property.

Application or feature	Details
Contextual development environment	**Extension points for UI macros and scripts** Create and embed custom code hooks, called extension points, into UI macros and scripts in scoped and global application base code. You can use extension points to designate where custom UI macros and scripts be called and then processed to extend the base Now Platform functionality. Because you do not need to embed extension points directly into the core application code, you prevent application paths from breaking during upgrades.
Continual Improvement Management	**Integration with ITOM and GRC applications** • Link new and existing records from IT Operations Management (ITOM) and Governance, Risk, and Compliance (GRC) to Continual Improvement Management on the base system with one click. • ITOM Configuration Management Database (CMDB) application integration includes a related link to create an improvement initiative on the Remediate Duplicate Tasks form. CIM integration allows easy submittal of an improvement initiative to address issues around de-duplication of CMDB tasks. • GRC application integration includes a related link to create an improvement initiative on the Issues form. You can also create multiple improvement initiatives from a single audit control task and view the associated tasks in a related list. **Enhanced linking with implementing tasks outside of CIM** Link a single CIM task to multiple integrated application tasks (problem, incident, demand, for example), and link multiple CIM tasks to a single integrated application task for more flexible improvement initiatives.

Application or feature	Details
	Quick tests for Continual Improvement Management Validate the continued functionality of Continual Improvement Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Credentials	Credential aliases for Discovery Allows an administrator to use specific credentials on Discovery schedules. Credential aliases provide more control over which credentials a Discovery schedule is allowed to use and prevents the unnecessary exposure of credentials with elevated privileges.
Customer Service Management	Case action status Identify cases that require attention and quickly prioritize workload using visual indicators in the Action Status column on the Case list. Customer Service integration with Service Management Provides an integration between Customer Service Management and the Incident, Problem, Change, and Request Management applications. Agents can create incident, problem, change, and request records from customer service cases. Agent Workspace for Customer Service Management Integrates the platform functionality specific to tier 1 customer service agents and puts these features into an easy-to-use interface. These features enable agents to be more efficient, such as a multi-tab interface for managing multiple cases and a

Application or feature	Details
	heads-up contextual display that provides quick orientation to the task at hand. Lookup and verify Enables agents using Agent Workspace for Customer Service Management to quickly look up contacts or consumers using information such as the name, phone number, account, or record number, and verify that information on the interaction record. Advanced Work Assignment for Customer Service Management Automatically route and assign cases as work items in Agent Workspace to customer service agents based on availability, capacity, and skills. Define work item queues, routing conditions, and assignment criteria that AWA uses to distribute work items. From the agent inbox, agents can see pending assignments, set availability, and accept or reject work items. Similar cases Provides an easy way for an agent working on a case or a problem to find similar, already resolved records. The agent can link the current record to a similar record and also copy resolution notes to the current record. Quick start tests for Customer Service Management Validate the continued functionality of Customer Service Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Dashboards	Dashboard picker enhancements Find dashboards more quickly. On each dashboard, the dashboard picker enables you to choose from the dashboards you have permission to view, with the most recently opened

Application or feature	Details
	dashboards shown first. Previously, this list showed all dashboards by default. Click Load all dashboards to see a list of all dashboards available to you. Quick start tests for Dashboards Validate the continued visibility and sharing functionality of dashboards after any configuration change such as an upgrade. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Discovery	Discovery performance metrics Use metrics collected by the Discovery performance framework to monitor the processing times of probes, patterns, and sensors for specific discoveries. View performance data aggregated over time that shows probe execution by build, status, or target IP address. Use the roll-up data by build to compare performance between versions after an upgrade. File-based discovery Improves visibility into your installed software via file signature-based discovery. This is a limited access feature for the Madrid release that enables you to scan a file system and identify file fingerprints on UNIX and Windows servers from a list of established signatures. Use the comprehensive software normalization library from ServiceNow to match the results to installed software. This feature integrates with the ServiceNow® Software Asset Management Professional application to help you manage your software licenses. File-based discovery is built with the same high-quality engineering as the rest of the Now Platform® and is optimized for performance. The product team will use the limited access time frame to get participant validation of the core feature set.

Application or feature	Details
	If you are interested in participating in this limited availability program, email discoverypm@servicenow.onmicrosoft.com. PowerShell remoting Use PowerShell remoting to communicate directly with Windows servers using the WinRM protocol. The PowerShell process establishes a secure PSSession (PowerShell Remoting session) that stays open until the MID Server finishes querying a Windows server. New MID Server configuration parameters manage SSL certificates and port assignments for using PowerShell over HTTPS.
Document Viewer	Enable Document Viewer Enable Document Viewer on a specific table by adding the use_document_viewer attribute. View attachments with Document Viewer Use Document Viewer to view documents directly within the Now Platform® rather than having to download them to your own file system.
Edge Encryption	Authenticate an Edge Encryption proxy server Specify that a proxy is a trusted source so that Edge Encryption can process the requests that come from that proxy.
Embedded help	Create embedded help content records after you upgrade Reduce the downtime of missing embedded help content when pages load after an upgrade. Download all embedded help content for the family you are upgrading to. This execution is for out-of-family upgrades only. For example, when upgrading from Jakarta Patch 3 to London

Application or feature	Details
	Patch 5. This enhancement is not for in-family upgrades, such as Kingston Patch 3 to Kingston Patch 4. Create sys_embedded_help_content records by downloading and unzipping the sys_embedded_help.zip file.
Event Management	Alert intelligence Alert Intelligence is implemented in the multi-tab interface of Agent Workspace. You can manage alerts in Workspace in the Event Management implementation of Agent Workspace. View alert group reasoning As alerts are added to a group, a message is added to the Work notes field of the alert to indicate the reason for aggregating that alert into the group. When an alert is added to or removed from the group, that information is shown in the Work notes of the selected alert. Monitor event processing metrics Extract statistics from the instance and monitor metrics related to event processes. Configure event collection from an Icinga2 connector Configure the Icinga 2 (Icinga) connector instance to receive events while monitoring your network resources. Alert similarity Find alerts that are similar to the alert that you are currently investigating. Save time in resolving the current alert by seeing how the similar alerts were resolved. In this way, like alerts are resolved in the same way and there is a reduction in the mean time to resolve alerts. Alert similarity applies natural language processing (NLP) based on Now Platform® machine learning (ML) as implemented in Agent Intelligence.

Application or feature	Details
	Quick start tests for Event Management Validate the continued functionality of Event Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Field Service Management	Field Service Mobile Manage your field service tasks anywhere using the Field Service mobile application. With this application, you stay connected at all times, can access information in real time, and complete your tasks quickly. You can even access task information and complete tasks in locations where your mobile device is not connected to the Internet. Quick start tests for Field Service Management Validate that Field Service Management still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data. Adding knowledge to work order and work order task forms Recommend additional information to complete tasks. Search for related knowledge articles and if helpful, add that to a work order or work order task.
Financial Management	Prescriptive cost models Use the prescribed preconfigured Level 2 Costing – Business Services and Level 3 Costing – Business Capabilities cost models along with their default metrics to weight the allocation of various business costs.

Application or feature	Details
	ITFM prescribed weighted metrics Choose from a library of ITFM-prescribed metrics that support weighted rollup. This library of metrics sources data directly from other applications within the Now Platform®. ITFM prescribed scripted metric to allocate to business capabilities Track the relationship between business applications and business capabilities in Application Portfolio Management (APM) for purposes of cost allocation. APM integrates with ITFM using a scripted metric logic, so that you can allocate cost between applications and business capabilities at whatever levels the applications are related to the business capabilities. ITFM prescriptive dashboards View all your expenses on a consolidated and easy-to-read dashboard based on a specific cost model that you select. There are a number of preconfigured dashboard layouts to choose from. In dashboards, you can drill down to get details of spending for each segment in the hierarchy. The following dashboards are available in Madrid: • Application TCO • Level 1 Costing – Shared Services • Level 2 Costing – Business Applications • Level 2 Costing – Business Services • Level 3 Costing – Business Capabilities Total weight support in allocation metrics Use the total weight metric to allocate cost based on total consumption capacity. The weighted metric allocates cost based on the total number of available units of consumption instead of allocating cost based on the sum of all values that were actually consumed in the weight table. The Enforce total

Application or feature	Details
	weight option helps when the total allocation is greater than the sum of the consumed values. Financial Charging guided setup Follow the Financial Charging guided setup steps to set up the reporting aspect of Financial Management. Understand the tasks and configure statement items, statement item drilldowns, and showback statement definitions to generate a showback statement of the cost items. Show back the IT costs associated with each department to the head of the business unit, providing visibility on the reasons behind the cost. Quick start tests for Financial Management Validate the continued functionality of Financial Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Flow Designer	Call a Workflow flow logic Reuse existing business logic by running a published and active workflow from a flow. Flow designers can use flow data as workflow inputs such as specifying the current record. Core attachment actions Use core actions to copy, delete, look up, and move attachments in the Attachments [sys_attachments] table. Do the following in parallel flow logic Branch a flow into blocks of actions and subflows that run in parallel.

Application or feature	Details
	Do the following until flow logic Apply one or more actions repeatedly until an end condition is met. Flow designers can use flow data to specify the end conditions. **End flow logic** Stop running a flow from within a conditional flow logic block, such as an If, Else If, or Else flow logic block. Use this flow logic to stop flow execution when certain conditions are met. **GlideFlow API** Perform client-side interactions with actions, flows, and subflows. Flow designers must enable a flow, subflow, and action to be called from the client. **Make a decision flow logic** Use decision table branching logic in situations where multiple conditional paths are required, as an alternative to nested If, Else If, or Else flow logic. For example, inputs such as location, age, crash history, car make, car model, and car year will determine a level of insurance coverage. This logic can save time and present a more readable format than nested if conditions or switch case statements. **Run As advanced option** Choose whether the flow runs as System User or the user who initiates the session. Use the user who initiates the session option when the update should come from the user who triggered the flow. For example, comments to incident records that should come from the current user, or approval emails that should originate from the approver. Settings on a flow do not apply to child subflows. Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow.

Application or feature	Details
	FlowAPI Execute actions, flows, or subflows in server-side scripts using either blocking or non-blocking methods. Non-blocking methods enable the client to execute other code in the script without waiting for the flow to complete. Wait for a duration flow logic Pause a flow for a specified time period. Flow designers must specify the duration and schedule for the wait period.
Governance, Risk, and Compliance	Quick start tests for GRC: Risk Management Validate the continued functionality of GRC: Risk Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. Risk assessment question bank Risk Managers can add questions or categories from a risk assessment to a question bank. Conversely, they can build a risk assessment by adding questions and categories from the question bank. Risk managers can copy the whole risk assessment. Continuous monitoring for vulnerabilities with public exploits affecting critical business services Through integration with Vulnerability Response, risk administrators, managers, or users can monitor critical vulnerabilities through indicators, which enables them to observe the effect on risk posture. Quick start tests for GRC: Policy and Compliance Management Validate the continued functionality of GRC: Policy and Compliance Management after any configuration change such

Application or feature	Details
	as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. Attestation question bank Compliance managers can add questions or categories from a control attestation to a question bank. Conversely, they can build a control attestation by adding questions and categories from the question bank. Vendor assessment resubmission process Vendor risk managers or assessors can return assessments to vendors with comments explaining the need for further information. Vendors can resubmit the requested responses and also communicate with the vendor risk manager through comments in the Notes and Comments section under a Questionnaire or Document Request. This real-time communication provides an easier and more timely resubmission of the assessment. Issue creation based on response Using issue generation rules, issues can be created automatically when a vendor selects the incorrect answer. Vendor risk managers can also create issues manually during review of the vendor response. Vendor risk assessment question bank Vendor risk managers can add questions or categories from a questionnaire, document request, or tiering questionnaire to a question bank. Reversely, they can build a questionnaire, document request, or tiering questionnaire by adding questions and categories from the question bank. Vendor risk managers can copy the whole questionnaire, document request, or tiering questionnaire.

Application or feature	Details
Guided Tour Designer	Single callout placement The four directional callouts used to associate a tour step to a page element have been replaced by a single multidirectional callout. This multidirectional callout enables you to flexibly position your callouts so they point to an element from any direction.
HR Service Delivery	Case and Knowledge Management Standardize the documentation, interaction, and fulfillment of employee inquiries and requests, improving HR efficiency and services over time. Preview a knowledge article with knowledge blocks Preview published knowledge articles with knowledge blocks by user and date. You can see how the article appears or hides block content based on the user criteria and date. Automated Test Framework for HR Validate the continued functionality of HR Service Delivery after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. Note: When running, demo data is required. Employee Service Center Provide a single, unified portal for employees to get all the information, services, and help that they need. Note: Employee Service Center is also available as a standalone application.

Application or feature	Details
	Employee to-dos page The to-dos page is where employees can view and complete all their to-dos on a single page in the Employee Service Center. You can configure the to-dos page by applying filters to show a user's approvals, content tasks, HR acceptances, HR tasks, and more. **Employees requests page** The requests page is where employees can view all their requests on a single page in the Employee Service Center. You can configure the requests page by applying filters to show a user's service catalog requests, IT incidents, HR cases, and more. **Employee knowledge page** The knowledge page is where employees can browse knowledge articles and find answers to their questions in the Employee Service Center. You can associate one or more knowledge bases with the Employee Service Center. **Employee catalog page** The catalog page is where employees can request catalog items such as services and product offerings in the Employee Service Center. You can associate one or more service catalogs with the Employee Service Center. **Employee live chat** Employees can chat directly and in real-time with support agents in the Employee Service Center. When an employee initiates a chat, a pre-chat window appears and the employee selects a category that routes them to the appropriate chat queue. You can control what categories appear by configuring the pre-chat categories. **Link the HR ticket page with the Employee Service Center** If you are using Employee Service Center as part of HR Service Delivery, use the Portal Configuration module to link the HR ticket page with the Employee Service Center portal.

Application or feature	Details
	HR ticket page If you are using Employee Service Center with HR Service Delivery, the HR ticket page is where users can view the details of an HR case. Different users have different views of the HR ticket page, and you can configure the HR ticket page header for individual HR services. Employee Forums Employee Forums help your employees connect, engage, and collaborate with other employees. Forums can be used to share business information, promote employee engagement, encourage ideas and feedback, and give your employees a voice. Add or modify task (to-do) content You can assign tasks to your employees as part of a campaign and, if needed, trigger additional content once a task is completed. To-dos can also be sent via email or posted to the Employee Service Center. Manage content for a campaign Campaign bundles and content can be edited after being published. Content can be removed or changed for employees that have not yet viewed it. Content Automation (campaigns) analytics Use Content Automation Analytics to view event-based reports measuring employee engagement with your Employee Service Center and campaign content engagement. Enterprise Onboarding and Transitions Automate onboarding and other employee lifecycle events that span multiple departments, improving employee satisfaction and efficiency across HR and other departments.

Application or feature	Details
	Monitor the status of lifecycle event cases Use activity set execution contexts to monitor the status of lifecycle event cases. You can report on the activity set contexts table along with the HR case table. Show activity sets timeline to the subject person on the HR ticket page If you are using Employee Service Center with Enterprise Onboarding and Transitions, you can show the activity sets timeline on the HR ticket page to the subject (subject person) of the lifecycle event case. Wait for generated tasks to complete before closing the activity set For lifecycle event activities that generate new tasks, you can wait for the generated task to complete before the activity closes. Employee Document Management Provide electronic storage and filing of employee documents. Security policies determine who can view and access employee documents. Retention policies determine how long employee documents should be retained and reduces compliance risks. Create or modify an employee document Employee Document Audit Trail provides insight into all actions for an employee document from creation, updates, and to the time it was purged. Employee document management bulk imports You can upload multiple employee documents from an external cloud storage or a local network directory to Employee Document Management.

Application or feature	Details
ITSM Agent Workspace	ITSM Agent Workspace for Problem Management • All fields that are available on the ITSM problem form are available on the Agent Workspace problem form. • State transitions are not available on the Agent Workspace for Problem and Problem task records.
ITSM Virtual Agent	Additional ITSM Virtual Agent conversations Benefit from the following additional pre-built ITSM Virtual Agent topic conversation flows: • Escalate IT Ticket • Update Change Request • Identify Scheduled Changes • Create Problem • Identify Available Change Windows • Resolve Incident Out-of-the-box Virtual Agent Performance Analytics Solution Preconfigured Performance Analytics indicators and breakdowns for the Virtual Agent along with visualizations presented on the Virtual Agent Overview Dashboard.
Import and export	Concurrent imports Split incoming data into multiple import sets and transform the import sets concurrently to reduce processing time.

Application or feature	Details
	You can partition import sets to maintain the processing order within each partition. WebSockets WebSockets are turned on by default. WebSockets connections may be limited by your network configuration. You can check your browser's compatibility by entering the following URL (you do not have to be logged on to an instance): https://yourinstance.service-now.com/$websocket_test.do.
Incident Management	Major incident workbench features • Access on-call escalation details: Access on-call roster and escalation details from the major incident workbench to reach out to a support group. • Make outbound calls from the browser : Make an outbound call from the Workbench UI to the device of the user by populating the sn_major_inc_mgmt.notify_webrtc_number property with a valid notify number that has voice capability. Associate similar incidents Associate the current incident to a similar incident or copy resolution notes to the current incident. • Add similar incidents: Find similar incidents to a current major incident so that the support teams can work on the parent record for a coordinated response process. • Similar incidents in contextual search : Use the Similar Incidents additional resource on the Incident form to search for and link similar incidents. Advanced Work Assignment for Incident plugin Activate the Advanced Work Assignment for Incidents (com.snc.incident.awa) plugin to automatically assign work items to agents based on their availability, capacity, and skills. Define work item queues, routing conditions, and assignment

Application or feature	Details
	criteria that Advanced Work Assignment (AWA) uses to distribute work items. From the agent inbox, agents can see assignments, set availability, and accept or reject work items. **Contextual search** Use contextual search to view Knowledge articles relevant to the incident. On the Incident form, a choice list next to the Related Search field enables you to select a category such as Knowledge (All), Pinned Articles, Open Incidents, Resolved Incidents, and Open Major Incidents to indicate where you want to search for the entered text. **Quick start tests for Incident Management** Validate the continued functionality of Incident Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. **New mobile app for Incident Management** • Access work assigned to you or your group. • Add comments or work notes or reassign incidents. • Receive push notifications for incidents assigned or commented. • Review group workload for incidents by priority and state. • Approve or reject change requests, requests, and requested items. **ServiceNow add-in for Microsoft Outlook** Create an incident or VTB task in your ServiceNow instance from within Microsoft Outlook using the ServiceNow Add-in for Microsoft Outlook feature. This add-in lets you engage with IT directly from an email or, for IT users, quickly create an incident

Application or feature	Details
	from an email and immediately assign it to the correct team. It also lets you create a VTB task.
IntegrationHub	Payload Builder step Enable action designers to easily create name-value pairs in JSON and XML payloads using dynamic data. SOAP step Enable action designers to send outbound SOAP web service requests to external systems. Slack spoke Use Slack APIs to post messages and manage access to channels. Authorize spoke actions with OAuth tokens. The webhook-based spoke from the previous release has been renamed to the Slack webhooks spoke. Only the new spoke supports Slack APIs and OAuth. Microsoft SCCM spoke Automate management of user collections, device collections, and application deployments on a Microsoft System Center Configuration Management (SCCM) server.
Knowledge Management	Guided setup Follow step-by-step instructions to configure Knowledge Management on your instance. Perform structured configuration activities and monitor your progress. Ownership groups Create ownership groups to own knowledge articles and maintain article quality, manage approvals, and ensure the timely resolution of feedback.

Application or feature	Details
	Full-sized images Open an image from a knowledge article on the Knowledge Management Service Portal article view page to view a full-sized image. Domain enhancement to user criteria diagnostics Displays whether a user has access to a knowledge article or knowledge base based on their domain. Facets for glide list field types Configure facets for glide list field types on the Knowledge Service Portal search results page. Import a Word document using the platform UI Create a knowledge article by importing a Word document directly using the platform UI. Multi-language search facet Select which languages to display your search results using the language facet in the Knowledge Management Service Portal. Performance improvements to scripted user criteria Evaluates user access to knowledge bases once per session if scripted user criteria is defined for a knowledge base. If the script results in changes after a session cache is built, the result takes effect in the next session. Changes to a user's role, groups, company, location, or department take immediate effect. Extension points for Knowledge Management plugins Use UI extension points to customize knowledge article headers and footers and article feedback notification emails. Use scripted extension points to customize the article subscription email template.

Application or feature	Details
	Quick start tests for Knowledge Management Validate the continued functionality of Knowledge Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. **Preview a knowledge article with knowledge blocks** Preview a knowledge article with knowledge blocks by user or, if published, date. For an unpublished article, you can preview the article by user by impersonating different users to see how the article displays or hides block content based on the user criteria set at the knowledge base and knowledge block level. For published articles, you can preview the article by both user and date to see how the article appears in past versions for different users.
MID Server	**TrustStore configuration parameters** Sets the path to the trustStore for the MID Server to use and defines the trustStore password for HTTPS connections with the Asynchronous Message Bus (AMB) Client. • mid.https.truststore.path • mid.https.truststore.password
Notifications	**Email client configurations** Control how your email client works: • Use email client configurations to manage the behavior of your email client. Each configuration consists of different email controls for setting the allowable email recipients and email addresses and for defining the allowable sender (From) email addresses.

Application or feature	Details
	• Use the Email Client Template (enhanced for this release) to define the default content for an email client message. The template provides a Sender Configuration tab for specifying how the sender email address (From field) is generated. You can choose from four different configuration methods: SMTP, Select from List, Script, or Text. Multiple email readers Organize your email accounts into email account groups (subsets of email accounts) for processing by multiple email reader jobs. Activate this feature with the glide.email.inbound.account_group_processing property and assign your email accounts to email account groups.
Notify	Notify-Twilio Direct driver A new Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided. Notify Properties module Updated Notify properties have been added such as phone numbers to send SMS messages or to allow on-call users to directly call people on the rosters from a browser. Advanced SMS features Configure bulk SMS messages to reach multiple lists of users with only one API request through the Twilio Notify integration and intelligent SMS handling to send SMS messages using alphanumeric IDs. Advanced Voice features Answering Machine Detection (AMD) enables you to determine whether a human or a machine has picked up an outbound voice API call so you can tailor your call flow accordingly.

Application or feature	Details
	WebRTC Calls Make outbound calls from the browser On-Call and MIM Workbench interface.
On-Call Scheduling	User interface for on-call schedules Review, manage, and correct gaps or conflicts in your on-call schedule from a single view. On-call managers and members can use this interface to view and maintain on-call schedules. Coverage gaps and conflicts for a shift Review gaps and conflicts in a shift to ensure proper support coverage. Possible reasons for gaps are: • Time-off without coverage • User has been moved out of the group • User is marked as inactive A conflict is possible if the same user is assigned as the primary and secondary point of contact for a shift. Group managers and delegated shift managers can view these gaps and conflicts using any of the following options: • Info icon for a shift in the calendar view of the on-call calendar • Info icon for a shift in the timeline view of the on-call calendar • Info icon for a shift on the On-Call Schedules landing page • Pending Actions section of the On-Call Schedules user interface

Application or feature	Details
	Scheduled job for weekly gaps and conflicts report Send a weekly report of gaps and conflicts in on-call schedules to the respective admin, shift managers, and group managers using the On-Call Gaps Conflicts Report. **Group Preferences module** Use this module to set the following group preferences for your group's on-call shift: • Shift overlap and escalation rule for overlaps • Time-off request approval • Shift managers **Overlapping shifts** Create overlapping shifts to have a hand-off period between shifts. With this capability, multiple shifts can be on-call during the same time and on-call members from multiple shifts can be contacted. Overlapping shifts for a group are displayed as different shift cards on the On-Call Schedules landing page. **Custom escalation policy type and escalation designer** Use the custom escalation type for a shift to customize the escalation process. After setting the custom escalation type, use the escalation designer to customize the escalation details for each step of the process. These customizations are also reflected in the escalation path of a roster. **Roster and escalation details** View the roster and escalation details of a group using any of the following options: • Shift cards on the On-Call Schedules landing page. • On-Call section in the Overview tab of the On-Call Schedules user interface. • Summary tab on the Major Incident Management workbench.

Application or feature	Details
	• UI action on the Incident form. **Deletion or replacement of coverage on the calendar** Use the Delete coverage or Replace coverage UI actions to delete or replace a coverage from the on-call calendar. **Weekday for starting the roster rotation** Use the Day of week for rotation field on the Roster form to specify the weekday on which the roster rotation should start. When this field is specified, the roster rotation is set based on the specified frequency, start date, and weekday. **Escalation in conference calls** Set the com.snc.iam.conference_call_follow_on_call_escalation property to true to set an automatic escalation hierarchy in conference calls initiated from an Incident Communication Task. When you add a user group to the call, the group itself is added to the call, and the escalation hierarchy is followed once you start the call. This feature is applicable only when the Incident Communications Management (com.snc.iam) plugin is active. **On-Call Scheduling properties** Use the On-Call Scheduling > Administration > On-Call Properties module to access commonly used On-Call Scheduling properties that are organized into logical groups. **OnCallRotation** Use the following methods of the OnCallRotation () global API to manage overlapping shifts and custom escalation in on-call schedules: • getPrimaryUsers() • getPrimaryUserByRota() • getPrimaryUserNameByRota()

Application or feature	Details
	• getEscalateesAt()
Operational Intelligence	**Self-health monitoring** Monitor essential Operational Intelligence components and processes, and generate alerts about potential issues. Operational Intelligence uses pre-configured self-health monitors for Event Management which enables you to proactively remediate issues and minimize data loss. **Quick start tests for Operational Intelligence** Validate that Operational Intelligence still works after you make any configuration change such as applying an upgrade or developing an application. Copy and customize these quick start tests to pass when using your instance-specific data.
Performance Analytics	**Analytics Hub** The Analytics Hub is the central interface where you assess, compare, and predict the performance of an indicator over time. Set on the indicator record whether that indicator is to be included in the Analytics Hub. The Analytics Hub replaces the Detailed Scorecard. **New API for dynamic retrieval of analytics in formula indicators** The new methods retrieve calculated values from the Analytics Hub for use inside a formula indicator. The values are retrieved dynamically, as you change your selections in the Analytics Hub. This API simplifies scripting formulas, especially for indexing multiple indicators, getting changes in scores, or filtering particular breakdown and element combinations.

Application or feature	Details
Platform security	Instance security center Monitor the compliance level of instance security controls, view security event monitoring metrics, and configure and maintain instance security settings all from within the Instance Security Center. The Instance Security Center consolidates several key security components into a single control console that helps you detect, protect, and respond to instance-based security events.
Problem Management	Problem Management Best Practice — Madrid plugin Use the Problem Management Best Practice — Madrid plugin to identify the cause of a service interruption reported by significant or recurring incidents. The plugin provides roles for problem management, including a problem coordinator, problem manager, and problem administrator. It also provides fields to record the category, identify where the issue was first reported, the workaround, the cause notes, and the fix notes. The plugin also searches for and attaches knowledge articles. Problem Management Best Practice — Madrid — State Model plugin Use the Problem Management Best Practice — Madrid — State Model plugin to support state management. State management controls how a problem or problem task moves through a predefined list of states. Problem Management Best Practice — Madrid — Knowledge Integration plugin Use the Problem Management Best Practice — Madrid — Knowledge Integration plugin to identify the cause of a service interruption reported by significant or recurring incidents. The plugin provides the ability to create Known Error articles for incident deflection (requires activation of the Knowledge Management Advanced plugin).

Application or feature	Details
	State management Manage a problem throughout its life cycle using these states: New, Assess, Root Cause Analysis, Fix in Progress, Resolved, and Closed. Roles • Work on a problem and manage it through its life cycle with the Problem Co-ordinator [problem_coordinator], Problem Manager [problem_manager], and Problem Admin [problem_admin] roles. • Configure problem management settings and act as a problem coordinator with the Problem Manager [problem_manager] and Problem Admin [problem_admin] roles. • Manage and delete problems and problem tasks with the Problem Admin [problem_admin] role. Properties Use properties to control features such as creating a problem task on a closed problem or re-analyzing a closed or canceled problem. Business rules The following business rules have been added for Problem: • Set State variables on Scratchpad • Update fields when Problem is Confirmed • Copy related records to original Problem • Update fields on Problem Closure • Update fields when Problem is Resolved • Raise an event when State changes • Cascade closure of Problem Tasks

Application or feature	Details
	• Update fields on Re-analyzing a Problem • Sync Workaround fields The following business rules have been added for Problem Task: • Set state in scratchpad for Problem Task • Check if problem task can be created • Check related Problem Task closure • Update re-assess (reopen) fields • Update Closed fields • Update Started fields • problem_task events UI policies The following UI policies have been added for Problem: • Show 'Workaround' when 'Workaround applied' is checked - Modal View • Make Problem State read only • Hide Resolution Code when state is not resolved or closed • Hide Duplicate of when Resolution code is not Duplicate • Hide 'Workaround communicated' and 'Workaround communicated by' fields when they are empty • Hide 'Fix communicated by', 'Fix communicated by' fields when they are empty • Show 'Workaround applied' only when 'Resolution code' is 'Risk Accepted' • Hide Closed By, Closed, and Close notes when Resolution Code is None

Application or feature	Details
	• Hide 'Last reopened by', 'Last reopened at' fields when they are empty • Make 'Workaround' mandatory when 'Workaround applied' is checked • Hide Subcategory when Category is none • Priority is managed by Data Lookup - set as read-only The following UI policies have been added for Problem Task: • Hide Other Reason when Cause code is not other • Hide Vendor when Cause code is not Vendor Issue • Hide Close code when State is not Closed Data policies The following data policies have been added for Problem: • Make 'Duplicate of' mandatory when 'Resolution code' is 'Duplicate' • Make 'Cause notes' mandatory when State is 'Fix in Progress' • Make 'Fix notes' mandatory when State is 'Fix in Progress' • Make 'Canceled reason' mandatory when Resolution code is 'Canceled' • Make 'Assigned to' mandatory when State is one of 'Assess', 'Root Cause Analysis', 'Fix in Progress', 'Resolved' or 'Closed' • Make 'Risk accepted reason' mandatory when Resolution code is 'Risk Accepted' • Make 'Resolution code' mandatory when State is 'Resolved' • Make 'Resolution code' mandatory when State is 'Closed' The following data policies have been added for Problem Task:

Application or feature	Details
	• Assigned to is required when state is one of 'Assess, Work in Progress or Closed' and Close code is not 'Canceled' • Fix notes is required when state is Closed Completed for RCA task • Cause code is required when state is Closed • Close notes is required when state is Closed for General task • Close notes is required when state is closed canceled for rca task • Vendor is required if Cause code is Vendor Issue • Other reason is required when Cause code is Other Notifications The following notifications have been added for Problem: • Problem Fixes Closed • Problem Tasks closed Script includes The following script includes have been added: • ProblemState • ProblemStateSNC • ProblemStateUtils • ProblemStateUtilsSNC • ProblemTaskState • ProblemTaskStateSNC • ProblemTaskStateUtils • ProblemTaskStateUtilsSNC

Application or feature	Details
	• ProblemUtilsClientsSNC • ProblemV2Util • ProblemV2UtilSNC Known Error articles Use Known Error articles as reference material. The Known Error articles document the root cause and the workaround of the Problem to help with deflecting Incidents. Contextual search Use contextual search to view Knowledge articles. On the Problem form, a choice list next to the Related Search field helps you select a category, such as Knowledge (All), Pinned Articles, Incidents, Open Problems, and Resolved Problems in which you want to search for the entered text. Communicate outcome Communicate workarounds and fixes using related links, which notify related incidents that a workaround or fix is available. Quick start tests for Problem Management Validate the continued functionality of Problem Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Project Portfolio Management	Rate Model Use the Rate Model feature to derive date-effective, criteria-driven hourly rates for calculating planned and actual costs for a project or demand. The labor rate cards are based on the user attribute only, but the rate model provides options to define rates based on resource, group, user, and other attributes from

Application or feature	Details
	various entities. It helps to determine resource costs (requested, confirmed, and allocated) associated with a project or demand. When a resource working on the project submits a time sheet, the rates are picked from the associated rate model. Resource Management • Derive hourly rates from the rate model during resource plan Request, Confirm, or Allocation stages. • Derive hourly rates for an operational resource plan using the Rate Model field on the operational resource plan form. • Use the com.snc.resource_management.plan.auto_async_threshold resource property to set the maximum number of daily resource allocation records that should be considered in synchronous mode during confirmation and allocation. The property improves the system performance when the number of allocation daily records is more than the value set in the property. • Use the com.snc.resource_management.plan.max_duration resource property to restrict the maximum number of days for which a resource plan can be created. PMO Dashboard Use the PMO dashboard to view trends of historical data as well as regular reports for your portfolios, programs, and projects. The dashboard is not available in Teamspaces. Investment Portal • View the details of a demand from the demands list in the Timeline tab. • Open a project in the Planning tab in the Project Workspace from the projects list in the Timeline tab. • View the details of a cost plan from the cost plans list in the Financials tab.

<table>
<tr><th>Application or feature</th><th>Details</th></tr>
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Configure the default list of active investment widgets included on the new boards and on the existing boards that do not have widget selection configured.

Project Management

Associate a rate model with a project to derive hourly rates for the resource plans and time cards associated with the project.
Compare financial baselines to see the differences in the financials of a project between the two baselines.
Change the planned start date of a project using the Move project feature from the Planning Console or Project form.
When importing a Microsoft Project file into a project with subprojects on the ServiceNow instance:

The WBS order of imported tasks is regenerated after import.
The Planned Start Date and Planned End Date of the parent project are rolled up.
The State of the parent project and tasks are rolled up.
The % Complete on the top task is rolled up.

To view the project name of an external dependency, point to the link icon ( ) in the Planning Console.

Demand Management

Associate a rate model with a demand to derive hourly rates for the resource plans associated with the demand.
Compare financial baselines to see the differences in the financials of a demand between the two baselines.
Define the business investment for a demand using the Investment Class and Investment Type fields in the Demand form.

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Application or feature	Details
	• Trigger a notification email to the portfolio stakeholders when an assessment is sent to them by moving a demand to Screening. Quick start tests for Project Portfolio Management Validate the continued functionality of Project Portfolio Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Reporting	Quick start tests for Reporting Validate the continued functionality of Reporting after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Scaled Agile Framework (SAFe)	Portfolio SAFe Use Portfolio SAFe to align your organizational goals and strategies with your portfolios, and apply lean and agile principles to manage and deliver the portfolio work. Portfolio SAFe works at three levels for portfolio managers, product managers, and team members. At the Portfolio level, portfolio managers can capture and prioritize epics in a centralized backlog, and monitor the progress of epics in a visual task board. At the Agile Release Train (ART) level, product managers can capture, prioritize, and monitor features that are broken out from epics.

Application or feature	Details
	At the Team level, team members can implement stories that are broken out from features. Bulk actions Perform any action on a set of features in the ART backlog, and on a set of stories in the Team backlog. Bulk actions save you time and effort since you are not required to edit each record (feature or story) separately. For more information on performing bulk actions: • On the ART backlog, see Manage your ART backlog. • On the Team backlog, see Manage your team backlog. Quick start tests for Essential SAFe Validate the continued functionality of Essential SAFe after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Security Incident Response	Security Incident Response You no longer need to wait for the platform family release of Security Incident Response to enjoy new features, updates, and fixes. The latest version of Security Incident Response is published in the ServiceNow Store and available for download. Setup Assistant is part of the Security Incident Response plugin available in the ServiceNow Store Download Setup Assistant from the ServiceNow Store for a simple, step-by-step approach to setting up Security Incident Response. Setup Assistant helps you discover which capabilities of Security Incident Response require configuration, identify what permissions are required to configure these capabilities, and learn what settings are recommended for your

Application or feature	Details
	environment. Setup Assistant helps you deploy Security Incident Response and associated integrations quickly and efficiently. Sighting Search for Phishing and Malware Response Perform sighting searches on emails or observables to determine how often certain types of attacks, such as user-reported phishing attacks or communications with a malicious IP address or URL, occur in your network. As you start analyzing a phishing incident, you can use this feature to identify other users in your organization who are impacted by the same phishing attack by clicking the phishing link. Flow Designer and Actions for Incident Response playbooks Using the Flow Designer, security administrators and flow design authors can more easily transition from manual or undocumented playbooks to automated and repeatable playbooks using an intuitive and flexible drag-and-drop experience, as well as condition checks, parallel branching, decision tables, and more.
Service Catalog	Multiple catalog support in Service Portal Enable requesters to browse and search for items across multiple catalogs by adding these catalogs to the Catalogs related list when configuring a portal. Portal settings Define the catalog item behavior in Service Portal using portal settings. You can configure the following settings for a requester: • Request method. • Display of the quantity and delivery time of the item. • Options to add an attachment to the item, or make the attachment mandatory. • Options to add the item to the wish list or cart.

Application or feature	Details

	When you upgrade to Madrid, if the No cart or No quantity fields are already selected in the Now Platform®, a migration script propagates these settings to the portal settings.
	
	My Requests menu in Service Portal
	
	Enable requesters to view open or closed requests, incidents, and tasks in Service Portal using the My Requests menu. This menu uses the My Requests (my-requests-v2) widget that is based on the filter conditions and display settings defined in the My Request Filter module.
	
	Service Catalog enhancements for Automated Test Framework
	
	• Write automated end-to-end tests for requester flows to validate the following for Service Catalog:
	  ◦ Order guide in Service Portal.
	  ◦ Multi-row variable sets of a catalog item in Service Portal.
	  ◦ Variable editor in the Now Platform®.
	    Note: When you upgrade or modify an instance, run these tests to confirm that the instance still works as designed.
	• All Service Catalog step configurations support parametrized tests.
	
	Mobile experience for a fulfiller
	
	Approve catalog requests, requested items, or change requests using the ServiceNow Agent application.
	
	User Criteria Diagnostics
	
	Debug whether a user can access a catalog item based on the associated user criteria and fix issues without contacting ServiceNow Customer Support.

Application or feature	Details
	Regular expressions for variable validations Use a regular expression (regex) to validate the value that is entered for a Single Line Text or Wide Single Line Text variable. Request cloning in Service Portal Clone a submitted request by selecting multiple users in the Also request for list of the Additional Actions section. Embedded catalog approval request within the Outlook email client Embed an interactive approval request for service catalog requests and requested items in the email notification sent to a user. The user can accept or reject the approval request from the email client. Enhanced scoping support Reference any request item variable from a script in a scoped environment. Response parameters for methods in Service Catalog REST API Use the parent_id and parent_table parameters that are added in the response body of the following methods: • checkout • checkout_guide • submit_order • submit_producer • order_now
Service Level Management	SLA offline support Provides support for accurate SLA timing for tasks updated from the ServiceNow mobile client while offline. Field service agents

Application or feature	Details
	sometimes work offline at customer locations, and updates to their tasks are cached on their mobile devices. The data can be synchronized and repaired as needed when the field service agent is back online. Maximum allowed duration for SLAs In the Maximum duration allowed in SLA Definition (com.snc.sla.maximum_duration) property, specify the maximum time that an SLA can run. The default is 1095 days (3 years).
Service Mapping	Support for huge payloads Attention: The method used by the MID Server to prevent out-of-memory errors when handling very large payloads did not perform as well as anticipated. These controls were removed from Madrid Patch 1 for additional development and will be restored later. Configure the MID Server to temporarily save data used during pattern-based discovery in files on the MID Server instead of in random-access memory (RAM). Once Discovery and Service Mapping finish discovering and identifying the configuration items (CIs), the data used for discovery is saved from the MID Server. Quick start tests for Service Mapping Validate that Service Mapping still works after you make any configuration change such as apply an upgrade or develop an application. Copy and customize these quick start tests to pass when using your instance-specific data.

Application or feature	Details
Service Portal	Error messages appear for invalid TinyMCE property configurations View an error message when you enter an invalid entry for TinyMCE toolbars, fonts, and font families. Use multifactor authentication with Service Portal Configure your instance to support multifactor authentication for login in Service Portal. If you configure your instance to require multifactor authentication, your users are automatically directed to set up multifactor authentication upon initial login. For setup instructions, see Set up multifactor authentication upon initial login. If multifactor authentication is optional on your instance, your users can still enable or disable authentication from their user profile. Use date picker with screenreader and keyboard Access date picker in Service Portal via screen reader, mobile screen reader, mouse and keyboard, and touch devices. Activate La Jolla theme branding Activate the Service Portal La Jolla brand to apply the latest ServiceNow branding, which meets WCAG-AA standard for color contrast. This plugin is active by default on new instances, but you must activate the plugin on instances that are upgraded from earlier versions.
Software Asset Management	SAP publisher pack • Use the SAP publisher pack to identify user access and named user assignments in a SAP environment to compare against signed SAP contracts. Identify non-compliant scenarios for named user licensing and optimize named user assignments based on user attributes.

Application or feature	Details
	• SAP dashboard using Performance Analytics is activated with this publisher pack to forecast compliance and consumption. License Workbench Use the License Workbench to view reconciliation results for a given publisher from a single location to remediate compliance without clicking through the hierarchy of results. Normalization and Content Service dashboard Use the Normalization and Content Service dashboard to see current normalization rates and health of the content service in one view. Reclamation by software last-used date Identify and reclaim unused software using the last-used (activity) date as a proxy for usage metering data. The software last-used date can be collected using SCCM 2016 or SCCM 2012. Quick tests for Software Asset Management Validate the continued functionality of Software Asset Management after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations. Vendor assessment resubmission process Vendor risk managers or assessors can return assessments to vendors with comments explaining the need for further information. Vendors can resubmit the requested responses and also communicate with the vendor risk manager through comments in the Notes and Comments section under a Questionnaire or Document Request. This real-time communication provides an easier and more timely resubmission of the assessment.

Application or feature	Details
	Issue creation based on response Using issue generation rules, issues can be created automatically when a vendor selects the incorrect answer. Vendor risk managers can also create issues manually during review of the vendor response. Vendor risk assessment question bank Vendor risk managers can add questions or categories from a questionnaire, document request, or tiering questionnaire to a question bank. Reversely, they can build a questionnaire, document request, or tiering questionnaire by adding questions and categories from the question bank. Vendor risk managers can copy the whole questionnaire, document request, or tiering questionnaire.
Subscription Management	Support for platform subscriptions that include custom table allotments Use the Subscriptions module to allocate custom tables that are created in a production instance against custom table allotments in certain subscriptions. A usage administrator allocates custom tables only if a subscription contains custom table allotments.
System Clone	Admins can roll back a clone Roll back clones for up to seven days from the date a cloning completes.
Test Management 2.0	Test Board Track, manage, and complete your testing activities from an intuitive user interface called the Test Board.

Application or feature	Details
	• Aggregate all your test plans and view them as cards in a single location. At a glance, you can review key details of your test plans, such as start date, end date, and percentage of tests that have passed and failed. • Create a test plan in the Test Board, and structure the test plan in the Planning tab. The Planning tab is built from the Test plan work item hierarchy and Gantt chart components. • Break down the test plan into phases to precisely plan what must be tested and when. Standalone test execution suite Use the Test Execution Suites module to create a short test plan. This is useful when your testing effort is minimal and you do not want to go through the overhead of creating a test plan and a test cycle for a test execution suite. Quick start tests for Test Management 2.0 Validate the continued functionality of Test Management 2.0 after any configuration change such as an upgrade or after developing an application. All test suites and tests should pass on a default implementation. To validate a custom implementation, copy the automated tests and configure them for your customizations.
Time Card	Reject a time sheet Use the Reject button on the Time Sheet Portal to reject a time sheet. Pre-Madrid, the Reject button was available only on the Time Sheet form.

Application or feature	Details
UI	**Themes** Select from two new themes in the system settings window. The cobalt and cobalt contrast UI themes use the same styles as the previous UI. Theme previews (under System Settings > Themes) have been updated so that the colors are determined by three configurable variables. The following variables provide the colors for the theme preview. • $navpage-header-bg • $navpage-header-color • $nav-highlight-bar-active For more information on customizing a theme, see Create or customize a theme. **Base theme property** Change the base theme for the main content on the page. Find the Selected base theme [glide.ui.base_theme.selected_theme] by navigating to System Properties > Basic Configuration UI16. Only the main content on the screen (any content not included in the application navigator and the banner frame) is updated with this theme. Choose from: • La Jolla: The default base system theme. The properties for this theme are consistent with the new branding. • Cobalt: The properties for this theme match the previous branding. **Keyboard shortcut preferences** Determine which keyboard shortcuts are available to users from the list of user preferences.

Application or feature	Details
Virtual Agent	Messaging integration with Workplace by Facebook Install and configure the Virtual Agent integration for the Workplace messaging application. End users must link their ServiceNow accounts to the Workplace integration before they can use the Virtual Agent bot in Workplace. No-code topic authoring in Virtual Agent Designer Use no-code controls during conversation design instead of using JavaScript for: • ServiceNow (GlideRecord) queries • ServiceNow (GlideRecord) inserts and updates • Dynamic display logic • Decision branching logic Virtual Agent Overview dashboard Monitor conversation usage with the Virtual Agent Overview dashboard, which provides data visualizations of usage information collected daily and weekly. This dashboard is part of the Out-of-the-box Performance Analytics Solutions.
Vulnerability Response	Features available from the ServiceNow Store: Vulnerability Response You no longer have to wait for the platform family release of Vulnerability Response to enjoy new features, updates, and fixes. The latest version of Vulnerability Response is published in the ServiceNow Store and available for download. Setup Assistant is part of the Vulnerability Response application available in the ServiceNow Store Setup Assistant walks you through the Vulnerability Response setup process in a simple, step-by-step fashion. Setup Assistant

Application or feature	Details
	helps you discover which capabilities of Vulnerability Response require configuration, identify what permissions are required to configure these capabilities, and learn what settings are recommended for your environment. Setup Assistant helps you deploy Vulnerability Response quickly and efficiently. Vulnerability Response overview homepage The Vulnerability Response Overview homepage has become a responsive dashboard. Performance Analytics Performance Analytics - Content Pack - Vulnerability ResponsePerformance Analytics - Content Pack - Vulnerability Response Using business objective definitions, trending, and forecasting, the Performance Analytics – Content Pack – Vulnerability Response application contains over 40 report widgets. These reports help you monitor metrics across all stages of the vulnerability management lifecycle. This release includes vulnerability KPIs rolled-up to the business service level. KPI rollups give you a better understanding of vulnerability exposure and remediation performance in terms of business operations, rather than technical infrastructure. A Remediation dashboard, using standard Now Platform® reports, is also provided for the IT operations personnel that execute vulnerability remediation activities. This application, is available in the ServiceNow Store. Exploit enrichment Exploit information imported from third-party integrations has been added to vulnerability entries. You can use exploit information to prioritize which vulnerabilities to address first. CVSSv3 support Vulnerability entries display CVSSv3 metrics. By showing CVSS v3 in addition to the CVSS v2, you can prioritize based on the newest algorithm used to calculate the severity of your vulnerabilities.

Application or feature	Details
	Vulnerability Assignment Rules You can define the assignment rules at the vulnerable item level. These assignment rules apply to the group rules by default, and group vulnerabilities by assignment group. Vulnerable Item Risk Rating A new Risk Rating field on vulnerable item breaks the existing 0-100 risk score tiers into five tiers (Critical, High, Medium, Low, and None) for easier reporting and prioritization. Normalized Severity Vulnerability assessment products often report vulnerabilities with proprietary integer-based severity scales. These severities are normalized into a common and configurable scheme for improved readability, reporting, and comparison. Updated default form and list views Various Vulnerability Response default forms and list view forms for have been updated for improved usability. These entities include but are not limited to: Vulnerability entries, Vulnerable Item, Vulnerability Group, Discovered Item, and Approvals. ACLs were updated to ensure that fields that should not be modified are marked read-only. New Features in Existing Integrations The latest version of Qualys Vulnerability Integration is published in the ServiceNow Store and available for download. Rapid7 version 6.2 adds imports using the Rapid7 InsightVM API for discovery, detection, verification, risk classification, and impact analysis to manage risk and remediation. This integration does not require the Rapid7 Nexpose data warehouse. Note: To migrate from the Rapid7 Nexpose vulnerability integration see KB0743164.

Application or feature	Details
	New Integrations Shodan Exploit Integration imports exploit information that helps you prioritize the vulnerabilities in your environment based on risk. This integration enables exploit information enrichment that helps you understand the following exploitability metrics to prioritize the remediation of vulnerabilities: • Is there any exploit associated with the vulnerability? • What skill level is required to exploit the vulnerability based on the exploit code rank? • What is the exploit attack vector? Can the vulnerability be remotely exploited? Once your vulnerabilities are enriched with exploit intelligence, you can define the risk score and group the vulnerabilities based on these parameters. You can also filter key reports to see the high-risk vulnerabilities.
Walk-up Experience	Agent Workspace for Walk-up Experience fulfillers Use Agent Workspace to access and complete interactions at a walk-up queue location. This enhancement moves technicians away from the list and form interaction fulfillment experience to a configurable service desk application. Agent Workspace for Walk-up Experience provides a more efficient, integrated, and intuitive fulfiller experience. Using Agent Workspace, technicians can: • Access a personal inbox where interactions are automatically pushed for assignment based on schedules and rule configurations in the Advanced Work Assignment feature. • Open an incident or request consumables directly from an interaction. • Consume assets directly from an associated stockroom.

Application or feature	Details
	• Access relevant knowledge base information. • Display the ability to accept walk-up interactions via an availability toggle. • Enable channels other than Walk-up, such as Chat or traditional Incident Management, to remain productive when the walk-up queue is not busy. Walk-up appointment scheduling • Schedule appointments online or onsite to receive IT support at a walk-up queue location. You can cancel an appointment, as well as reschedule an existing appointment. Scheduling places you at the head of the queue at your appointment time. • View upcoming appointments scheduled for a walk-up queue. Managers and technicians can view appointments to best plan for interaction demand. Appointments can be viewed in platform view or in Agent Workspace. • Receive a reminder notification for an upcoming scheduled appointment 15 minutes prior to the appointment. • Configure custom appointment scheduling by location. Walk-up queue length notification Configure and receive queue-length threshold notifications. When a queue reaches a pre-configured length, a notification is sent to the manager of the assignment group for the walk up queue location. Knowing that a walk-up queue is crowded with a long waiting line means that managers can add additional support to the queue. Walk-up support when a queue is closed Get IT support even when a walk-up queue location is closed. Display an IT support phone number online and onsite at a queue providing requesters with an immediate option when the

Application or feature	Details
	queue is closed. Requesters can also create an incident directly online or onsite at the check-in queue. **Tables** Use the Walk-up Appointment [wu_appointment] table to configure scheduled appointments. **Walk-up service channel** • Use the Walk-up service channel to route walk-up interactions. Work items originate from the Advanced Work Assignment feature. Configure the channel to meet your needs. The Walk-up service channel includes a default assignment inbox layout. Inbox capacity represents the number of walk-up interactions a technician can work on concurrently. By default, the capacity is set to 1. • Configure the Service channel field on the Walk-up Location Queue form to specify Walk-up channel. • Route work items to the correct queue location by specifying the Walk-up service channel in the Queue [awa_queue] table.
Web services	**Added support for sysparm_query_no_domain in Table API** The Table API supports the sysparm_query_no_domain parameter: • false (default): Exclude the record if it is in a domain that the currently logged in user is not configured to access. • true: Include the record even if it is in a domain that the currently logged in user is not configured to access. Note: The sysparm_query_no_domain parameter is available only to system administrators or users who have the query_no_domain_table_api role.

Application or feature	Details
	RESTMessageV2 and SOAPMessageV2 API timeout Set the glide.http.outbound.max_timeout system property to specify the number of seconds that RESTMessageV2 and SOAPMessageV2 APIs wait for a response from a synchronous call. The maximum value is 30 seconds. To define a timeout longer than 30 seconds, set the glide.http.outbound.max_timeout.enabled system property to false and use the waitForResponse() method to set the timeout. For examples, see Asynchronous RESTMessageV2 example and Asynchronous SOAPMessageV2 example. If glide.http.outbound.max_timeout.enabled is set to true and a value is passed in the waitForResponse() method, the system uses the smallest value from either the waitForResponse() method or the glide.http.outbound.max_timeout system property.

Changes to Madrid features and products

Cumulative release notes summary on changes to Madrid features and products.

Changed features

Existing ServiceNow products were updated and changed in Madrid. This includes the renaming of certain buttons or features.

Application or feature	Details
API	Changed global classes

Class	Activated with	Changed methods
Notify	Notify	• call()
OnCallRotation	Now Platform®	• getEscalationPlan() • whoAt()

Application or feature	Details

Class	Activated with	Changed methods
		• who()

Changed scoped classes

Class	Activated with	Changed methods
Notify - Scoped	Notify	• call()

Changed client classes

Class	Activated with	Changed methods
NotifyClient	Notify	• Client() • setCallerId()

Changed REST APIs

Class	Activated with	Changed endpoints
Service Catalog	Now Platform®	• POST /sn_sc/servicecatalog/cart/checkout • POST /sn_sc/servicecatalog/items/{sys_id}/checkout_guide • POST /sn_sc/servicecatalog/cart/submit_order • POST /sn_sc/servicecatalog/items/{sys_id}/submit_producer

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<tr><th>Application or feature</th><th>Details</th></tr>
<tr><td></td><td>
<table>
<tr><th>Class</th><th>Activated with</th><th>Changed endpoints</th></tr>
<tr><td></td><td></td><td>POST /sn_sc/servicecatalog/items/{sys_id}/order_now</td></tr>
<tr><td>Table</td><td>Now Platform®</td><td>DELETE /now/table/{tableName}/{sys_id}
GET /now/table/{tableName}
GET /now/table/{tableName}/{sys_id}
PATCH /now/table/{tableName}/{sys_id}
PUT /now/table/{tableName}/{sys_id}</td></tr>
</table>
</td></tr>
<tr><td>Application Portfolio Management</td><td>
Changes in TPM timeline view

The character notation for the life cycle phases on the timeline has been changed to denote the first character of the source name.
If there are internal as well as publisher records for a life cycle phase, then the internal record overrides the publisher record in that phase.
The timeline view range is not configurable.

Changes in UI labels

Label of Business Service Risk Values table has been changed to Application Service Risk Values table.

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Application or feature	Details
	• Label of Business Service Software Models table has been changed to Application Service Software Models table. • Business Services has been changed to Application Services in the Business Application and Technology Category views of the TPM timeline. • By Technology Category view has been renamed to By Product Classification view in the TPM timeline.
Application security	**Instance security center and dashboard usage** Using the Instance Security Center and dashboards, you can monitor the security compliance score for your instance and detect, protect, and respond to instance-based security events. These functions have evolved over time, and certain rules govern their use in specific releases. As of the Madrid release, the following rules apply: • The Instance Security Dashboard, introduced in Jakarta, has been deprecated and is not available in Madrid. • The Instance Security Dashboard (PA), introduced in London, is an enhanced version of the Instance Security Dashboard that uses the Performance Analytics framework. It is only available in Madrid if you activated it in the earlier release. • The Instance Security Center, introduced in Madrid, consolidates several key security components into a single central console. It replaces both the Instance Security Dashboard and Instance Security Dashboard (PA).
Authentication	**Support PKCE credential for Mobile Authentication** Supports AppAuth, which enables Proof Key for Code Exchange (PKCE) credentials for OAuth authorization requests when using Mobile authentication.

Application or feature	Details
	'Remember Me' cookie expiration Adds two properties, glide.ui.user_cookie.life_span_in_days and glide.ui.user_cookie.max_life_span_in_days, to control the glide_user system generated cookie expiration value.
Automated Test Framework	Explicit Roles Server test steps support impersonation of users with the snc_external role, which allows testing users who do not have login access. Run Server Side Script Server-side scripts support version 3.1 of the Jasmine testing framework. Any new scripts you create use Jasmine version 3.1. Your existing scripts can continue to use Jasmine version 1.3, or you can upgrade them to Jasmine version 3.1.
Change management	Disabled Cancel change action When a change request reaches the Review state, the Cancel change UI action is disabled.
Configuration Management Database (CMDB)	Query Builder • Share a direct URL to a saved query: When you save a query, the query URL is automatically updated to include the parameter and the sys_id of the query. You can then share that URL with other users who can paste the URL into a browser to directly access the query. • Build a CMDB query with up to second level relationships: Build a query for CIs that are indirectly connected to each other, without specifying the connecting CI in the middle.

Application or feature	Details
	• Export and import a query as an update set: Export the definition of a saved query to an XML file as an update set, which you can later import. For example, export a query definition to port a query from a development environment to a production environment. • Use the cmdb_query_builder_read role to restrict access to only viewing and running saved queries. Using this role enables you to protect a saved query from modifications by unauthorized users. CMDB Identification and Reconciliation • Hybrid identifier entry: Create a hybrid identifier entry, which is a combination of a regular identifier entry and a lookup identifier entry, in an identification rule. A hybrid identifier entry enables you to choose attributes from both the selected table and a lookup table such as the Serial Number table. In some situations, a hybrid identifier entry might be necessary to uniquely identify CIs that regular identifier entries cannot identify. The CI Class Manager supports the hybrid identifier entry option. • Performance and memory optimization improvements to the identification engine: For optimization, allow local caching of the default number of query result entries for related/lookup items and dependent items. These numbers are set by the system properties glide.identification_engine.dependent_items_local_cache_count and glide.identification_engine.related_items_local_cache_count.
Contextual Search	View complete titles when pointing to a truncated title View the complete title when you point to a truncated search result title. In previous releases, the title was truncated and only after previewing the result was the complete title visible.

Application or feature	Details
Contextual development environment	**Restricted caller access privilege settings** Added UI Page as an option in the Source Type field in Application Restricted Caller Access.
Credentials	**CyberArk credential lookup** In previous releases, if the MID Server did not find the necessary credentials in the CyberArk vault when looking up by credential identifier, the MID Server tried to look up the credentials by IP address. In the Madrid release, the MID Server only looks up credentials by IP address if no credential identifier is provided.
Customer Service Management	**Major issue management** Enhancements to the major issue management feature include the following: • Provide a reason when proposing a customer service case as a major case candidate. • Notify the major issue manager when a major case is proposed. • Identify and add existing customer service cases as child cases to a major case. • View major issue-related indicators on the Customer Service dashboards. **OpenFrame** Enhancements to OpenFrame include the following: • Collapse or expand the OpenFrame window. When collapsed, users can still access call control actions.

Application or feature	Details
	• New APIs and events support the collapse and expand functionality. • Open configured URLs within the OpenFrame window. • Update to OpenFrame version 1.0.4. • Integration with Interaction Management. When the OpenFrame plugin (com.sn_openframe) is activated, Phone is an available option for the Type field on the interaction record. Computer Telephony Integration (CTI) Provides an additional Twilio driver (com.snc.notify.twilio_direct). Email client enhancements Provides support for multiple outbound email addresses. Out-of-the-box Customer Service Management - Advanced Performance Analytics Solution Preconfigured Performance Analytics indicators and breakdowns for Customer Service Management. Has the contents of the previous OOTB Customer Service Performance Analytics Solution, but also supports the following features: • Major Issue Management • Customer Service Case Action Status • Customer Service with Request Management • Customer Service with Service Management • Agent Chat • Advanced Work Assignment for CSM • Performance Analytics - Content Pack - Advanced Work Assignment

Application or feature	Details
	See also Major issue management analytics.
Dashboards	Upgraded dashboards don't overwrite customized records When you install or upgrade a Performance Analytics solution, out of the box content in the instance is overwritten and new content is added to the dashboard. Any content that you have previously customized on the dashboard is not changed. Administrator can restrict responsive dashboard sharing Configure the glide.cms.share_dashboards.role system property to specify the roles that can share their own dashboards. Configure the glide.cms.dashboards.sharing_with_secure_search system property to specify that security rules are applied to the lists of users, user groups, and roles that are visible when users share responsive dashboards.
Edge Encryption	Date and Date/Time encryption You can create encrypted field configurations to encrypt existing Date and Date/Time fields. You can add a new encryption configuration to a parent table only. You cannot add a new encryption configuration to a child table. Setting and managing default keys Default keys that are set in the edgeencryption.properties file are now set and managed on the instance in Madrid and later releases.
Event Management	Filter the events that an event rule applies to Filter on timestamps can be defined in event rules. Glide date time is supported. You can filter events using time conditions. For

Application or feature	Details
	example, filter on Time of event according to `before`, and specify a date or time period. Scheduled jobs for impact calculation Calculate the impact of connected services. The building of the impact tree is affected with the addition of the following scheduled jobs: • Event Management — Handle Impact Stuck Service • Event Management — Impact Calculator Trigger • Event Management — Impact Topology Consumer • Event Management — Impact Tree Builder
Field Service Management	Team calendar and schedule management enhancements • Agent profile management: View or edit an agent's personal information, work status, schedule, location, and time zone using the team calendar. Start a chat session with an agent from a profile preview. • Agent event management: View, edit, or create events for agents in your assignment group so that you can use available time slots and maximize resource allocation. • Searching agents and agent groups: Search an agent group on the team calendar or search for agents within a group. • Event type configurations: Create configurations for each type of schedule entry that is displayed on the agent calendar to track and manage the agent schedule. Appointment booking enhancements Display a 12-hour or a 24-hour time format on the appointment booking window that is based on your user's preferred format.

Application or feature	Details
	Route optimization Reorder the tasks that an agent has to execute in a day by optimizing the route that the agent takes to complete those tasks.
Financial Management	Changes in UI label The IT Chart of Accounts has been changed to Hierarchy of Segments in Financial Modeling.
Flow Designer	API access to Flow Designer Application developers can access Flow Designer functionality through APIs for flows, subflows, and actions. Flow designers can enable individual flows, subflows, and actions to be client callable during design. Flow - Scoped This API is deprecated and replaced by the ScriptableFlowAPI. Subflow - Scoped This API is deprecated and replaced by the ScriptableFlowAPI.
Governance, Risk, and Compliance	2018 SIG Questionnaire support Enhanced support for The Santa Fe Group's updated Standardized Information Gathering Questionnaire (SIG), which includes new content for GDPR and the NY State Department of Financial Services regulations. The latest standard also introduced major scoping changes, including a new SIG Core questionnaire. Several sections such as Business Resiliency, Privacy, Cloud Hosting, and others were also updated.

Application or feature	Details
Guided Tour Designer	Role change The embedded_help_admin role is no longer used by the Guided Tour Designer.
HR Service Delivery	Enterprise Onboarding and Transitions Create or modify lifecycle events The Lifecycle Event builder provides an easier way to build, test, and maintain a lifecycle event. You can also customize the Lifecycle Event UI. Configure the lifecycle event UI Use LE UI Configuration to customize the look of your Activity Sets section of Lifecycle Events. Note: In some situations, Internet Explorer 11 does not update the Manage Lifecycle Events form after creating or updating an activity set or activity. ServiceNow recommends updating your browser to the latest version for optimal performance. Refer to Generally supported browsers. Out-of-the-box Performance Analytics Solutions Each OOTB Performance Analytics Solution contains preconfigured indicators and breakdowns, along with visualizations presented on dashboards. The following new Performance Analytics Solutions have been added for HR Service Delivery: • Content Analytics (com.snc.pa.premium.content_analytics) • Content Automation (com.snc.pa.premium.content_automation)Content Automation (com.snc.pa.premium.content_automation)

Application or feature	Details
	Parent field of HR case hidden For instance efficiency and best practices, the parent field on the HR case form was hidden using a UI policy. This field is set automatically when sub cases or tasks are created. To view the hidden field: • Manually populate the parent field. • Disable the UI policy to view the empty parent field.
ITSM Virtual Agent	Modified ITSM Virtual Agent conversations Existing ITSM Virtual Agent topics are refined, improved, and enhanced for a smoother and simplified conversational flow. • Create Change Request — Text enhanced for better flow. • My Assigned Equipment — Text revised and streamlined due to redundancy. • Check IT Ticket Status — Text revised and streamlined due to redundancy. • Open IT Ticket — Knowledge base search returns a single column of rows with hyperlinks to article titles.
IntegrationHub	Slack webhooks spoke Use Slack webhooks to post messages and record details for ServiceNow incidents, problems, and changes to Slack channels. This spoke contains Slack spoke actions from the previous release. Microsoft Azure AD spoke Use additional actions and sample flows to manage users, security groups, and office groups in Microsoft Azure AD.

Application or feature	Details
	Microsoft AD spoke Use additional actions and sample flows to create, delete, and manage objects in Microsoft Active Directory, such as users, groups, and computers.
MID Server	Java version support The MID Server installer package installs OpenJDK on the host server and configures it to run in your environment. It is not necessary to install the JRE manually on MID Server host machines, as in the London release. MID Server role validation The mid_server and security_admin roles now permit the selection of the Web service access only and Internal Integration User options.
MetricBase	Use new aggregations in the resample transform The resample transform supports new aggregators: STDDEV, MEDIAN, and CHISQUARE. New aggregators for time series metrics compactions Admins can specify one of the following aggregators to use in time series metric data compaction: AVG, MIN, MAX, and LAST.
Notifications	Connection Security field on the Email Account form The Email Account form features a new field, Connection Security, for selecting the secure connection for your email server. This option replaces the Enable TLS and Enable SSL fields on the Email Account form.

Application or feature	Details
	Push notification apps in the Push Applications table Two different ServiceNow push apps are available for notifications: the ServiceNow Classic mobile app and the ServiceNow Agent.
Notify	Conference call management Updated interface enables you to start a conference call from both Incident Communication Tasks and Notify on Task (such as Incident and Case). Users can now view who is speaking in the conference, mute/unmute all the participants with a single click, and add a participant to an active conference call.
On-Call Scheduling	Renaming of the rota label The Rota label is now renamed Shift. This renaming introduced the following keyboard shortcuts for the on-call calendar: • S: Select next shift/time off in the timeline. • Shift + S: Select previous shift/time off in the timeline. Modules of the On-Call Scheduling application All modules of the On-Call Scheduling application have been organized into logical groups. Modifications to the Create On-Call Schedule wizard The tabs and the fields in the Create On-Call Schedule wizard have been organized into logical groups. User search on the On-Call Schedules landing page The User filter has been added to the existing group and schedule to search on-call schedules by user name. This search is also applicable for users not available in the current view. If you are a manager or roster member of the shift and click the

Application or feature	Details
	shift card, you are redirected to the On-Call Schedules user interface. In all other cases, you are redirected to the calendar view. **Coverage of shifts on the on-call calendar** When you manage a shift on the on-call calendar by specifying a start and end date and time for the shift, the coverage is created as per the schedule time of the shift. Prior to Madrid, the coverage is created for the entire duration between the start day and the end day of the shift. To enable the legacy behavior, create the com.snc.on_call_rotation.coverage.rota_times_only hidden property. By default, this property is set to true and the coverage on the on-call calendar is enabled for shift schedule. For the legacy behavior, set this property to false. Note: This hidden property is not available by default. **Modifications to On-Call Scheduling workflows** All On-Call Scheduling workflows have been modified to support the custom escalation type and overlapping shifts. **Modifications to the timeline view of the on-call calendar** • On-call member information is grouped by shifts. • Time-offs are displayed as a different group. **OnCallRotation** The following methods of the OnCallRotation () global API have been updated to support overlapping shifts and custom escalation in on-call schedules. • getEscalationPlan() • whoAt() • who()

Application or feature	Details
Operational Intelligence	**Setup** When you initially set up Operational Intelligence, use the Setup Operational Intelligence related link on a MID Server form to automatically do the following: 1. Configure a MID Server for Operational Intelligence 2. Create a MID Server distributed cluster that contains the Operational Intelligence MID Server 3. Create an Operational Intelligence Metrics Extension and start it 4. Create the MID Web Server extension configured with the 'Enable REST Listener' option **Custom bounds settings** The Bounds Settings wizard enables you to specify custom upper and lower bounds for a metric. Custom control bounds override the learned control bounds for a metric, which affects the resulting anomaly scores. The Bounds Settings wizard also enables you to preview anomaly analysis of actual data using the new custom settings. This preview is similar to previews that are generated by anomaly model testing. The Bounds Settings wizard automatically calculates statistical models, such as Static Centered or Static Skewed, and width values that are based on your settings. The Bounds Settings wizard also automatically creates the metric class and configuration setting rule. Therefore, there is no need to manually set or create any of those items. **Resource binding** Monitor resources, such as disks and processors, without creating CIs, which saves you the maintenance that those CIs would require. Resource binding also enables you to monitor an entity that is not a CI, such as a web page, which is an application.

Application or feature	Details
	Resource binding creates a resource record for each resource (such as a disk), which streamlines metric data and results in a meaningful aggregation. Metric to CI mappings View the status of metric to CI and resource mappings, including details about unsuccessful mappings. CI or resource mapping can fail because of a missing or duplicate CI, or because a resource table is missing. If Operational Intelligence cannot map a metric to a CI, then that CI is not included in anomaly detection until it is properly mapped. Use the details provided for a failed mapping to investigate and remedy common mapping problems. Anomaly detection Exclude metrics for CIs that are in maintenance mode from model learning. When the system property sa.model_learner.maint_event_record_history_enabled is set to true (default), Operational Intelligence stores historical information about the times CIs enter and exit maintenance mode. When the system property sa_metric.maint_exclusion is set to true (default), metrics from CIs that are in maintenance mode are excluded from model learning. Change the settings of these properties to include or exclude metric data for CIs while they are in maintenance mode. The Stationary Nonparametric statistical model creates control bounds that can fit actual data better than other statistical models. Once learned, the control bounds persist until the next learning cycle of incoming data. User interface navigation Operational Intelligence modules in the navigation bar are now logically grouped by function areas so that you can quickly find what you are looking for.

Application or feature	Details
Performance Analytics	**Handling no-score indicators in formulas** To enable the detection and handling of indicators with no scores inside a formula, you can now set a formula to run when a component indicator has a null value. **More flexible word occurrence cutoff values for displaying words in text widgets** Expanded ability to specify the cutoff criteria for showing a word or phrase in a text widget. Previously, you could set only a minimum word occurrence. Now you can set: • Whether the cutoff value is a numerical count or a relative percentage. For example, you can set the cutoff at 5 occurrences of a word or phrase, or at 10% of all the words in the field being that word or phrase. • Whether the widget shows words or phrases when there are at least as many occurrences as the cutoff value. In other words, the widget shows only the most common words. • Whether the widget shows words or phrases when there are no more occurrences than the cutoff value. In other words, the widget shows only the least common words. Note: For new and changed Out-of-the-box Performance Analytics Solutions, see Changes to plugins.
Platform security	**Date and Date/Time encryption** You can create encrypted field configurations to encrypt existing Date and Date/Time fields. You can add a new encryption configuration to a parent table only. You cannot add a new encryption configuration to a child table.

Application or feature	Details
	Instance security dashboard usage Using the Instance Security Center and dashboards, you can monitor the security compliance score for your instance and detect, protect, and respond to instance-based security events. These functions have evolved over time, and certain rules govern their use in specific releases. As of the Madrid release, the following rules apply: • The Instance Security Dashboard, introduced in Jakarta, has been deprecated and is not available in Madrid. • The Instance Security Dashboard (PA), introduced in London, is an enhanced version of the Instance Security Dashboard that uses the Performance Analytics framework. It is only available in Madrid if you activated it in the earlier release. • The Instance Security Center, introduced in Madrid, consolidates several key security components into a single central console. It replaces both the Instance Security Dashboard and Instance Security Dashboard (PA).
Problem Management	**Guided setup** Updated guided setup to include new state management. **Associate multiple records** Use a list view to associate multiple incidents, affected CIs, or change requests to a Problem at once. The related lists on the Problem form display the selected records. **Workaround functionality** The Workaround (work_around) journal input field is hidden if you activate the Problem Management Best Practice — Madrid plugin. A new HTML Workaround field (workaround) is added to document the workaround information.

Application or feature	Details
	Problem Dashboard Use the Problem Dashboard, which replaces the Problem Overview Homepage, to view trends in open and closed problems.
Project Portfolio Management	Resource Management properties The label of the property com.snc.resource_management.run_state_changes_async has been changed from Perform Resource Allocation/Cancellation in asynchronous mode to Perform Resource Confirmation/ Allocation/Cancellation in asynchronous mode. The property now also applies when confirming a resource plan. Prior to Madrid, the property was applicable only during allocating and canceling the resource plans.
Reporting	Highcharts 6 Highcharts 6 supports an expanded collection of charts, client-side analytics, annotations, and a performance upgrade, and replaces Highcharts 5.
Scaled Agile Framework (SAFe)	Combine ART backlog planning and program increment planning Prior to the Madrid release, under the ART level on the SAFe Board, there were two separate tabs for managing the backlog and for planning program increment activities. These two tabs are now combined into a single tab, Backlog, from which you can manage your backlog and plan your program increment activities. Combine team backlog planning and sprint planning Prior to the Madrid release, under the Team level on the SAFe Board, there were two separate tabs for managing the team

Application or feature	Details
	backlog and for planning sprint activities. These two tabs are now combined into a single tab, Backlog, from which you can manage your backlog and plan your sprint activities. Rename the plugin The Scaled Agile Framework (SAFe) plugin (com.snc.sdlc.safe) has been renamed Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe). This plugin provides the features of the most basic configuration of SAFe, Essential SAFe. Prior to the Madrid release, the Scaled Agile Framework (SAFe) plugin (com.snc.sdlc.safe) was available as a development plugin. The Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe) is now available as a system plugin.
Security Incident Response	Security Analyst Workspace enhancements SOC admins can create incident queues from customized filters to suite their needs. Columns in lists and related lists can be sorted and you can change the order of columns. You can create new security incident tasks and assign them from inside a security incident. You can add or remove tags in observables and security incidents. You can also send email on the incident or task level, using predefined or blank templates.
Service Catalog	Reparenting of the My Request Filter table The My Request Filter [request_filter] table has been reparented to the Filter [sys_filter] table. The Short Description field from the My Request Filter table has been migrated to the Title field in the Filter table. The Table Name field from the My Request Filter table has been migrated to the Table field in the Filter table.

Application or feature	Details

	Note: If the My Request Filter form is modified, the form still displays the Short Description and Table Name fields that are no longer valid. Delete these invalid fields from the form and add Title and Table fields to the form.
	
	Help information for a variable in Service Portal
	
	The Expand help for all questions field at the catalog item level and the Always Expanded field at the variable level are applicable in Service Portal.
	
	Modifications to variables
	
	• The g_form.setValue() function is supported for a List Collector variable even if it is not defined as a glide list.
	• The auto-complete feature for a reference variable is applicable in Service Portal.
	• For a group of check box variables, the following scenarios apply:
	  ◦ If any check box variable in the group is mandatory, the entire group becomes mandatory even if the check box variable is not visible.
	  ◦ If all other check box variables of a mandatory check box group are hidden and not selected, the following scenarios apply:
	    ▪ The group remains mandatory as long as there is one check box in the group that is visible and not selected.
	    ▪ You must select the last check box of this group to hide it.
	
	Activation of the Flow Designer for Service Catalog
	
	You can now activate the Flow Designer support for the Service Catalog plugin (com.glideapp.servicecatalog.flow_designer) without contacting ServiceNow Customer Support.

Application or feature	Details
Service Level Management	Refreshed SLA timeline The SLA timeline style was refreshed to use the new colors and styles to match the instance. Asynchronous SLA processing Process all SLAs triggered by a start condition using asynchronous SLA processing, regardless of the timing of the stop condition. By default, SLAs process synchronously, based on the com.snc.sla.engine.async system property. Out-of-the-box ITSM Performance Analytics Solutions Preconfigured Performance Analytics indicators and breakdowns for ITSM. Improved visualizations presented on the following dashboards: • IT Agent • IT Manager • IT Executive
Service Mapping	Quality enhancements The Madrid release is a quality release for Service Mapping. There are significant performance improvements. For example, service maps refresh quicker to reflect the current service state.
Service Portal	Debug runtime information disabled by default In new instances, the Angular.js flag $compileProvider.debugInfoEnabled is set to false. This flag allows debug runtime information in the compiler, such as adding binding information and a reference to the current scope on Document Object Model (DOM) elements. Disabling this flag can make a significant difference in performance. Re-

Application or feature	Details
	enable this flag for debugging by setting the glide.sp.debug property to true. Dependency changes for Service Portal widgets You must add ng-sortable.min.js and angular-tooltips-1.1.8 as dependencies for any custom widgets that use this functionality. To improve instance performance, these dependencies are no longer loaded by default. The upgrade includes these dependencies where needed in all out-of-box widgets that require them. Any custom widgets that rely on these scripts must be updated to include them. Multiple catalog support Associate one or more Service Catalogs with a portal. Service Portal search returns results from all associated catalogs. By default, the base system Service Portal is associated with Service Catalog. Multiple knowledge base support Associate one or more knowledge bases with a portal. Service Portal search returns results from all associated knowledge bases. By default, the base system Service Portal is associated with the IT knowledge base.
ServiceNow Classic	Name change for the ServiceNow mobile app The original mobile app name has changed from ServiceNow to ServiceNow Classic. The name change is to differentiate the original app from the new ServiceNow app. For more information on using the new mobile app, see Get started with the ServiceNow mobile app. Name change for the mobile application in the application navigator In the application navigator, the mobile application formerly known as System Mobile UI is now System Classic Mobile UI.

Application or feature	Details
Software Asset Management	Software Model and Software Entitlement changed form views The Software Model form and Software Entitlement form have changed. Work with your system administrator to ensure that updates to these forms are successfully applied if these forms have been previously customized. Reconciliation Results navigation item changed to Historical Results The Reconciliation Results list is located in Software Asset > Reconciliation > Historical Results navigation item. 2018 SIG Questionnaire support Enhanced support for The Santa Fe Group's updated Standardized Information Gathering Questionnaire (SIG), which includes new content for GDPR and the NY State Department of Financial Services regulations. The latest standard also introduced major scoping changes, including a new SIG Core questionnaire. Several sections such as Business Resiliency, Privacy, Cloud Hosting, and others were also updated.
System Clone	Clones of large tables limited to 90 days of historical data When cloning large tables, the historical data that is cloned is limited to 90 days by default. The other option is to load all of the historical data. User tables preserved on clones User and user-related tables are preserved on target clones by default. You can overwrite this default.

Application or feature	Details
	Use a watch list for cloning notifications On the Clone Request form, you can use a watch list to enter the names of internal users instead of their email addresses to specify who to send cloning notifications to. You can also enter email addresses.
UI	Platform rebranding The system theme defaults have been updated with the latest ServiceNow styles, including the new logo and color scheme. Basic Configuration UI16 properties The following properties were added to the Basic Configuration UI16 properties page. Changes to these properties affect the system theme UI. • Navigation background expanded items [css.$subnav-background-color] • Navigation selected tab divider bar color [css.$nav-highlight-bar-active] • Navigation unselected tab divider bar color [css.$nav-highlight-bar-inactive] • Selected base theme [glide.ui.base_theme.selected_theme]
Virtual Agent	Enhancements to the Virtual Agent web client and messaging integrations • The Card control (bot response) has a new layout. If a topic involves updates to a ServiceNow table (for example, the Incident table), the card contains a link to the related record. • Slack integration: The Yes button displayed in Boolean choices is colored green.

Application or feature	Details
	• Microsoft Teams integration: Improved usability for calendar input (easier Date and Time selection), choice list display, and card layout. • Topic discovery: Improved user experience when the Virtual Agent bot matches a user search phrase with a bot conversation topic. Predefined ITSM Virtual Agent topics New chatbot conversations are available for common IT-related tasks.
Vulnerability Response	The Vulnerability Overview homepage has been converted to a dashboard. If you have the Performance Analytics – Content Pack – Vulnerability Response application installed and activated, interactive reports are available. Updated remediation target rule behavior Remediation target behavior has been updated for easier reporting. • No Target status added for records without a remediation target date. • Target Met added for records closed before their remediation target date. • Target Met added for records closed before their remediation target date. • Target Missed renamed from Past Target for consistency with Target Met. Remediation target dates and statuses are also rolled-up from vulnerable items to their associated vulnerability groups. Integration changes Qualys Ticket Integration records have moved to a related list in the vulnerable item record.

Application or feature	Details
	Qualys Ticket Integration records are no longer imported as VIs. Instead ticket records are listed on an existing vulnerable item under a related list. Where no VI exists, one is created and the ticket is listed in the related list.
Walk-up Experience	**Walk-up Location Queue table** • The Walk-up Location Queue [wu_location_queue] table, used to configure a walk-up location, is based on an advanced work routing data model. The table extends the Queue [awa_queue] table. Administration of walk-up queue assignment routing uses the Advanced Work Assignment feature. Queues must be linked to service channels, such as the Walk-up service channel. • A Service channel field is added and defaults to Walk-up. • A Work item routing condition is added and defaults to the physical location of the walk-up queue. The location is auto-generated if not present on the queue. • The Assignment group field is migrated to an Assignment Eligibility related list. **Walk-up Interaction records** The On Hold state is added to interactions. Walk-up technicians can place an interaction on hold if the requester is not present for an appointment or if the interaction entails a lengthy process, for example, an OS upgrade. Putting an interaction on hold enables technicians to take on more work. **Dashboard and reporting** With the update from Queue to Location on the interaction record configuration, reports are altered to group by location instead of queue.

Application or feature	Details
Web services	Request execution time in REST API Explorer After you send a REST request, the Request and Response sections provide detailed information, including the full request HTTP Method / URI, headers for both the request and response, the HTTP Status code of the response, the Execution time (in milliseconds) of the response, and the response body.

Removed features and products in Madrid

Cumulative release notes summary on features that were removed from Madrid features and products.

Removed features

Some features were removed as part of Madrid product updates.

Application or feature	Details
Application Portfolio Management	• End date of a life cycle phase has been removed from the TPM timeline. The start date of a subsequent life cycle phase marks the end date of the prior phase. • Preconfigured indicators including Total opex, Total capex, External labor cost, and Cost of support have been removed from Application Portfolio Management.
Continual Improvement Management	Continual Improvement Management properties removed. All task types are set by default. • List of comma-separated task types to which Create Improvement Initiative UI action can be added (sn_cim.show_cim_ui_action) • List of task types which can be created from Improvement Initiative (sn_cim.show_derivative_task_ui_action_cim_initiative)

Application or feature	Details
	• List of task types which can be created from Improvement Task (sn_cim.show_derivative_task_ui_action_cim_task) The Implementing task field and the Knowledge field on the CIM Task form were removed because they were replaced by related lists.
Discovery	These Shazzam probe parameters were deprecated in the Madrid release: • DNS_alternativePort: Defines an alternative port number for the DNS scanner. • NBT_alternativePort: Defines an alternative port number for the NBT scanner. • SNMP_alternativePort: Defines the alternative port number for the SNMP scanner.
Financial Management	• The Chart of Accounts stage has been removed from the Financial Management Workbench tab.
HR Service Delivery	• The preconfigured Workday integration was removed from the HR Integrations application.
On-Call Scheduling	• The com.snc.on_call_rotation.pto.approval.required property has been replaced with the com.snc.on_call_rotation.pto.configuration property. For upgrade customers, the com.snc.on_call_rotation.pto.configuration property is automatically updated with the com.snc.on_call_rotation.pto.approval.required property value selected in the pre-upgrade instance.

<table>
<tr><th>Application or feature</th><th>Details</th></tr>
<tr><td>Performance Analytics</td><td>Detailed Scorecard, replaced by the new Analytics Hub (see New in the Madrid Release). The Analytics Hub does not support the following detailed scorecard functionality in this release:
Cannot visualize scores calculation for formula indicators on the Info panel.
The following properties for the Detailed Scorecard are deprecated. They do not affect the Analytics Hub:
com.snc.pa.breakdown_element_ui_max_records
com.snc.pa.navigator_mask_fill_color</td></tr>
<tr><td>Problem Management</td><td>Post News: Deprecated the Post News UI action in Knowledge v3.
Post knowledge: Deprecated the Post knowledge UI action and introduced the Create Known Error Article link.
Create Knowledge: Removed the Create Knowledge from Problem plugin (com.snc.problem_kb).
Resolve incidents: Removed the Resolved incidents UI action.
Closed Problem: Removed the Close Problem UI action.</td></tr>
<tr><td>Project Portfolio Management</td><td>The following dashboards that were installed with the PPM plugin (com.snc.financial_planning_pmo) have been deprecated:
Portfolio manager dashboard
Program manager dashboard
PMO director</td></tr>
</table>

Application or feature	Details

	• The following homepages that were installed as part of the PPM plugin (com.snc.financial_planning_pmo) have been deprecated:
	  • Project Manager Dashboard
	  • Project Manager Dashboard (FIN)
	  • Program Manager Dashboard
	  • Program Manager Dashboard (FIN)
	  • Portfolio Manager Dashboard
	  • Portfolio Manager (FIN) Dashboard
	  • PMO Director Dashboard
	  • PMO Director Dashboard (FIN)
	  • Project Workbench Dashboard
	    Note: Existing and upgrade customers can still access these dashboards and homepages. Alternatively, you can use the enhanced features available in Investment Portal, Project Workspace, and the new Madrid PMO dashboard.
	• The Performance Analytics – Content Pack – Project Portfolio Suite (com.snc.pa.ppm) plugin has been deprecated.
	• The option to change planned start date of a project through Portfolio Workbench has been removed. Instead, use the Move project option from the Planning Console or Project form.

Vulnerability Response	Manual creation of third-party vulnerabilities has been removed.

Application or feature	Details
Walk-up Experience	• The Queue field is deprecated in the Interaction [interaction] table. TheLocation field replaces the Queue field to indicate the physical address of a walk-up queue. The walk-up interaction depends on the platform interaction model because the Advanced Work Assignment system uses a unique queuing concept. • For security purposes, the survey_admin contained role has been removed from the sn_walkup.walkup_admin role.

Activation information for all Madrid features and products

Cumulative release notes summary on activation information for Madrid features and products.

Activation information

Some products and features require specific subscriptions, roles, or licenses. Other features are part of the Now Platform® and are active by default.

Application or feature	Details
API	• Advanced Work Assignment APIs: The Advanced Work Assignment plugin (com.glide.awa) requires a separate subscription and you can activate it if you have the admin role. • Agent Intelligence APIs: Agent Intelligence is included in the following packages: ITSM Professional, CSM Professional, HR Professional, HR Enterprise, ITOM Standard, ITOM Professional, ITOM Enterprise, and standalone Event Management. When you subscribe to any of these packages, you can activate the Agent Intelligence plugin (com.glide.platform_ml) on your production instance.

Application or feature	Details
	• Change Management APIs: The Change Management plugin (com.snc.change_management) requires a separate subscription and you can activate it if you have the admin role. • Flow Designer APIs: Flow Designer is a Now Platform® feature that is active by default. • Notify APIs: The Notify plugin (com.snc.notify) requires a separate subscription. This plugin includes demo data and activates related plugins if they are not already active.
Advanced Work Assignment	Advanced Work Assignment requires activation of the Advanced Work Assignment plugin and related AWA plugins that enable AWA service channels.
Agent Intelligence	Agent Intelligence is included in these packages: ITSM Professional, CSM Professional, HR Professional, HR Enterprise, ITOM Standard, ITOM Professional, ITOM Enterprise, and Standalone Event Management. When you subscribe to any of these packages, you can activate Agent Intelligence on your production instance. For activation instructions, see Activate Agent Intelligence.
Agent Workspace	Active by default.
Agile Development 2.0	You must have an admin role to activate the Agile Development 2.0 plugin (com.snc.sdlc.agile.2.0). The dashboards for Agile Development 2.0, if required, must be activated separately using the Performance Analytics – Content Pack – Project Portfolio Suite Dashboards plugin (com.snc.pps_dashboards). The Performance Analytics license is required to use the dashboards.

Application or feature	Details
Antivirus Scanning	To use the Antivirus Scanning feature, activate the Antivirus Protection (com.glide.snap) plugin.
Application Portfolio Management	Activate the Application Portfolio Management (com.snc.apm) plugin if you have the admin role.
Application security	Active by default.
Approvals	Now Platform® feature active by default.
Assessments and Surveys	Now Platform® feature active by default.
Authentication	Authentication is a Now Platform® feature and is active by default.
Automated Test Framework	Now Platform® feature active by default. To use the quick start tests for an application, activate the plugin that is associated with it. See Available quick start tests by application or feature for plugin requirements.
Change management	Change Management provides the following plugins: • Change Management - Approval Policy plugin (sc_chg_pol_appr) helps in generating and configuring approvals using the Change Approval policies.

Application or feature	Details
	Note: This plugin is activated by default for new and existing customers. • Change Management - ATF Tests (com.snc.change_management.atf) loads ATF tests for Change Management when the Change Management - State Model plugin is active. The demo data for this plugin is required to successfully execute these ATF tests. Note: This plugin is activated for new customers. Existing customers must activate the plugin to use it.
Cloud Management	The Cloud Management(com.snc.cloud.mgmt) plugin requires a separate subscription. You must request activation from ServiceNow personnel.
Coaching	The Coaching (com.sn_coaching) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active. The Coaching application is available with all Professional subscriptions. Please contact your account manager for more information. See Request Coaching for more information.
Communities	Communities is only available for customers who are licensed for Customer Service Management. To activate Communities, activate the Customer Communities plugin (com.sn_customer_communities). To implement knowledge harvesting, activate the Knowledge Management Service Portal plugin (com.snc.knowledge_serviceportal).

Application or feature	Details
Configuration Management Database (CMDB)	Now Platform® feature active by default.
Contextual Search	Activate the Contextual Search plugin (com.snc.contextual_search) to display related articles or service catalog items within a form or record producer. This plugin is activated by default for upgrade and existing customers.
Contextual development environment	Active by default.
Continual Improvement Management	The Continual Improvement Management (com.sn_cim) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active. The Continual Improvement Management application is available with the ITSM Professional subscription only. Please contact your account manager for more information. For more information, see Request Continual Improvement Management for more information.
Credentials	Credentials are a Now Platform® feature and is active by default.
Customer Service Management	You can activate the Customer Service Management plugin (com.sn_customerservice) if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active.

Application or feature	Details
Dashboards	• Responsive dashboards are enabled by default on new instances. • On upgraded instances, responsive dashboards must be enabled by an administrator.
Discovery	Discovery is available as a separate subscription from the rest of the Now Platform® and requires the Discovery (com.snc.discovery) plugin.
Document Viewer	To use the Document Viewer feature, activate the Document Viewer (com.snc.documentviewer) plugin.
Edge Encryption	Active by default.
Embedded help	The Embedded Help (com.glide.embedded_help) plugin is active by default for all new and upgraded instances.
Event Management	Event Management is available as a separate subscription from the rest of the Now Platform and requires the Event Management (com.glideapp.itom.snac) plugin. For more information, see Event Management.
Field Service Management	The Field Service Mobile plugin (com.sn_fsm_mobile) enables the Field Service mobile application. This plugin is activated when you activate the Field Service Management (com.snc.work_management) plugin.

Application or feature	Details
Financial Management	You can activate the Financial Management Core (com.snc.financial_management) plugin if you have the admin role.
Flow Designer	Now Platform® feature active by default.
Governance, Risk, and Compliance	Before you run Risk Management in your instance, you must download it from the ServiceNow Store. Before you run Policy and Compliance Management in your instance, you must download it from the ServiceNow Store. Before you run Audit Management in your instance, you must download it from the ServiceNow Store.
Guided Tour Designer	Now Platform® feature active by default.
HR Service Delivery	HR Service Delivery is available as a separate subscription. You can activate one or more of the following plugins: • Case and Knowledge Management plugin (com.sn_hr_core) • Employee Service Center plugin (com.sn_hr_service_portal) • Enterprise Onboarding and Transitions plugin (com.sn_hr_lifecycle_events) When integrating HR Service Delivery with a third-party HR management system or background check system, the HR Integrations plugin (com.sn_hr_integrations) is automatically activated with the Case and Knowledge Management plugin (com.sn_hr_core) to help with the integrations process.

Application or feature	Details
	If you are subscribed to both HR Service Delivery and Performance Analytics, you can activate one or more of the following content packs: • Performance Analytics - Content Pack - Human Resources Scoped App [com.sn_hr_pa] • Performance Analytics - Content Pack - Human Resources Lifecycle Events Scoped App [com.sn_hr_lifecycle_pa] When migrating from the legacy (non-scoped) version to the scoped version of HR Service Delivery, you can activate the HR Migration plugin (com.sn_hr_migration) to help with the migration process. When licensed to both HR Service Delivery and Facilities Service Management, activate the Facilities Move Management plugin (com.snc.facilities_service_automation.move) first. Activating the Facilities Move Management plugin first ensures that your building map appears in the Employee Service Center. If you are using Employee Document Management, activate: • Employee Document Management [com.sn_employee_document_management] If you are using Employee Document Management Bulk Import, activate: • Employee Document Management [com.sn_employee_document_management] • Orchestration [com.snc.runbook_automation] • ServiceNow IntegrationHub Installer [com.glide.hub.integrations] If you are using Content Analytics, activate: • Content Analytics [com.sn_content_analytics]

Application or feature	Details
ITSM Agent Workspace	Activate the Agent Workspace for ITSM (com.snc.agent_workspace.itsm) plugin to access the functionality of Agent Workspace for ITSM.
ITSM Virtual Agent	• Virtual Agent must be activated before you can use the ITSM Virtual Agent chatbot topics. • To activate this feature, request the Virtual Agent plugin (com.glide.cs.chatbot) through the HI Customer Service system. • You must have the admin role to activate the ITSM Virtual Agent Conversations plugin (com.snc.itsm.virtualagent) to access the predefined ITSM Virtual Agent topics.
Import and export	Active by default.
Incident Management	• Activate the On-Call Scheduling (com.snc.on_call_rotation) plugin to access on-call roster and escalation details from the major incident workbench. • Activate the Advanced Work Assignment for Incidents (com.snc.incident.awa) plugin to automatically assign work items to agents
IntegrationHub	The ServiceNow IntegrationHub Installer plugin (com.glide.hub.integrations) requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active.

Application or feature	Details
Knowledge Management	The Knowledge Management Service Portal plugin (com.snc.knowledge_serviceportal) is active by default for new customers. Activate the Knowledge Management Advanced plugin (com.snc.knowledge_advanced) to enable advanced features for Knowledge Management. For more information on activating the plugin, see Activate the Knowledge Management Advanced plugin.
MID Server	Now Platform® feature active by default.
MetricBase	MetricBase requires a separate subscription and activation by ServiceNow personnel. Include in your request the free MetricBase demo plugin, which contains sample tables, metrics, triggers, and data.
Notifications	• Now Platform® feature active by default. • To activate notifications in messaging applications, request the Messaging Notification plugin (com.glide.notification.messaging) through the HI Customer Service system. This plugin activates related plugins if they are not already active. Integrations with third-party systems also require a separate IntegrationHub subscription.
Notify	The Notify plugin requires a separate subscription. This plugin includes demo data and activates related plugins if they are not already active.

Application or feature	Details
On-Call Scheduling	For upgrade customers, the On-Call Scheduling application is available by activating the On-Call Scheduling (com.snc.on_call_rotation) plugin, if the plugin is not already active. For zBoot customers, this plugin is activated by default.
Operational Intelligence	Operational Intelligence plugin (com.snc.sa.metric) requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data and activates related plugins if they are not already active.
Performance Analytics	Now Platform® feature — Complimentary Performance Analytics for Incident Management is active by default. • Full Performance Analytics functionality requires a separate subscription. For more information, see Get licensed Performance Analytics.
Platform security	Now Platform® feature – Instance Security Center is active by default. To use Date and Date/Time encryption, activate the Encryption Support plugin (com.glide.encryption).
Problem Management	Problem Management provides the following plugins: • Activate the Problem Management Best Practice — Madrid (com.snc.best_practice.problem.madrid) plugin if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active. Note: The plugin is activated by default for new customers. Existing customers can activate the plugin. • Activate the Problem Management Best Practice — Madrid — State Model

Application or feature	Details
	(com.snc.best_practice.problem.madrid.state_model) plugin. This plugin includes demo data. • Note: The plugin is activated by default for new customers. Existing customers cannot activate the plugin. • Activate the Problem Management Best Practice — Madrid — Knowledge Integration (com.snc.best_practice.problem.madrid.knowledge) plugin if you have the admin role. This plugin includes demo data and activates related plugins if they are not already active. Note: New as well as existing customers can activate the plugin.
Project Portfolio Management	You can activate the Project Portfolio Management (com.snc.financial_planning_pmo) plugin if you have the admin role.
Reporting	• Now Platform® feature active by default.
Scaled Agile Framework (SAFe)	ServiceNow provides plugins that support two different configurations of SAFe: Essential SAFe and Portfolio SAFe. • Activate the Agile - Scaled Agile Framework - Essential SAFe plugin (com.snc.sdlc.safe) if you have the admin role. This plugin provides the features of Essential SAFe only. • Activate the Agile - Scaled Agile Framework - Portfolio SAFe plugin (com.snc.sdlc.portfolio_safe) if you have the admin role. This plugin provides the features of both Essential SAFe and Portfolio SAFe.

Application or feature	Details
Security Incident Response	Activate the Security Incident Response Dependencies plugin. Download and install the Security Incident Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.
Service Catalog	Active by default.
Service Level Management	Active by default.
Service Mapping	Service Mapping is available as a separate subscription and requires activation by ServiceNow personnel. The following plugins are activated automatically when Service Mapping (com.snc.service-mapping) is activated: • Discovery (com.snc.discovery) • Pattern Designer (com.snc.pattern.designer) • Cloud Management Core (com.snc.cloud.core) • Performance Analytics - Content Pack - Service Mapping (com.snc.service-mapping.pa.content) • Event Management and Service Mapping Core (com.snc.service-watch) Note: The Event Management and Service Mapping Core (com.snc.service-watch) plugin is different from the Event Management plugin (com.glideapp.itom.snac).

Application or feature	Details
Service Portal	Service Portal is active by default on new instances. For upgraded instances, activate the Service Portal for Enterprise Service Management plugin (com.glide.service-portal.esm) if you have the admin role. Activating the Service Portal plugin does not affect any existing Content Management System (CMS) configuration. For more information, see Content Management and Service Portal.
ServiceNow Classic	Download the classic app from the iTunes Store or the Google Play store by searching for ServiceNow Classic.
ServiceNow mobile	Depending on your device, go to the iTunes Store or the Google Play store and search for ServiceNow to download the native mobile app.
Software Asset Management	The Software Asset Management Professional (com.snc.samp) plugin requires a separate subscription and must be activated by ServiceNow personnel. This plugin includes demo data. Depending on your environment, you may choose to request one or more related plugins which also must be activated by ServiceNow personnel. See Request Software Asset Management. For the Software Asset Management plugin (com.snc.software_asset_management) and Software Asset Management Foundation plugin (com.snc.sams) features of Asset Management, see ITSM Software Asset Management. Before you run Audit Management in your instance, you must download it from the ServiceNow Store.

Application or feature	Details
Subscription Management	Now Platform® feature active by default.
System Clone	System clone is part of the core platform and does not require special activation.
Test Management 2.0	Activate the Test Management 2.0 plugin (com.snc.test_management.2.0) if you have the admin role.
Time Card	You can activate the Time card management (com.snc.time_card) plugin if you have the admin role. Time Card is also activated as part of the Project Portfolio Suite with Financials (com.snc.financial_planning_pmo) plugin.
UI	Now Platform® feature active by default.
Virtual Agent	To use Virtual Agent, activate the Virtual Agent (com.glide.cs.chatbot) plugin.
Vulnerability Response	Activate the Vulnerability Response Dependencies plugin (com.snc.vul_dep). Download and install the Vulnerability Response from the ServiceNow Store and configure based on the needs of your organization using Setup Assistant. This application is available as a separate subscription.

Application or feature	Details
Walk-up Experience	You can activate the Walk-up Experience plugin (com.snc.walkup) if you have the admin role. This plugin includes demo data.
Web services	Active by default.

Additional requirements for all Madrid features and products

Cumulative release notes summary on additional requirements for Madrid features and products.

Additional requirements

To use certain products, specific setups or third-party requirements are required.

Application or feature	Details
Embedded help	Embedded help is only available in UI16. Embedded help is not compatible with UI15.

Browser requirements for all Madrid features and products

Cumulative release notes summary on browser requirements for Madrid features and products.

Browser requirements

Several products have specific browser requirements. Review this information to ensure you are using the correct browsers and browser versions.

Application or feature	Details
Automated Test Framework	Automated Test Framework only supports running tests from desktop browsers. You cannot run tests or test suites from tablets, mobile browsers, or the mobile UI. Some desktop browsers require additional configuration. See Browser recommendations for Automated Test Framework. Automated Test Framework offers limited support for test design on tablets. You cannot add new custom UI test steps from tablets because you have to run a test to retrieve page components, and tablets do not support running tests. You may be able to review existing custom UI test steps that were added from a desktop browser from a tablet.

Accessibility information for all Madrid features and products

Cumulative release notes summary on accessibility information for Madrid features and products.

Accessibility information

Some products have specific accessibility information or exceptions.

Application or feature	Details
Agile Development 2.0	The Backlog, Sprint Planning, and Sprint Tracking tabs of the Agile Board are Web Content Accessibility Guidelines (WCAG) compliant.
Automated Test Framework	Fields using CodeMirror for Glide Element Mapping (GEM) are not compatible with screen readers.

Application or feature	Details
Project Portfolio Management	• In UI pages like Planning Console where a Gantt chart is used, a few exceptions such as the date time picker and timeline task bars are not keyboard accessible. • In the resource allocation workbench, the date time picker is not keyboard accessible.
Scaled Agile Framework (SAFe)	Except for the Big Room Planning tab, all other tabs on the ART level and Team level are Web Content Accessibility Guidelines (WCAG) compliant.
Test Management 2.0	The Test version form and the Run Tests user interface are Web Content Accessibility Guidelines (WCAG) compliant.
UI	The Cobalt Contrast UI theme was added to incorporate the contrast UI from the previous theme. The Contrast UI theme was updated with the new theme to include an accessible theme.

Product localization information in Madrid

Cumulative release notes summary on new Madrid features and products.

Localization information

Some products may have specific localization requirements or behavior in Madrid.

Application or feature	Details
Assessments and Surveys	Localization is available for a public survey. When a user takes the survey, it is first available in the set language. However, the user can use the language picker to change the language of the survey. Localization is also applicable to Service Portal. For

Application or feature	Details
	information on localization of a public survey, see Enable localization for a survey. Note: You must activate the language plugins for each language that you want your surveys to be available in.
Financial Management	Right-to-left languages in custom UI pages are not supported. Alternatively, you can use platform lists and forms.
Project Portfolio Management	Right-to-left languages in custom UI pages are not supported. Alternatively, you can use platform lists and forms.

Available versions (Madrid)

The Madrid family includes Enterprise patches and hot fixes, as well as releases for Password Reset, ODBC, and Mobile.

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

Q1 2019 Patching Program Targets

Releases	Patch target option	Release notes
Kingston	Kingston Patch 12	Kingston
London	London Patch 4 Hot Fix 2	London

- Targets are subject to change prior to patching. Target versions change only if absolutely necessary.

- ServiceNow will occasionally add an additional letter to some patch and hot fix names (for example, Helsinki Patch 9a). Please consult the release notes for the list of fixes included in each version.

Available versions

For patch release notes that are not yet listed below, refer to KB0656793.

For publicly available hot fix and security patch release notes that are not yet listed below, refer to KB0598632.

Release version	Release type	Released on	Availability
Madrid Patch 1 Hot Fix 2	Hot fix	2019/03/22	Available
Madrid Patch 1 Hot Fix 1	Hot fix	2019/03/15	Unavailable Replaced by Madrid Patch 1 Hot Fix 2
Madrid Patch 1	Patch	2019/03/06	Unavailable Replaced by Madrid Patch 1 Hot Fix 2
Madrid Patch 0 Hot Fix 1	Hot fix	2019/02/06	Unavailable Replaced by Madrid Patch 1 Hot Fix 2
Madrid security and notable fixes All other Madrid fixes	Feature	2019/01/24	Unavailable Replaced by Madrid Patch 1 Hot Fix 2

- Available: Any user can upgrade to the version. "Available" versions will appear on the Instance Upgrade Management Dashboard. ServiceNow patching targets and patches are immediately available. Users do not need to request an entitlement to schedule an upgrade to these versions.
- Available by request: Contact ServiceNow Customer Support for approval to upgrade to the version.
- Unavailable: The release version is not available.

Mobile versions

For the latest iOS and Android mobile application release notes, refer to KB0598602.

Password Reset Windows Application releases

For the latest Password Reset Windows Application release notes, refer to KB0598975.

ODBC Driver releases

For available ODBC release notes that are not yet listed below, refer to KB0540707.

The ODBC Driver patch release notes contain problem fixes for supported and legacy ODBC Driver patch versions.

Madrid Patch 1 Hot Fix 2

The Madrid Patch 1 Hot Fix 2 release contains problem fixes.

Build information:

Build date: 03-20-2019_1304

Build tag: glide-madrid-12-18-2018__patch1-hotfix2-03-14-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

> Note: This version is under FedRAMP evaluation.

Fixed problem

Problem	Short description	Description
Change Management PRB1331188	The removal of the demo data also removes the ITIL role	The Change Management - ATF Tests plugin (com.snc.change_management.atf) has a file that includes the "itil" sys_user_role record as the demo data. Therefore, when a user requests the removal of the demo data, the ITIL role is removed from the instance.
Core Platform PRB1325834	There exists a race condition when setting the value for the trigger type field for scheduled jobs, which can lead to the field value being set incorrectly	Symptoms for this issue: • Repeat type scheduled will randomly be deleted. • Daily and periodic jobs will run as "interval" incorrectly, possibly increasing the frequency at which they run.

Fixes included

Unless any exceptions are noted, you can safely upgrade to this release version from any of the versions listed below. These prior versions contain PRB fixes that are also included with this release. Be sure to upgrade to the latest listed patch that includes all of the PRB fixes you are interested in.

- Madrid Patch 1 Hot Fix 1
- Madrid Patch 1
- Madrid security and notable fixes
- All other Madrid fixes

Madrid Patch 1 Hot Fix 1

The Madrid Patch 1 Hot Fix 1 release contains problem fixes.

Build information:

Build date: 03-09-2019_1830

Build tag: glide-madrid-12-18-2018__patch1-hotfix1-03-08-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

Fixed problem

Problem	Short description	Description	Steps to reproduce
Chat PRB1325344	The transform map script does not create the sys_journal_field record as the impersonated user	When users use the transform map script and impersonate a user, the transform map script does not create the sys_journal_field record as the impersonated user. Instead, it creates the record as the user that makes the SOAP call to the import set table.	
Delegated Development	For users with the delegated_developer role, they can only see 'undefined'		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1319914 KB0727863	instead of the available update sets in the update set picker		

Fixes included

Unless any exceptions are noted, you can safely upgrade to this release version from any of the versions listed below. These prior versions contain PRB fixes that are also included with this release. Be sure to upgrade to the latest listed patch that includes all of the PRB fixes you are interested in.

- Madrid Patch 1
- Madrid security and notable fixes
- All other Madrid fixes

Madrid Patch 1

The Madrid Patch 1 release contains important problem fixes.

Madrid Patch 1 was released on March 6, 2019.

Build date: 02-25-2019_1807

Build tag: glide-madrid-12-18-2018__patch1-02-13-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

Security-related fixes

Madrid includes fixes for security-related problems that affected certain ServiceNow® applications and the Now Platform®. We recommend that customers upgrade to this release for the most secure and up-to-date features. For more details on security problems fixed in Madrid, refer to KB0726513.

Notable fixes

The following problems and their fixes are ordered by potential impact to customers, starting with the most significant fixes.

Problem	Short description	Description	Steps to reproduce
List v2 PRB570571 KB0522575	Related list and embedded list personalizations do not work	On related lists in List v2, if person A personalizes the related list, person B can see the change. However, if person B tries to reset to default, it is not allowed. In addition, forms and related lists are cached per the user role. When user A personalizes the related list on a form, all other users with user A role can see the personalized form.	1. Log in to a base system where this issue is occurring. 2. Add the same set of roles to two different users. For more information, see the product documentation topic Assign a role to a user. 3. As user A, configure the list layout. For more information, see the product documentation topic Configure the list layout. 4. As user B, go to the same list. Note that the list layout is personalized by user A. Also note that Reset to Column Defaults only appears when that user has already personalized the list.

Problem	Short description	Description	Steps to reproduce

Email
 	
PRB1321771
 	
KB0722879
	Scripted evaluation of the to, cc, bcc, from, and reply-to values in email client template does not work	Performing scripted evaluation of the to, cc, bcc, from, and reply-to values in email client template or email client does not execute correctly. In some cases, it displays "Invalid function definition."	1. Define an Email Client Template with the following values:
			• Table: incident
			• Any one of To, Cc, Bcc, Reply to, From (London and Kingston) fields:
			javascript: (function() { return 'test.user@example.com';}());
			2. Open the Email Client from an active incident.
			An error message 'Invalid function definition' is displayed.
			3. Alternately, add the following script to the To, Cc, Bcc, Reply to, From fields
			javascript: gs.getProperty('glide.email.username');
			
			No values are populated.

Service Mapping PRB1319185 KB0720648	Slow 'discovery.device.complete' event processing, due to checkSwitch function in VMLayer2Co	The processing of Discovery's "discovery.device.complete" events is slow for certain devices. This can cause a general instance performance issue if they cause a hold-up or slowdown of event processing.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
	nnectionStrategy		
MID Server PRB1320230 KB0720860	Discovery Schedules end up 'Canceled' because all MID Server threads are blocked by Shazzam and DNS probes, due to HTTPS port probes getting stuck	Shazzam Probe gets stuck on HTTPS scanner, blocking all other worker standard threads.	Refer to the listed Known Error KB article for details.
Service Catalog PRB1321520 KB0723666	The variable with a tree picker attribute doesn't show any results if a reference qualifier is applied	No values are displayed for a reference catalog variable when the variable has "tree_picker=true" attribute.	1. Create a reference type catalog variable. • Reference: 'Category [sc_category]' • Reference Qualifier: Simple • Reference Qualifier Condition: [Active] [is] [True] 2. Set the variable attribute 'tree_picker=true'. 3. Submit the variable. 4. Click Try It for the catalog item. 5. Click the magnifying icon for the variable. The popup doesn't show any results.

All other fixes

Problem	Short description	Description	Steps to reproduce
Agent Intelligence PRB1324892	The categorical input is not used for prediction		
Agent Intelligence PRB1325672	The default similarity solution definition does not run the model update		1. Enable the Agent Intelligence plugin. 2. Train the default similarity solution definition without making any filter changes to the 'window refresh frequency' and make sure the training is successful. From logs, there is no similarity model update running, even after the 'window refresh frequency' time.
Agent Intelligence PRB1324515	The reference field is null when the prediction API is called through the script		
Agent Intelligence	The prediction API throws java.lang.NumberFormatE		

Problem	Short description	Description	Steps to reproduce
PRB1325667	xception when the similarity window has zero records		
Agent Workspace PRB1322783	Unable to launch Lookup and verify modal on the interaction		
Agent Workspace PRB1323543	When there are no additional resources, the Agent Intelligence still shows the searcher resource results		
Application Installation Engine PRB1326023	The OOB app installation should skip entitlement checks during zBoots and distribution upgrades	The OOB process already validates apps and dependencies. Any app that is forced to be upgraded via the OOB process should always succeed and does not need to validate entitlements with the Store.	

Problem	Short description	Description	Steps to reproduce
Application Navigator & Banner Frame PRB1322220	When users tab backwards through the 'System Settings' dialog, the focus moves to elements behind the dialog		1. In the banner frame, select the gear icon to open the 'System Settings' dialog. 2. Select the 'Lists' tab. 3. Press the Tab key a few times to navigate through all the content. The keyboard focus is trapped in the dialog and returns to the top of the dialog after reaching the end. 4. Hold down the Shift key and press the Tab key a few times. The focus moves to elements behind the dialog. It is not possible to tab back into the dialog.
Application Navigator & Banner Frame PRB1324918	The application navigator fails to load the page due to the malformed link type URL	The application navigator shows the loading circle spinning and fails to load the page.	
Asynchronous	The AMB Java Client of the MID Server sends requests to		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Message Bus PRB1325392 KB0726561	subscribe with null Glide sessions		
Authentication PRB1323201	Users with MFA enabled are logged out using the guest session timeout value instead of the UI session timeout when the UI session timeout is customized		1. Set the guest session timeout in the sys_properties to greater than 0. Make sure the UI session timeout is greater than the guest session timeout. 2. Create a user with MFA enabled. 3. Log in with the user. 4. Wait until the guest session timeout value is reached. The user is logged out. However, the user should not be logged out until the UI session timeout limit is reached. This issue will only be seen if the MFA code is entered in the intermediate page. If the MFA code is appended to the password during login, this issue will not be seen.
Automated Test Framework	The Automated Test Framework screenshot tool fails the test due to the error		1. Install the base system inactive plugin in 'Automated Test Scripts For Survey'. 2. Navigate to Automated Test Framework > Tests.

Problem	Short description	Description	Steps to reproduce
PRB1317992	'potentially unhandled rejection'		3. Run the test 'Automated UI test for Dynamic Validation - Survey'. The test fails on the step 'Click a UI action' and 'Send Invitation'.
Automated Test Framework PRB1320878	Automated Testing Framework tests do not work as expected	The wait mechanism gets stuck and the test fails due to the timeout.	
Change Management PRB1321374	CAB Workbench Change Request form does not support dot-walked fields, which causes the error message 'Cannot read .value of undefined (task[fieldName].value)'	When a dot-walked field is added to the CAB Workbench Change Request form view, the field value does not display correctly in the CAB Workbench. The error 'Cannot read .value of undefined' is displayed in the JavaScript console.	
Cloud Management Application	The Branding Editor theme color changes are not reflected on the portal for the La Jolla theme	This issue is not applicable to London and earlier releases.	1. Navigate to /sp_config. 2. Click Branding Editor. 3. Select the appropriate theme for the user portal or the admin portal.

Problem	Short description	Description	Steps to reproduce
PRB1322624			4. Click the Theme Colors tab. 5. Change the 'Primary' field color under the 'Brand' panel. After the page refresh, the color is not reflected on the portal.
Cloud Management Application PRB1322553	Microsoft has changed Azure Billing API endpoint (Response code 426: Method failed: (/rest/XXXXXX/usage-report))	Azure Cloud Billing fails with "Response code 426: Method failed: (/rest/<<Enrollment No>>/usage-report) with code: 426". This is because Microsoft has changed their Billing API endpoint and retired the old endpoint. Refer to this document for details.	
Condition Builder PRB1320724	Attributes are not loaded in SP filters on the page 'Cases', 'Contacts', and 'Assets' in both the CSM and CSP Portal		
Configuration Management Databas	CMDB Baseline diff takes too long for CI's with many relationships	With a huge number of relationships, the page takes too long to load and becomes unresponsive.	

Problem	Short description	Description	Steps to reproduce
e (CMDB) PRB1320811			
Contextual Search PRB1323155	Similarity machine learning results are not provided when the threshold is high		
Core Platform PRB1317902 KB0722899	The actual class of a CI appears twice in the dropdown of a CI form from London	In London, the class field (sys_class_name) dropdown for CMDB child tables shows a duplicate entry for the existing class incorrectly.	Refer to the listed Known Error KB article for details.
Core Platform PRB1255228 KB0687020	'Syntax Error or Access Rule Violation detected by database' error occurs when having a filter condition based on related list on cmdb_ci	Filter condition based on related list on cmdb_ci returns no results and causes an error "Syntax Error or Access Rule Violation detected by database."	1. Make sure that the List V3 plugin is active. For more information, see the product documentation topic Activate List v3 . 2. Go to cmdb_ci.LIST. 3. Apply a filter condition with following details in Related List Conditions:

Problem	Short description	Description	Steps to reproduce
			• Table: Certification Element > Configuration Item • State: ending 4. Click Run. Note that the no results are returned and the following error message appears: Syntax Error or Access Rule Violation detected by database (Unknown column 'sj0.configuration_item' in 'on clause')
Core Platform PRB1319115	Unable to access parent fields in a report from task extended child tables of the table per the class extension model	In a report, when a field from the parent table is added to the Related List conditions on a child table in a TPC hierarchy, the following error appears: Syntax Error or Access Rule Violation detected by database (ORA-00904: "SJ0"."<field_name>": invalid identifier).	
Delegated	Users with 'delegated_developer' role get the error	When users with 'delegated_developer' role try and access	1. Create a user or find a non-admin user.

Problem	Short description	Description	Steps to reproduce
Development PRB1179433 KB0692666	"Invalid attempt to access [table_name]" when opening or creating a record	alm_hardware.list, they get the message "Invalid attempt to access sc_req_item."	2. Give the user 'itil' and 'delegated_developer' roles. 3. Impersonate the user. 4. Navigate to Reports > Create New. Observe the error message: 'Invalid attempt to access sys_report.'
Discovery PRB1324894	Patterns cannot create endpoint CI types	In Madrid, after users create a pattern and populate the endpoint CI type, the endpoint CI type is not returned when they run the pattern.	
Discovery PRB1318806	The Docker pattern does not correctly populate the Size (bytes) of the Docker containers		
Discovery PRB1322277	When the pattern debugger is running, the command from the 'Command Prompt' does not return the result		1. Run the debug of any pattern. 2. Click Command Prompt. 3. Run any command on a remote or a local host. The command fails with a 'time out' error.

Problem	Short description	Description	Steps to reproduce
Discovery PRB1320780	An issue with the AWS pagination	The URL generated by the AWS for the next page contains parameter values that must be encoded due to special characters in the generated token.	
Edge Encryption PRB1323400	Before Jakarta, the type of the field 'proxy_version' in the table 'sys_encryption_proxy' is still decimal (20,2) for all upgraded instances with Edge installed		1. Log in to an Istanbul instance. 2. Install the Edge Encryption Plugin. 3. Check the field 'proxy_version' on the table 'sys_encryption_proxy'. The type is decimal (20,2). 4. Upgrade this instance to Jakarta or any instance after that. 5. Check the field "proxy_version" on the table 'sys_encryption_proxy'. Expected behavior: The type should be varchar (40). Actual behavior: The type remains decimal (20,2).
Flow Designer PRB1323711	Issue with the copy action in the Flow Designer		1. Create an action in scope A. 2. Add any step. 3. Save and publish.

Problem	Short description	Description	Steps to reproduce
			4. Copy this action to scope B. The following error occurs: Cannot read property 'trim' of undefined.
Flow Designer PRB1322208	The PFJob handlers for the Flow Designer are limited to 4 handlers per instance and do not expand with the node capacity	When the Flow Designer job handlers are added to a system, they do not grow with the number of nodes in the system.	
Flow Designer PRB1322492	The 'Glide List' type is not supported in the Flow Designer for users to automate the approval processes		1. Create a flow in any table. 2. Create a field in the table where the 'glide_list' points to the 'sys_user' table. 3. Add the 'ask for approval' action. 4. In 'Approvers', try to select that list field. Users are not allowed to choose.
Forms and Fields PRB1322069	Issue with the glide.tinyurl.minEncodedLength property in TinyURLProcessor.java		

Problem	Short description	Description	Steps to reproduce
Forms and Fields PRB830143	Images cannot be replaced, previewed, resized, or updated properly	The Insert/Modify dialog is used by TinyMCE with HTML/WIKI text fields. The dialog does not replace, preview, resize, or update images properly. Console errors are generated when updating an existing image.	
Guided Tours PRB1323605	The tours break in List v3		
Human Resources Service Management PRB1322292	The text of the HR Virtual Agent is not translated when internationalization is used	HR Virtual Agent topics do not work in other languages.	1. Install the HR Core, the Employee Service Center, and the HR Virtual Agent plugin. 2. Install an i18n language pack of your choice. 3. Switch over to the language for your logged in user. 4. Navigate to the Employee Service Center. 5. Start a Virtual Agent conversation.

Problem	Short description	Description	Steps to reproduce
Human Resources Service Management PRB1320509	When the versioning feature is disabled, the previewed article does not show newly inserted blocks	When users create blocks for a Knowledge Base article, after they disable the versioning feature and click the Preview Articles with Blocks button, the previewed article does not show newly inserted blocks.	1. Log in as an admin. 2. Navigate to Knowledge > Properties, and uncheck the 'Enable Versioning' feature. 3. Log in as a user who can create Knowledge Base articles and blocks. 4. Create an article 'Article1' in the Knowledge Base and save the changes. 5. Click the Add Block button. 6. Click the Create New Block button in the sliding panel. 7. Create two new blocks, 'Block1' and 'Block2'. 8. Save and publish the blocks. 9. Go to 'Article1' and insert 'Block1' into the article via the sliding panel. 10. Save changes and publish the article. 11. Insert 'Block2' into 'Article1' and save changes. 12. Go back to 'Article1' and click the Preview Articles with Blocks button. The previewed page shows only 'Block1' but not 'Block2'.

Problem	Short description	Description	Steps to reproduce
Human Resources Service Management PRB1316474	Users see extra app modules after upgrading to Madrid	This PRB would only affect customers in Madrid Patch 0. After upgrading to Madrid Patch 0, users see two extra app modules 'Employee Service Center' to navigate to the Service Portal. This may confuse users since 'HR Service Portal' already exists.	
Incident Alert Management PRB1321367	An issue related to the event queue performance	Outstanding events in the queue have been detected.	
Incident Alert Management PRB1323047	Contact definitions with the empty condition cause exceptions. As a result, other contact definitions are not processed		

Problem	Short description	Description	Steps to reproduce
IT Service Management PRB1322332	The ITSM and PA Demo Data plugin should have recent data for users to use	When the ITSM and PA Demo Data plugin is activated with data, it should load data that are three months or less in age in order to be useful for testing and developing in the Performance Analytics system.	1. Locate the ITSM and PA Demo Data plugin (com.snc.itsm_pa.demo), and open the record for editing. 2. Click the Activate/Repair link. 3. Allow the plugin to complete. 4. Once the plugin has completed the activation, display a list of all the Incident records on the instance. The newest incident inserted by the plugin is over 6 months old (as per the opened/closed or updated fields).
IWA: Routing and Assignment PRB1321095	The chat is not routed to the right queue for logged-in users from the CSP portal		
Knowledge Management PRB1323922	Non-admin users are unable to see some knowledge fields or unable to make some changes in	The issue is identified when migrating from Knowledge v2 to v3. It can cause permission issues for non-admin users on some of the kb_knowledge fields depending on the	1. Verify if the instance has any ACLs that satisfy the following filter condition: a. Navigate to https://<instance_name>/sys_security_acl_list.do (or

Problem	Short description	Description	Steps to reproduce
KB0724514	the knowledge article after migrating to Knowledge V3	field level ACLs on kb_knowledge. Here are two symptoms: • Non-admin users are unable to see some fields in the knowledge list or form. • Non-admin users are unable to make changes to the knowledge record.	Access control list from Navigator menu) b. Add the following filter condition for the list view: • Name "starts with" "kb_" • Description "contains" "ACL has been created by the Knowledge Management V3" • Advanced "is" "true" • If any record exists, verify if any ACL contains script in the following pattern: • new KBKnowledge().canRead/canWrite/canCreate/canDelete (without answer =) 2. If any record exists, the instance may be impacted by this issue. 3. This issue's symptoms are: • Log in as "non-admin" user with contribute access to any knowledge base • Navigate to kb_knowledge_list.do • Verify if any column like short description, number shows blank values • OR

Problem	Short description	Description	Steps to reproduce
			• Try to update the kb_knowledge record • Refresh the page. The recently updated changes are not persisting.
Knowledge Management PRB1326503	Users with the 'can contribute' access to the Knowledge Base are unable to search for articles		1. Create a Knowledge Base block and publish it. 2. Create a Knowledge Base article and add the above block before publishing the article. 3. Provide the user with the 'can contribute' access to the Knowledge Base. 4. Add the same user to the 'cannot read' list for the above block. 5. Navigate to the Service Portal and search for text that is part of the block. Expected behavior: The article should show up in the results. Ideally when a user has the 'can contribute' access at the Knowledge Base level, all article and block level user criteria should be overridden. Actual behavior: No search results are returned.
Language and	Add language	Language translations have been added for	

Problem	Short description	Description	Steps to reproduce
Translations PRB1324239	translations in Madrid	various products in Madrid.	
MID Server PRB1325522	The method used by the MID Server to prevent out-of-memory errors when handling large payloads did not perform as well as anticipated. These controls were removed from Madrid Patch 1 for additional development and will be restored later		
MID Server PRB1325440	The limit for the com.glide.closure_max_rows_per_table is not enforced when the huge payload		

Problem	Short description	Description	Steps to reproduce
	feature is disabled		
Mobile PRB1322317	The Add to Cart button in the Service Catalog does not work	The Add to Cart button does not work in the Service Catalog on both the mobile web and the native applications.	1. Log in to an instance with the mobile web or the native application. 2. Open the Service Catalog. 3. Select 'Hardware' (or any category). 4. Select any Laptop (or any item). 5. Click the Add to Cart button. Expected behavior: The item is added to the cart and an overlay pops up stating that the item has been added to the cart. Actual behavior: Nothing happens.
Mobile Studio PRB1322809	The data item page breaks when a sort is added to the condition builder	This problem occurs only when users use Firefox or IE11.	1. Open a data item in Firefox. 2. If the page renders, add a sort to the data item.
Mobile Studio PRB1323234	In Studio, the option of deleting the folders is active		1. Log in to Studio. 2. Create an application. 3. Create a folder with applets under it. 4. Go to the folder.

Problem	Short description	Description	Steps to reproduce
			5. Try to delete the folder by clicking the folder. Expected behavior: The folder with applets under it cannot be deleted, and the "x" button should not be displayed. Actual behavior: The folder can be deleted. The "x" button is active but not displayed.
Mobile Studio PRB1324068	When the pattern is changed in Studio, a black screen background is displayed	In Studio, when editing a screen and changing the list pattern for MDT, users see a black screen background.	1. In Studio, edit a screen (e.g. the master details screen). 2. Change the list pattern for MDT. The confirmation popup window opens successfully, but the screen background is black.
Password Reset Application PRB1321983 KB0723051	The London upgrade may cause the error 'Password Reset Error' in the password reset module	When users reset the password after upgrading to London, the error 'Password Reset Error' may occur and the device is no longer authorized.	Refer to the listed Known Error KB article for details.
Patterns	The 'Azure Database' pattern fails		

Problem	Short description	Description	Steps to reproduce
PRB1321400	with multiple issues		
Patterns PRB1321847	When running Discovery on the NetApp device, the firmware-version attribute returns a null value	When running Discovery on the NetApp device, the firmware_version attribute cannot be set on cmdb_ci_storage_server. A null value is returned.	
Patterns PRB1321372 KB0721888	The Azure DNS Zone HD pattern would fail if the name and the IP from the DNS information are empty		1. Run cloud resource discovery on Azure Service Account which has DNS info missing IP and name. 2. Check Pattern debug and logs. The Pattern got empty value for Name and IP from DNS info. The empty name and IP would cause Identification errors in the later steps.
Performance Analytics PRB1320775	The fiscal quarter time series aggregation does not follow the property 'Start of the fiscal year of your company'		1. Change the property 'Start of the fiscal year of your company' to 'JUNE'. 2. Navigate to the number of open incidents that Analytics Hub collects daily.

Problem	Short description	Description	Steps to reproduce
			3. Change the time series aggregation to 'By fiscal quarter SUM+'. Expected behavior: FQ1 2018 should start from June and end in August. Actual behavior: FQ1 2018 starts in March and ends in May.
Performance Analytics PRB1322253	During the instance upgrade, scorecards and detailed scorecards are broken and the exception is shown		1. Upgrade an instance. 2. Before the schema is upgraded, create a target. 3. Go to scorecards. No indicator is shown. 4. Go to detailed scorecards directly from the bookmarks. The exception is shown.
Persistence PRB1322446	An error is returned during a plugin rollback	When a plugin is rolled back, the entire upgrade attempts to be rolled back and an error occurs: 'WAR Rollback did not execute successfully, current WAR files may be out-of-synch with database.'	

Problem	Short description	Description	Steps to reproduce
Persistence PRB1322815	Deadlocks may appear during event processing when multi-value inserts with the StatementBatcher are run within a DB transaction	When DB transactions are enabled, the multi-value optimization may cause deadlocks due to high levels of concurrency.	
Persistence PRB1320719 KB0721325	Update sets containing new columns in the CMDB hierarchy can sometimes result in the storage alias corruption	Update sets containing new columns in the CMDB hierarchy can sometimes result in the storage alias corruption. The same column is mapped to different internal columns throughout the hierarchy.	1. Create a scoped application. 2. In this application, create a dictionary field on the cmdb_ci table. 3. Publish the application to an update set. 4. Retrieve and commit the update set on another instance. 5. Check the sys_storage_alias table. The mappings for the new column are highly inconsistent.
Persistence PRB1323830	Fields with the type 'DomainID' in the sys_dictionary_override cause infinite recursion		

Problem	Short description	Description	Steps to reproduce
	when a node is started		
Persistence PRB1322566	Zboot issue - the database cannot be recreated while the application is running		
Persistence PRB1323070	DBNamesChecker cache flush causing transient performance degradation/ semaphore exhaustion when multiple sys_dictionary records are updated/ deleted	Tables are dropped as part of a maintenance operation and the sys_dictionary and sys_db_object tables records are altered. This results in a cache flush of the DBNamesChecker cache which then causes slow queries and performance degradation as it is rebuilt by all the nodes.	
Persistence PRB1323503	Unable to install 'MobiChord Fixed Telecom Management' and 'Enterprise Asset Management' scoped	Users should log in as an admin role user when trying to reproduce the issue.	1. Use the Madrid instance with entitlements to 'MobiChord Fixed Telecom Management' and 'Enterprise Asset Management' scoped apps. 2. Navigate to System Applications > All available applications > All. 3. Search for the app 'MobiChord Fixed Telecom Management'

Problem	Short description	Description	Steps to reproduce
	apps in Madrid		and 'Enterprise Asset Management', and install them.
Resource Management PRB1322030	Double entries are created after upgrade	Duplicate aggregate records are created when Update Resource Aggregates UI action is clicked, after upgrading from pre-Kingston versions.	
Security Applications PRB1322942	The fix script causes the upgrade engine to fail when the OOB app 'app-sec-common' is converted from version 2.0.0.20160413010629 to version 2.0.0		
Service Mapping PRB1321296	When the command runs as the local script, credentials do not roll over as per defined order during the discovery scan or the pattern step debugging		

Problem	Short description	Description	Steps to reproduce
Service Mapping PRB1320778	An issue with the AWS pagination	The AWS request signature in the authorization header does not match the signature generated by the AWS server.	
Service Portal PRB1321079 KB0722462	The UI action containing current.isNewRecord() in the Condition field causes the insert to fail in the Service Portal	When a record is submitted via the form in the Service Portal, if the inserted UI action contains current.isNewRecord() as part of its condition, the insert fails and the response is empty.	1. Create a UI Action on Incident with the following parameters: • Name: Anything • Action Name: sysverb_insertShow • Insert: true • Condition: current.isNewRecord();Script: current.insert(); • Form Button: true 2. Go to yourInstance.service-now.com/sp?id=form&t=incident&sys_id=-1 3. Create a record using the new UI. No record is inserted.
SkyNow Mobile - Backend	The subsequent approval action fails if the screen is not refreshed	This issue affects both the iOS and Android users.	1. Click the applet Generate demo data. 2. Click the card My Approvals. 3. Select Change Request.

Problem	Short description	Description	Steps to reproduce
PRB1324256			4. Left swipe any record and click Approve. The record is approved successfully. 5. Without refreshing, left swipe a different record, and click Approve. The record approval fails. However, if you refresh the screen, then left swipe on the same record and click Approve. The record is approved successfully.
SkyNow Mobile - Backend PRB1326095	The logger of the mobile plugin does not write exceptions for warnings		
SkyNow Mobile - Backend PRB1326094	The fetch type is enabled on the details screen and can be set to 'background'		
Software Asset Management	The reclamation for a subscription with 'notify_user =		1. As the system admin, create a reclamation candidate for user A with 'notify_user=true'. 2. Click Reclaim.

Problem	Short description	Description	Steps to reproduce
Professional PRB1323950	true' does not work		This request goes to user A for approval. 3. As user A, reject the task. 4. As the system admin, navigate to the reclamation candidate created. The state is 'Awaiting Revocation', but the reclamation fails with an error.
Software Asset Management Professional PRB1324701	The License Workbench crashes when users hold down the right arrow button		1. Open the SAM Pro. 2. Go to the License Workbench and select a Publisher card. 3. Select an item in the left tree. 4. Hold down the right arrow button. The License Workbench goes white and is only recoverable by refreshing the page.
Software Asset Management Professional PRB1323971	A performance issue with the Salesforce integration for pulling users	There is a performance issue with the Salesforce integration that may cause problems for the integration and the user instances.	

Problem	Short description	Description	Steps to reproduce
Time Card Management PRB1321677	In London, a time sheet with an empty task is getting added in the Time Sheet Portal		1. Navigate to the Time Sheet Portal. 2. Select any project or task and click Add to Time Sheet. 3. Delete the time card. 4. Select the project or task again and click Add to Time Sheet. This adds an additional time card with an empty task.
Transaction and Session Management PRB1321868	When an instance is configured with the session rotation to use the master GlideSession, any users on the new login are redirected to a blank page		
Upgrade Engine Issues PRB1326054	An upgrade issue with OOB apps		1. Install a base app from the Store. 2. Upgrade to a version that has a 'root level' OOB app as well as an app that depends on the original app.

Problem	Short description	Description	Steps to reproduce
			All the apps are upgraded but the log file is full of exceptions.
Upgrade Engine Issues PRB1317958	The sys_store_app record is created for an OOB application during zBoot even though the app dependency check fails	A record is created for the OOB app with 0 installed files. As a result, during the upgrade using a dist which contains the same OOB app zip file and properties file, the app does not get installed even if the sn_hr_core is installed on the instance.	
Usage Analytics PRB1319521	The ua_app_family data are needed for on-premises user instances to support the new plugin UI		
Usage Analytics PRB1322521	When a deactivated user is reactivated, many errors can appear on the form		
Usage Analytics	The total number of exempted custom tables is not		

Problem	Short description	Description	Steps to reproduce
PRB1321754	available in the user instance		
VA - FB Workplace Adapter PRB1323946	Updating the name of the Facebook Workplace adapter		1. Go to the 'Messaging Apps Integration' page. 2. Navigate to the 'Facebook Workplace' section. 3. Click the pre-installed configuration page. The 'Facebook Workplace' is the app ID, but the branding should be 'Workplace by Facebook'.
VA-Web Client PRB1321639	Property names are incorrect in Virtual Agent web client	The system processor for the embeddable web client URL does not work if the system property names are incorrect.	
Vendor Security Risk Assessment (VSRA) PRB1322930	When all 13 GRC applications are installed in Kingston and then upgraded to London or Madrid, the app SIG Assessment and Vendor Risk Management		1. Install all the SIG Questionnaire plugins. 2. Install all the remaining GRC plugins that are the 5.2.23 version (13 in total). 3. Upgrade the instance to London or Madrid. 4. Check the app SIG Assessment and Vendor Risk Management in sys_scope.

Problem	Short description	Description	Steps to reproduce
	are not updated		The version of the apps stays as 1.0.0, and the changes in the latest 7.0.x app are not applied.
Virtual Agent Platform PRB1321902	Virtual agent tables Conversation fields are not accessible	Users can't create reports on VA tables or review existing conversations to enhance the VA topics implementation.	1. Activate the glide.cs.chatbot plugin. 2. Log in as an admin user and complete a simple chat on the web client. 3. Visit several sys_cs_ tables especially sys_cs_conversation. The user can't see the records.

Fixes included

Unless any exceptions are noted, you can safely upgrade to this release version from any of the versions listed below. These prior versions contain PRB fixes that are also included with this release. Be sure to upgrade to the latest listed patch that includes all of the PRB fixes you are interested in.

- Madrid security and notable fixes
- All other Madrid fixes

Madrid Patch 0 Hot Fix 1

The Madrid Patch 0 Hot Fix 1 release contains problem fixes.

Build information:

Build date: 01-31-2019_2112

Build tag: glide-madrid-12-18-2018__patch0-hotfix1-01-31-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

Fixed problem

Problem	Short description	Description
Upgrade Engine PRB1324655	After certain upgrade scenarios, the left navigator is blank	For customers upgrading from Release Testing Preview to Madrid Patch 0, the left navigator can appear blank on the instance.

Fixes included

Unless any exceptions are noted, you can safely upgrade to this release version from any of the versions listed below. These prior versions contain PRB fixes that are also included with this release. Be sure to upgrade to the latest listed patch that includes all of the PRB fixes you are interested in.

- Madrid security and notable fixes
- All other Madrid fixes

Madrid security and notable fixes

The Madrid release contains important problem fixes.

Madrid was released on January 24, 2019.

Build date: 01-17-2019_1433

Build tag: glide-madrid-12-18-2018__patch0-01-08-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

Security-related fixes

Madrid includes fixes for security-related problems that affected certain ServiceNow® applications and the Now Platform®. We recommend that customers upgrade to this release for the most secure and up-to-date features. For more details on security problems fixed in Madrid, refer to KB0713586.

Important fixes in Madrid

The following problems and their fixes are ordered by potential impact to customers, starting with the most significant fixes.

Problem	Short description	Description	Steps to reproduce
Usage Analytics PRB1268561 KB0685641	Table statistics collection from usageanalytics_count_cfg is not working	The problem is usually discovered when the instance stops reporting usage counts and can take a while. Symptoms include: • The number of entries in the usageanalytics_count_cfg table is too low - less than 100. • The number of entries in the usageanalytics_count_cfg table does not match the number of corresponding entries in the parent	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
		sys_metadata table.	
List v2 PRB570571 KB0522575	In List v2, related list and embedded list personalizations are not working, and the related list layout is cached against the user role instead of individual user	On related lists in List v2, if person A personalizes the related list, person B can see the change. However, if person B tries to reset to default, it does not allow this. In addition, forms and related lists are cached per user role. When user A personalizes the related list on a form, all other users with user A role can see the personalized form.	Refer to the listed Known Error KB article for details.
Instance Automation PRB1290818	The clone reEncryption operation fails	After a clone, Safenet is unable to re-encrypt when the table is sys_encryption_context, the column is encryption_key, and the name is "Encrypted Export Attachment" because the field has a read-only sys_policy.	
Condition Builder	On translated instances, condition operators in	If multiple languages are enabled, condition operators in report new UI	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1165671 KB0679490	the UI16 report designer are displayed in the incorrect language	designer are displayed for all users in the incorrect language, regardless of their language settings. The condition operators are displayed in the language used by the first user who logged in and accessed the report designer after an instance restart.	
Outbound Messaging PRB1305586 KB0714559	Instance threads can get blocked while sleeping, and schedulers can get overloaded due to RESTMessageV2 and SOAPMessageV2 API issues	While waiting for a result, the APIs will actually sleep() a precious instance thread, blocking that thread from being used by anything else during the waiting time. This blockage causes backlogs and even thread exhaustion in scheduler workers, event processing, and semaphores. For information on best practices for RESTMessageV2 and SOAPMessageV2, refer to KB0716391.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Clone Issues PRB1262541 KB0689695	Confusing error messages on successful clones	Even when a clone is successful, confusing error messages appear on the instance's clone history: "Clone engine from backup has ownership of the clone request" / "Node in charge of the clone is Offline."	This error is not always reproducible but occurs occasionally when a clone is generated.
Forms and Fields PRB1295337 KB0716500	Slushbuckets can get populated with unwanted sys_id's	The 'Add/Remove multiple' option does not work for any glide_list field on a form, which populates the field with sys_id's.	Refer to the listed Known Error KB article for details.
Persistence PRB1097705	Problems when trying to recreate tables that were deleted via the UI	Tables can be deleted through the UI, scripts, and update sets. When a table is deleted through the UI, issues occur (especially for TPP).	
Authentication - SSO PRB1265474	The relay state URL encoding causes failures if the query string contains a	When using the Multi SSO plugin, if an unauthenticated user makes a request to a URL that contains a JavaScript function as part of the query	1. Set up your instance with the Multi SSO plugin. 2. Log in using SSO (at least once to allow a cache of the glide_sso_id cookie on your browser).

Problem	Short description	Description	Steps to reproduce
KB0686762	JavaScript function	string, it will not be encoded correctly in the relay state parameter for the subsequent auth_redirect.do request, which causes an incorrect redirection. The message "Security constraints prevent access to requested page" is displayed.	3. Log out of the instance. 4. Open the URL https://<instance_name>.service-now.com/incident_list.do?sysparm_query=sys_created_onONToday@javascript:gs.beginningOfToday()@javascript:gs.endOfToday() In some cases, you will note the redirection to /not_allowed.do, instead of the IdP login page.
Activity Stream PRB1103343 KB0634440	Turning off live forms glide.ui16.live_forms.enabled in Jakarta hides journal fields associated to the activity formatter and activities (filtered)	If users turn off live forms and set glide.ui16.live_forms.enabled to false, the comment fields associated to a form's activity formatter are hidden.	1. In UI16, navigate to Incident > Open. Confirm there are journal fields and Work Notes displayed above the Activity Formatter. 2. Set glide.ui16.live_forms.enabled to false. 3. Return to the incident form. The journal fields do not display. If you inspect the element, the journal field is set to display: none.
UI Action PRB1177696	Inactive UI actions (i.e. Resolve Incident) with duplicate action name values cause their active	An inactive (active false) UI action with a duplicate Action Name will break the Active UI action. For example, if a user has an inactive UI action with the action name	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0657391	counterpart to fail	'resolve_incident', the active Resolve Incident UI action will no longer work.	
Service Catalog PRB1301731	Catalog UI Policy's 'Applies on Requested Items' option doesn't work when setting the variable to 'Not Mandatory'		
Audit History PRB692288 KB0622879	Audit history of CI relationships is only available to admin users	Users without the admin role are unable to view CI relationship information in History Sets.	1. Log in as a user with the admin role. 2. Access /cmdb_ci_computer.do and create a new record named TestComputer1. 3. Access /cmdb_ci_computer.do and create a new record named TestComputer2. 4. In the TestComputer 2 record, click + on the Related Items widget and add a CI Relationship. 5. In the Suggested relationship types section, select Connects (Child). 6. In the Configuration Items section, locate and check TestComputer1.

Problem	Short description	Description	Steps to reproduce
			7. In the Relationships section, click + to add the relationship. 8. Click Save and Exit to return to the TestComputer2 record. 9. Access History > List and sort descending by Update number. As an admin user, the relationship record is displayed in the History Set. 10. Repeat these steps as a non-admin user. The relationship record is not displayed. The list may contain a message that one or more rows were removed due to security constraints.
MID Server PRB1287729 KB0688954	The MID Server Exclude/ Preserve Clone settings are incomplete	Since the MID Server-related Exclude/ Preserve Clone settings are incomplete, missing and orphaned records are created after a clone. For example, users may see multiple errors: *** Script: [ecc_agent_status] table record missing for MID Server XXXXX	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Condition Builder PRB1240334 KB0687788	If using a dot-walking field of an extended table, the Condition Builder v3 results in 'empty' conditions	The new report designer's condition builder shows empty conditions if the report uses dot-walking of an extended table. Fields are shown in the filter and breadcrumb, but not in the listed conditions.	Since this has to do with extended tables, first change the property glide.ui.list.allow_extended_fields to true. 1. Create a report of any type in the new Report Designer. 2. Set the table to task. 3. Add a new filter with the change task > close code. 4. Save the report. 5. Refresh the page. 6. Expand the filter. The filter is empty.
Incident Management PRB659931 KB0595578	ITIL users with write access to incident fields cannot select them in the template editor	The template creation application is only available to users with the admin role. Users with template-specific roles have access to the template-creating forms but have limited access to fields. Roles limited include: • template_scheduler • template_editor_group	1. Log in to your instance with an account that has one of the following roles and not admin: • template_scheduler • template_editor_group • template_editor_global • template_editor 2. Navigate to System Definition > Templates. 3. Click New. 4. Fill in the fields and configure table field to [incident].

Problem	Short description	Description	Steps to reproduce
		• template_editor_global • template_editor	All the fields on the form are not available.
Templates PRB1175777 KB0692580	Unable to see all the incident form fields in the Field Values list in the Set Field Values step	Users with the itil and atf_test_admin roles who create an incident via ATF cannot see all the incident form fields in the Field Values list in the Set Field Values step.	1. Log in as an admin. 2. If required, activate the Automated Test Framework plugin (com.glide.automated_testing_framework). 3. Add the itil and atf_test_admin roles to Abel Tuter. 4. Impersonate Abel Tuter. 5. Open any incident and check that you can see all the fields. 6. Navigate to Automated Test Framework > Tests and click New. 7. Enter the following values: • Create a test with the test name as Test1 and save it. • Select Add Test Step. • Select Form > Open a New Form and select the table name as "incident". 8. Save the record. 9. Click Add Test Step and go to Form > Set Field Values.

Problem	Short description	Description	Steps to reproduce
			10. Open the list for Field Values. It shows only three or four field names. Users with the itil role expect to see all the fields in the incident form.
Core Platform PRB1193055 KB0720516	Choice lookups for sys_metadata extended tables unnecessarily retrieves entire table hierarchy choices instead of just retrieving the current table's hierarchy		Refer to the listed Known Error KB article for details.
HTML Editor PRB1252414	Videos are not uploading as an attachment - TinyMCE upgrade issue		
Event Management PRB1175385	The Event Management dashboard and the Service Mapping map are redirected to	When the Chrome browser is upgraded to version 61.0.3163, the Event Management dashboard and the Service Mapping	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0639200	the home page	map are redirected to the home page.	
Application Navigator & Banner Frame PRB1245970 KB0661821	List v2 on UI16: After using list pagination to navigate past the first page and view a record, using the back button returns to the first page of the list	After navigating to a list of records from a module in the application navigator and paginating to any page other than the first page, using the back button from a form after viewing a record from a list will always direct you to the first page of the list instead of any page you had previously paginated to.	1. Enable UI16. 2. Use List v2. 3. Use a list of records module in the application. 4. Navigate to a list of records, such as Incidents > Open > System & Security > Users and GroupsUsers. 5. Use the pagination controls to navigate to a page other than the first page of results. 6. Click a record to open it. 7. Click the platform back button to return to the list. Observe it returns to the first page of the original list results.
Usage Analytics PRB1266341 KB0712012	UA App Persistor, UA license download jobs (via the UA App Manager) consume all semaphores causing node	When the license downloader and app persistor jobs run at the same time trying to access UI objects, this can possibly result in a deadlock.	

Problem	Short description	Description	Steps to reproduce
	to not be accessible		
Lists PRB1004508 KB0696733	When clicking a record in a related or embedded list, the user receives a blank screen if the generated URL is too long		Refer to the listed Known Error KB article for details.
Activity Stream PRB1158420 KB0714294	When clicking 'Show email details' in an email Activity, the content of the email is opened in a new page rather than in the same activity stream	When clicking 'Show email details' in an Email Activity, the email content is opened in the same Activity. If 'Sent/ Received Emails' is unchecked and re-checked, when clicking 'Show email details' again, the email content is opened in a new page.	1. Log in an early Kingston or London instance. 2. Configure the email and create an Activity in an Incident with Email content. 3. Open an Incident that contains an Email Activity. 4. Click Show email details. Observe the content is opened within the same Activity. 5. Uncheck Sent/Received Emails on the Filter. 6. Check Sent/Received Emails again on the Filter. 7. Click Show email details.

Problem	Short description	Description	Steps to reproduce
			Observe the content of the email is opened in a new page instead.
Persistence PRB632458 KB0639117	Nested reference fields used as display values will display as sys_id's when used as the sort field in a list	If a table uses a reference field as a display value, and that referenced field also uses a reference field as a display value, these values will display as sys_ids in a list view when the list is sorted by that field.	1. Create a table called testtable1. For more information, see the product documentation topic Create a table. 2. Create a reference field to cmn_location on testtable1 and set it as the table's display value. For more information, see the product documentation topic Add a reference field. 3. Create a few records on testtable1. 4. Create a table called testtable2. 5. Create a reference field to testtable1 and set this as the table's display value. 6. Create a few records on testtable2. 7. Open a list of testtable2 records and sort by the reference field created on testtable1. The values display as sys_ids in list view.

Other notable Madrid fixes

Problem	Short description	Description	Steps to reproduce
Activity Stream PRB1236361	Discrepancy in display of the checkbox to toggle/ switch journal fields (WorkNotes/ Comments)	"Show All Journal fields" element works correctly. However, the checkbox to toggle the work note/additional comments is not displayed.	
Activity Stream PRB1239065 KB0695921	Putting multiple activity streams on the same form causes 'Show Email Details' to break	Using the OOB Approval Summarizer for a custom table (or OOB rm_enhancement table) does not allow a user to 'Show email details' in the Activity stream.	1. Navigate to System Definitions > Tables > sysapproval_approver. 2. Add the attribute 'email_client=true' and save. 3. Create a table called Work Order(u_work_order) and make sure it extends the Task table. 4. Go to u_work_order.do. 5. Configure form layout and add the fields 'Number' and 'Approval'. 6. Configure related lists and add the list 'Approvers'. 7. Submit the new Work Order. 8. Go to the work order record and change the approval field to 'Requested'. 9. In the 'Approvers' related list add 'admin' as an approver.

Problem	Short description	Description	Steps to reproduce
			10. Click into the admin's approval record. 11. Click in the 'More options (...)' menu in the form header. 12. Create and send an email. 13. Navigate to sys_email and order the emails z to a by 'Created'. 14. Click into the email record you created. 15. Change the email type to 'sent' and save. 16. Go back to the 'sysapproval_approver' record. 17. Click Show email details for the email in the activity feed. Expected behavior: Window expands to show email details. Actual behavior: Nothing happens, no errors in console either If you then configure form layout and remove the 'Approval summarizer' formatter then the 'Show email details' works.
Activity Stream PRB1262450	Reply/Reply All functionality available with the glide.ui16.emailStreamResponseActions property	The omission of sysparm_sys_id appears to cause the instance value in the resultant sys_email record to be missing. This appears to prevent the email from being captured	1. Create the glide.ui16.emailStreamResponseActions system property with type true/false and set it to true. 2. Import the attached UI macro.

Problem	Short description	Description	Steps to reproduce
KB0684027	creates an email that does not appear in the activity stream of the source record	in the record history of the source incident or RITM.	3. Expand the activity stream entry for email in the incident. You might have to send an email to create one. 4. Click Reply. Rather than sysparm_sys_id being set to the sys_id of the source record, it is empty.

Activity Stream
 	
PRB678085
 	
KB0691982
	The Additional Comments field is populated (if it is mandatory) with the previous comment when the 'Post' button is used		1. Create a UI Policy with the following data:
			• Table = Incident
			• Application = Global
			• Conditions: State is Resolved
			• UI Policy Actions
			  • Field name = comments
			  • Mandatory = True
			  • Visible = Leave alone
			  • Read-only = Leave alone
			
			2. Open any incident record whose state is not resolved.
			
			3. Update the field Additional comments (Customer visible) with any string value.
			
			4. Click Post.
			
			The activity log will get updated.

Problem	Short description	Description	Steps to reproduce
			5. Change the State to Resolved and navigate to the Additional comments (Customer visible) field. The previous value is in the field.
Activity Stream PRB709876	In UI16, the journal field hint does not appear when hovering over field	In UI16, the Hint popup doesn't appear when hovering over Additional comments and Work notes after the record has been saved. Also, right-clicking after saving the record doesn't give the context menu for those labels but rather the normal browser menu. This behavior works as expected in UI15.	
API PRB1313291 KB0716422	URIs with un-encoded non-ASCII characters rejected with 400 response code in London	Any URI that contains un-encoded non-ACII characters rejected with 400 response code in London. Some browsers, like non-ENU Windows 10 running non-ENU Internet Explorer 11, do not auto-encode URI's, and users on this configuration can be impacted.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Approvals PRB1187111 KB0692731	Loading a sysapproval_approval form generates the JavaScript console error "Uncaught SyntaxError" due to "&&" in element_date_time.js	The 'Uncaught SyntaxError' occurs when loading sysapproval_approver records due to "&&" in a static platform. The .js file is being converted to "&&" in the browser.	1. Clear the browser cache. 2. Clear the instance cache. 3. Open the browser's console. 4. Navigate to sysapproval_approver.list. 5. Open any existing record. Observe the following error in the browser console: Uncaught SyntaxError: Unexpected token;
Asset Management PRB1296537	Fix the run_as user issue for PA jobs	The PA jobs fail to run and an error 'Run_as user does not exist' is displayed.	
Asset Management PRB1300363	Problems with cmdb_model_category	All model categories are missing.	
Asynchronous Message Bus	Unable to connect to instances with AMB when the 'Web service	When a MID Server tries to connect as a user with the 'Web service access only' flag set, AMB fails to connect with the	1. Create a MID Server pointed at an instance. 2. Configure a user on the instance with the Web service access only flag set.

Problem	Short description	Description	Steps to reproduce
PRB710024	access only' flag is set for user	error message, "Unable to subscribe to AMB channel: /mid/server/". The node log shows "User mid.rrj is not allowed to access the given processor: no thrown error".	The MID Server agent log gets an error: 'Unable to subscribe to AMB channel: /mid/server/'
Authentication PRB1258396	High memory usage for SAML guest sessions	One instance of org.apache.catalina.session.StandardSession occupies more memory, causing semaphore exhaustion.	1. Set up the SAML authentication. 2. Try to log in in a loop with and without using the same JSession ID. 3. Create around 3000 guest sessions, or reuse the same session ID and try to log in a few thousand times without entering credentials. On a few instances, the memory usage was high.
Authentication PRB801361	Issue with SSO authentication post-Istanbul upgrade for MultiSSO update sets		
Change Management	The CAB Workbench displays incorrect date/time	When setting the timezone for a CAB meeting to Eastern, the planned start and end date for the	

Problem	Short description	Description	Steps to reproduce
PRB1303778	values for planned start and end dates	change requests differ from the change request record and the CAB workbench meeting's listed dates.	
Change Management PRB713373 KB0647724	Cannot create Standard Changes via the catalog on Service Portal	Standard changes cannot be created through the Service Portal. The catalog on Service Portal does not treat standard changes in the same way the catalog handles those in the normal UI.	Refer to the listed Known Error KB article for details.
Chat PRB1114155 KB0662449	api/now/connect/conversations/{conversation_id} will do an incorrect query for chat_queue_entry where group=null if a member is inactive	This can cause performance issues for customers who came from legacy chat and have a high number of chat_queue_entry records without a group.	Refer to the listed Known Error KB article for details.
Chat PRB1242509	On domain-separated instances, live profile records are created with the sys_id in	Instead of user names, sys IDs are shown on Connect chat and mini windows.	1. Ensure that the Domain Separation and Connect plugins are active. 2. Go to sys_user.list and include the Domain column in the list.

Problem	Short description	Description	Steps to reproduce
KB0689003	the name field		3. Set a domain of two users to different sub-domain. For example, using the demo data, set ITIL user to TOP/MSP and set Fred Luddy to TOP/ACME. 4. Pick a record which was created by user 'ITIL User', for example, INC0000052. 5. Impersonate Fred Luddy. 6. Try to view INC0000052 from the Service Portal. You can modify this link to see the incident: https://<instance name>.service-now.com/sp?sys_id=<sys id of incident INC0000052>&view=sp&id=ticket&table=incident 7. Check the live_profile record for the recently created records. The live profile record for 'ITIL user' is correctly created with the domain TOP/ACME but the name field shows the sys_id of the user record rather than the user name. Because the sys_id in the name field of live_profile record, when that user participates in a Chat conversation, the sys_id is displayed instead of the user's name.
Chat	Desktop notifications are not		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1277561 KB0692074	getting triggered when you do not click to minimize the browser and work in a different application		
Chat PRB676305 KB0598847	In Connect Support, if an end user closes a chat by closing the window, the session never times out	In Connect Chat, if an end user initiates a chat but closes the chat window, the chat will remain in the agent queue until an agent picks it up. Because the agent will pick up the chat even though the end user has already closed out the window, inaccurate data on reports show chats that were abandoned by the end user.	Refer to the listed Known Error KB article for details.
Chat PRB681459 KB0657223	Connect Support chat sessions which continue after incident creation result in emails sent for each subsequent	If you create an incident from Connect Support but continue the chat activity with the end user, an email will be generated for each chat update. These emails are not needed, since the user is already aware of the chat content.	1. Initiate a Connect Support chat queue session with a user. 2. Create an incident from the Connect chat session. 3. Continue chatting back and forth within the Connect session. 4. Review the email log.

Problem	Short description	Description	Steps to reproduce
	connect message		Each message creates an incident.commented email. Connect chat should allow for decoupling of those messages. This could, for example, be handled by submitting a different event instead of incident.commented to allow email messages to be excluded for continued chat activity.
Chat PRB707295 KB0623833	Chat queue records no longer have an Assignment Group on record	In versions prior to Geneva, Chat used to generate an entry for the Assignment Group on the table chat_queue_entry while using the Service Desk Chat. However, Chat does not generate the Assignment Group entry.	1. Install the following plugins: • Connect V1.0.0 • Connect Support V1.0.0 • Chat V1.3.0 2. In a Chrome or IE browser window, go to the following link: <instance name>/nav_to.do?uri=/$chat_support.do%3FqueueID%3Dc54f0abf0a0a0b452db84664f409c79c 3. In the Service Desk Chat, type something like 'Need Help'. 4. On a different browser (Firefox), impersonate David Loo, a member of the Service Desk Chat. 5. Click Accept to accept the Chat. 6. On Chrome, go to the following table:

Problem	Short description	Description	Steps to reproduce
			<instance name>/ chat_queue_entry_list.do? sysparm_query=queue %3Dc54f0abf0a0a0b452db84664 f409c79c %5E&sysparm_nostack=true 7. Add the column Assignment group. This field is not populated.
Condition Builder PRB1160513 KB0657428	In the new reporting UI and List v3, there is a time format discrepancy on the Report filter condition builder	The time format for the Filter breadcrumbs and the time selected on the filter condition builder is shown in 24h format, while the applied filter shows the time in 12h format.	Refer to the listed Known Error KB article for details.
Condition Builder PRB1242164 KB0688305	List v2 filters with time operands appear in the correct language in the filter breadcrumb but not in the condition builder drop-down	Filters used on v2 lists and filters made on reports work and show the expected result only within the same language used to create or to edit that filter.	Refer to the listed Known Error KB article for details.
Condition Builder	Unable to save risk conditions	When saving a risk condition with a relative operator, after the record is	

Problem	Short description	Description	Steps to reproduce
PRB1247155		saved, the UI context menu is unavailable for this record. Using the UI action update will also fail to save the record.	
Condition Builder PRB1261825 KB0687787	If there are multiple filters from the same table added to a homepage or dashboard, the record count in all the filter reports is the same as the report added to the top of the page	Incorrect record counts are shown in all but the filter at the top. Additionally, if you try to sort any column on any filter but the first one, the sorting gets applied to the one at the top. The focus also jumps up on the first report.	1. Navigate to a homepage and click Add Content. 2. Add a Filter from any table, Incident, for example. 3. Add another filter with different conditions from the same table on the homepage. Notice that the record count on both the filters shows up to be the same as the report on top of the page. 4. Try to sort any column on the filter at the bottom. The screen control jumps up to the first filter and that is sorted. Similar behavior can be noticed when using dashboards.
Condition Builder PRB663226	No records are displayed in lists or reports when the filter contains multiple Keywords operands		1. Access incident_list.do. 2. Perform the search: Keywords are software. Approximately 12 records are returned.

Problem	Short description	Description	Steps to reproduce
KB0598784			3. Perform the search: Keywords are hardware. Approximately 14 records are returned. 4. Perform the search: Keywords are software OR Keywords are hardware. No records are returned. 5. Group the empty result by the number field. No records are displayed, but there are 26 matches.
Configuration Management Database (CMDB) PRB1102415	Semaphore exhaustion can occur during a large import of CI data		
Configuration Management Database (CMDB)	Affected CI notification business rule causes low memory on the instance	Affected CI notification business rule jobs take a long time to execute. Memory is low on 2 nodes of the instance, making the instance unavailable to users.	

Problem	Short description	Description	Steps to reproduce
PRB1272847			
Configuration Management Database (CMDB) PRB1283753	The CMDB Baseline Diff formatter has no limit on how many changes are displayed on the form, causing the CI form to either fail to load or be too long	The CMDB Baseline Diff formatter has no maximum limit for the number of changes that will be listed, causing the rendering of the form to time out, or if it loads then the form is unusable due to the size. Once you upgrade to a release version with the fix for this PRB, the new default for the number of changes to be displayed on any CI form is limited to 10 (max). To modify this value, create the system property com.cmdb.baseline.max_changes.	
Core Platform PRB1259193	The Document Viewer plugin is not working	The Document Viewer plugin was published in the Kingston release notes as a new feature, and there is public documentation on	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0683250		how to get it to work. However, the plugin is in the development stage, and customers don't have access to activate it. Starting in the Madrid release, the Document Viewer plugin will be available for customers to use and install.	
Core Platform PRB1286063 KB0690196	Field normalization 'Coalesce to normal' jobs stuck in 'Running' state after logging error: "Error while processing job: java.lang.RuntimeException: Current thread is already running rollback tracking"	Starting from Kingston Patch 4+ and Jakarta Patch 9+, coalesce jobs are getting stuck in Running. Field Normalization configuration fails to coalesce to a single reference.	1. Create five records in location table as follows (with name as Location1, Location2, Location3, Location4, Location5). 2. Create one more record with name as LocationCentral in location table. Note that there are six records on location table. 3. Go to Normalization and create a normalization called Location Name Normalization. For more information, see the product documentation topic Normalization Data Services. 4. Set the following properties: • Table: cmn_location • Field: Name

Problem	Short description	Description	Steps to reproduce
			• Coalesce each normal: Checked 5. Save the records. Do not click Collect Pending Values in related links. 6. To create a new entry, navigate to Normalized Value > New. Provide the following values for it, and save it. • Value: Test • Coalesce to: LocationCentral 7. In the Alias tab on the form that appears, click Aliases under related links and add all the values created earlier (Location1 through Location5). 8. Go back to Normalization. Activate and run the jobs. 9. After a while, check the locations. Note that location1 through location5 are normalized to LocationCentral, but you see all six records. The expectation is to have one single record because Coalesce was selected. If you go to the data jobs, note that all of these records are stuck in Running.

Problem	Short description	Description	Steps to reproduce
Core Platform PRB1292566	When attaching Microsoft files, 'Too many open files' errors occur (file descriptor leak)	Attaching Microsoft documents (doc, docx, ppt, pptx, etc.) results in a file descriptor leak and 'Too many open files' exceptions.	
Core Platform PRB584906 KB0523421	Attachment file extension names are truncated if they exceed the max length of the attachment name field	The attachment file extension is removed from the file name if the attachment file name is longer than what is defined for the sys_attachment > column name 'file_name' attribute: Max length. In addition, on the Manage attachment screen, the attachment icon may not display the file type correctly (for example, Outlook file type). This makes it hard to identify the type of attachment when the file extension is also removed due to the length of the file name.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Currency PRB1287143 KB0692585	Saving a form with a currency field results in the currency field getting multiplied by 100	Even if a user doesn't make changes to a currency field on a form, saving the record results in the currency value getting multiplied by 100. This issue occurs when a user's language is set to English and their country is set to US.	1. Create a Currency field on the incident table called Test Currency. 2. Open two browser sessions (for example, Chrome and Chrome incognito). 3. In session 1 log in as System Administrator user and be sure his System Settings have the language set to English. 4. In session 1, open INC0000015. 5. In session 2 log in as the ITIL user and make sure the user's System Settings have the language set to Spanish. 6. In session 2, open the same incident (INC0000015). 7. In session 1, set the Test Currency field value to a number between 1 and 999 and save the form. Notice in session 2 that the Test Currency field is marked as updated. 8. In session 2, update the title and save the record. Notice in session 2 that the Test Currency field is updated and multiplied by 100.

Problem	Short description	Description	Steps to reproduce
			Notice in session 1 that the Test Currency field is updated and multiplied by 100. 9. In session 2 Set the Test Currency field value to a number between 1 and 999 and save the form. Notice in session 1 that the Test Currency field is updated. 10. In session 1, update the title and save the record. Notice in session 2 that the Test Currency field is updated and multiplied by 100. Notice in session 1 that the Test Currency field is updated and multiplied by 100.
Dashboards and Home Pages PRB1261599 KB0688483	Report errors occur when the URL length reaches the max value	An error occurs when you try to access Reports through the Add Content button on the homepage.	Refer to the listed Known Error KB article for details.
Dashboards and	Dashboards and homepages do not refresh reports	When a report and interactive filter exist in a scoped application and glide.cms.enable.res	

Problem	Short description	Description	Steps to reproduce
Home Pages PRB1309482	automatically when the interactive filter value is changed	ponsive_grid_layout is set to false, the interactive filter only refreshes the report in edit mode. However, the interactive filter does not work when viewing the dashboard.	
Dashboards and Home Pages PRB662349 KB0688491	Tags not appearing on homepage	The Labels content block on a homepage does not pull in the label.	1. Create a list report with the field sys_tags added to the report as the third column. 2. Save the report and title it My report. 3. Navigate to Homepages > Add Content. 4. Go to Reports, find your report, and add it to the Homepage. Note that the Tag column is missing.
Dependency Views (BSM Map) PRB1247008 KB0682464	Dependency View Map (BSM Map) hides relationships with Active CIs if the CI is set discovery_source=Duplicate, and no relationships are shown if	Even if a CI is active and in use as a key part of the map, the Dependency View Map (BSM Map) hides relationships where the parent/ child CI is set discovery_source=Duplicate.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
	the map is for that CI		
Discovery PRB1236854	Workflows can fail immediately	Long running commands run for a long time, polling every 30 seconds. Currently, if any one of these polling commands fails, the failure is reflected to the workflow which kills it, and the long runner sensor has no say in the matter as the probe response gets routed straight to the regular sensor processor.	
Discovery PRB1280464	Shazzam's final sensor job can run a node out of memory by holding all results in an array	Shazzam's final sensor job can run a node out of memory by holding all results from the discovery schedule in memory at once. The sensor has no limit check for how many results it will end up adding to an array in the instance node memory.	
Discovery PRB1281592	NetApp provider does not support querying SVMs	Users are unable to discover NetApp servers after an upgrade to Kingston.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0696013			
Discovery PRB1292140 KB0692003	Discovery creates duplicate models after enabling the Normalization Data Services plugin	After activating the Normalization Data Services plugin, the models are duplicated because Discovery keeps creating models in each run instead of updating the existing one.	1. Activate the Normalization Data Services plugin. 2. Make sure that the properties are set to true. • glide.cmdb.canonical.discovery.enabled is supposed to allow discovery to make use of MakeAndModel normalization. • glide.cmdb.canonical.always_run runs at the business rule level and is intended to allow imports to be normalized. 3. Run discovery on any device. After completing the discovery, duplicate models are created in the cmdb_model table.
Discovery PRB1298290	Duplicate Discovery jobs running after an upgrade to London	Duplicate Discovery schedules are triggered and schedulers are overloaded.	

Problem	Short description	Description	Steps to reproduce
Discovery PRB1300147	Issues with wildcard masks	Dest_ip_network in the exit router interface table are parsed incorrectly, causing invalid Layer 3 relationships.	
Discovery PRB1302209	Horizontal discovery sensor - Parallel payload processing should be provided after split	The parallel payload processing should be provided in case there are multiple payload discoveries.	
Discovery PRB1315336	Probe cache_results causes Windows - Installed Software to not update software installations for a CI if they have been manually changed or deleted	The probe cache_results is enabled OOB for Windows - Installed Software probe. When enabled for a probe, the instance processes the results from a probe and then create a key-value record in discovery_probe_results_cache table. What this does is if the payload has not changed from the last time Discovery has run, the MID Server will not send the payload and will only send 'processed' and then not run the	

Problem	Short description	Description	Steps to reproduce
		sensor. This causes discovery to not populate software installations for a CI unless a new software is installed on the CI, in which case the probe will bring back the payload and the hash key updated.	
Email PRB1244841 KB0679920	Quick Messages are not applied to email clients if the body field is defined as a type String		1. On the Quick Message table (sys_email_canned_message), modify the dictionary record for the field Body to be the type String. For more information, see the product documentation topic Quick messages. 2. Create a quick message with some text in the body. 3. Navigate to an incident and open the Email client. 4. Apply the newly created quick message. Note that the quick message selected is not being applied to the Email client body.
Email	TinyMCE Insert Image functionality is unusable to		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1268451 KB0696699	non-admin users within the email client		
Email PRB582715	Attachments received by an inbound email of type .msg or .eml are automatically renamed to "message.msg" or "message.eml"		
Event Management PRB1258563 KB0714146	During upgrades from Kingston to London, if the Event Management Plugin is activated, there can be skipped errors related to sys_hub_action_type_definition files.		Run upgrade from Kingston to London with the Event Management plugin activated.
Filters	Business rule condition does not evaluate catalog item	When one condition is always true, the business rule evaluates to 'true', even when the condition is ANDed	

Problem	Short description	Description	Steps to reproduce
PRB638064	variables correctly	with another condition. In addition, if the condition only includes a reference to a variable, then it always evaluates to 'false', as if it can't read the actual value of the variable.	
Financial Management PRB1276976 KB0693352	Receiving a blank screen after clicking the Demand Budget UI action	Receiving a blank screen after clicking the Demand Budget UI action. The same behaviour occurs with the UI actions Portfolio Target in Portfolio and Project Budget in Project.	1. Activate the Project Portfolio with Financials plugin. 2. Navigate to a Demand record. 3. Click the Demand Budget UI Action on the Demand form. 4. Fill in the requested information on the budget pop-up dialog and submit it. Expected behavior: The Demand form reloads with the updated budget values. Actual behavior: After submitting the budget pop-up info, the screen is blanked and the demand budget is not updated.
Forms and Fields PRB1153520	Update Selected/ Update All does not work if a formatter named		1. Open any one of the sc_task records and make sure that the Checklist formatter is not on the form.

Problem	Short description	Description	Steps to reproduce
KB0656058	'Checklist' is present in default form view		2. Go to the list view of sc_task records and select multiple records to be updated. 3. Right-click the column name and select Update Selected from the context menu. 4. Try selecting a value for the reference fields like Assignment group. Note that the lookup icon to select works correctly. 5. Open one of the sc_task records. Right-click in the former header and choose Configure > Form Layout. 6. Add the Checklist formatter to the form. 7. Repeat the previous process and try updating multiple records. Note that none of the reference lookups work and an error appears in the logs. You are not able to select a value for the reference field to update the records.
Forms and Fields PRB1177791	The error message that informs users that a field value is mandatory displays repeatedly on the form	In Jakarta, validation errors are displayed for mandatory fields as an information message on the form. In previous releases, these messages were displayed as popup errors. However,	1. Open up any Incident record. 2. Clear the Short description. 3. Click Update repeatedly.

Problem	Short description	Description	Steps to reproduce
	instead of just once	these messages are shown repeatedly each time the form is submitted without the mandatory field data being entered. Instead, the system should display the same message only once - when the user submits the form without entering the mandatory field data.	
Forms and Fields PRB1195784 KB0696129	Activity formatter on Knowledge article is not displaying correctly	If you add 'Activities (filtered)' to a new section within the Knowledge form, the Activity Journal information is not aligned correctly in the UI, and the Activity Formatter button is obscured.	1. Go to a Knowledge Article record. 2. Configure Form. 3. Create a section and add Activities (filtered). The Activity Formatter button is half obscured by the journal field.
Forms and Fields PRB1238094 KB0696735	'Maximum emails exceeded' messages are shown after navigating away from the relevant record	If a record contains more emails than the max_entries limit set to the Activity Formatter, users will see a 'Maximum emails exceeded' message. If users stay on the record for a period of time, and navigate away, they will see a duplicate	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
		'Maximum emails exceeded' message.	
Forms and Fields PRB1238248 KB0676164	Read-only reference fields containing '&' in their display value show as &amp when glide.ui.escape_text is false	When the system property glide.ui.escape_text is set to false, reference fields with & in their display value show as &amp for read-only fields made through sys_dictionary or ACL.	Refer to the listed Known Error KB article for details.
Forms and Fields PRB1244696	The task_time_worked table is no longer updated when a read-only UI policy is applied to the time_worked field on a form		
Forms and Fields PRB1246612 KB0662267	Document ID type fields still support on hover functionality on reference icon and flickers continuously	The ability to hover to view reference pop-up text is not available beginning with Kingston, but document ID type fields still show the text. Additionally, they flicker continuously and call the pop-up function	1. Navigate to System Definition > Tables and go to the sysapproval_approver table. 2. Open any record. 3. Hover over the info icon on the Approving field.

Problem	Short description	Description	Steps to reproduce
		in the backend multiple times.	
Forms and Fields PRB1257304 KB0686720	In IE11, read-only choice lists contain a selectable downward arrow		1. Open an incident form in Internet Explorer 11. 2. Make one of the choice fields read only, for example, the Impact field. 3. Run g_form.setReadOnly('impact','true'); on your browser console on incident.do. Note that there is a drop-down downward arrow, as shown in the following screenshot.
Forms and Fields PRB1257505 KB0691984	Multiple attachments are created when you drag and drop files to any forms after clicking click through popup ('i' icon for reference records)	The attachment creation seems proportional to the number of times you have clicked the popup icon.	1. Make sure List V2 is active and the system property glide.ui.clickthrough.popup is set to true. 2. Go to any form where you can attach documents (for example, the incident form). 3. Click on the 'I' icon (clickthrough popup) to open the reference item in a new window and close the window. 4. Drag and drop any file from the local machine to the form to attach the file. Note that multiple copies of the attachment are created. The

Problem	Short description	Description	Steps to reproduce
			number of attachments is directly proportional to the number of times you clicked the Clickthrough Popup icon.
Forms and Fields PRB1261959	Tooltip displays an incorrect value for date/time type fields in forms	If an embedded list is added to a form and this list has a date type field, then the tooltip will show the value of the list date type field instead of the value of the date type field (where the mouse focus is).	1. Open any change request where state is Authorized. 2. Modify the layout to add the Approvers list. 3. Go to Schedule tab. 4. Hover over the Actual start date or Actual end date fields. The tooltip displays the date from the date type of the embedded list (Approvers) instead of the value for Actual start date or Actual end date fields.
Forms and Fields PRB1273396 KB0689068	Clickthrough popup ('I' icon) is inconsistent with standard reference icon behavior		1. Ensure that List v3 is not enabled. 2. Set the glide.ui.clickthrough.popup system property to true. 3. Go to a record with a reference field, for example, a problem form. 4. Hover over the 'I' icon. Although nothing should happen unless you click the icon, the preview pop-up window is triggered on hover

Problem	Short description	Description	Steps to reproduce
			and sometimes stays open even after the cursor is moved.
Forms and Fields PRB1279803 KB0696126	Scripted UI policies no longer work on Service Portal or mobile in London if 'Isolate Script' is true or for scoped apps		1. Create a scripted UI policy for any table. Ensure it will run on mobile or Service Portal. 2. Open the form for that table in Service Portal. Notice that there are JavaScript errors, and the script was not properly escaped.
Forms and Fields PRB1297393 KB0714671	Reference field in CMS after Kingston upgrade does not display the popup preview when hovering over the 'i' info icon	In the CMS/ESS portal, when clicking any reference icon in the form, the pop-up displays for a brief moment and disappears immediately.	1. As an admin, navigate to /ess/incident_status.do. 2. Open INC0000005. 3. To view the referenced user record, click the reference icon for Caller or any other reference field. The popup for the reference icon displays very briefly, then it disappears.
Forms and Fields PRB1303681	During an upgrade to London, forms can be broken	The fix for this PRB adds a new table, added in London, to an upgrade script, which allows the upgrade to take place without errors around the new table.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0717241			
Forms and Fields PRB601488 KB0538677	Reference fields set as dependent do not limit results if the field they depend on is not present in the form layout	When a reference field is dependent on another field, results are not being limited as expected when populating the field. This issue occurs if the field it is dependent on is not present in the form layout. Results work as expected when editing a dependent reference field in a list, but not when editing the field on the form.	1. Log in as an admin on any instance. 2. Open any incident record and make sure Company is on the form. 3. Right click Watchlist > Configure Dictionary > Check [Use dependent field] > Select Company as dependent field > Save. 4. Navigate back to incident form in Default view and make sure Company field is populated with a value. 5. Click the Watchlist field and do a lookup. You can only see users under the specified company. 6. Right click the incident form > Configure > Form layout > Remove Company from the view. 7. Navigate back to incident form in Default view and click the Watchlist field and do a lookup. You can see all the users.

Problem	Short description	Description	Steps to reproduce
			8. Navigate back to incident form in Default view and change the view to Self-service. 9. Click the Watchlist field and perform a lookup. You can see all the users. 10. Right click the incident form > Configure > Form layout > Add Company to the Self service view. 11. Navigate back to incident form in Self service view, click the Watchlist field and perform a lookup. You can only see users under the specified company.
Forms and Fields PRB659218 KB0696741	Japanese text becomes corrupted in the approval page	On translated instances using Japanese, there is a GlidePopUp issue that affects the reference fields preview popup. For example, consider a user who writes a knowledge article in Japanese and submits the article for approval. In the approval page, Japanese text that was written in the article body appears as corrupted	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
		characters, and they do not show up properly.	
Forms and Fields PRB691557 KB0657394	The UI property glide.ui.scroll_to_message_field does not work properly with void showFieldMsg (input, message, type, [scrollForm])	The scroll down feature is expected to work with the error message. The glide.ui.scroll_to_message_field property determines whether the form scrolls down to a field when an error message is displayed below it. Journal fields associated with the activity stream are a little different than most other fields because there can be multiple fields but only one displayed at a time, with a toggle available to switch between the different fields. The property does not work for these fields.	Refer to the listed Known Error KB article for details.
Forms and Fields PRB744177	Using the Form Layout tool and changing the view after saving causes form sections to be deleted		

Problem	Short description	Description	Steps to reproduce
Forms and Fields PRB830143	Images cannot be replaced, previewed, resized, or updated properly	The Insert/Modify dialog is used by TinyMCE and wiki text fields. The dialog does not replace, preview, resize, or update images properly; and console errors are generated when updating an existing image from TinyMCE.	
Google Maps PRB1308602 KB0714778	Location Map error - "This page can't load Google Maps correctly"	An error appears when loading the Location Map (/nav_to.do?uri=%2FMapTransitWireless.do%3F): "This page can't load Google Maps correctly."	Open a form that displays Google maps, for example, Critical Incidents. Notice the error is shown.
Guided Tours PRB1300368 KB0714116	Trying to create guided tours on the Service Portal fails with the error message "gtd_portal_title should ends with delimiter ;"		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
HTML Editor PRB1252384 KB0695227	In the Edge browser, users cannot paste text from Microsoft Office products into the TinyMCE HTML editor		1. Using the Edge browser on Windows 10, navigate to /kn_knowledge.do 2. Copy any text from OneNote (any MS Office product will produce the same result). 3. Paste the copied text into the TinyMCE editor field. The text is not pasted into the field.
Knowledge Management PRB1310839 KB0718635	The knowledge advanced search defaulting to the incorrect knowledge base	After an upgrade to London, the knowledge search feature on incidents defaults to a particular knowledge base, which used to default to "all".	Refer to the listed Known Error KB article for details.
Lists PRB1090458 KB0696742	Suggestion field [pick_list.do] drops filter conditions when sorting by Label, and all choice fields are returned		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Lists PRB1241416 KB0686268	The system property glide.ui.list_edit.show_calendar_only is ignored in Jakarta	Setting glide.ui.list_edit.show_calendar_only to true or false should alter the Date Picker format accordingly. However, this does not work in Jakarta.	1. Navigate to a list or form that has a date field on it. Invoke the Date Picker to see what it looks like. 2. Change the setting of the glide.ui.list_edit.show_calendar_only to the opposite setting. 3. Clear the cache by going to /cache.do, and then log out and log in again. 4. Go back to the list/form and check the date picker on the same field. Note that the it has not changed and the default format displays regardless of the system property setting.
Lists PRB1242304 KB0692584	On touchscreen laptops, double scrollbar appear on the form	In Windows 10 touchscreen laptops on Chrome, a double vertical scrollbar appears on forms.	1. On a Windows 10 touchscreen laptop, use the Chrome browser to navigate to any list, for example, navigate to Incident > All . 2. Open any record. Note that the screen shows double vertical scrollbars.
Lists	Dot-walked extended fields do not show in a list	Any dot-walked fields from extended task tables do not display in a list report after a	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1250340 KB0692583	report on Task tables	Jakarta upgrade. Columns, such as Requested For on sc_request, and their field content, do not show on the List report.	
Lists PRB1256934 KB0692471	Translated fields on the sc_cat_item list are displayed in English when the sort is changed in the previous language	When viewing a list of sc_cat_item records after changing your language, some of the translated fields are not translated. Editing the field or resorting the list shows the correct language.	1. Install a language plugin (such as French), and activate the Internationalization I18N plugin. 2. Navigate to sc_req_item.list. 3. Personalize the columns so the Name, Short description, and Description fields are shown. 4. Change your language to French, which should refresh the page. Note that the short descriptions and descriptions in everything but the top row are still in English. 5. If they are not in English, change back to English and sort the columns by name and then by name again. 6. Change back to French again and see whether the Description and Short Description are not translated.
MID Server	MID Server installation ZIP files can be corrupted	In a new London instance, or an upgraded instance that has had the	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
PRB1306950 KB0714149	when downloading via the instance	property mid.download.through.instance set to true, the MID Server Install and Upgrade ZIP files are downloaded through the instance. Sometimes, that attachment can be corrupted.	
Mobile PRB1251657	If no Mobile homepage is active, the Mobile browser will not load the Mobile UI	The issue does not exist in the native mobile apps, and the Favorites page will be the main landing page if there are no active Mobile homepages.	
NotifyNow PRB1304733	Twilio/Notify time delay of 5 seconds when using the activity 'Say'	Issues occur when users use the Notify plugin to start conference calls and put the "Say" activity on the first position in their workflow. When the user answers the call, it takes 4 - 6 seconds until the text from the "Say" activity is read out.	1. Connect a Twilio account to your instance. 2. Place a 'Say'-activity on the first position of the workflow. 3. Start a conference call. 4. Pick up the call and wait until the text from the 'Say'-activity is read out.
On-call Scheduling	A user with appropriate access is not able to view or search their own	The On-Call Schedules tile does not populate any data as all the schedules need to be loaded in the "All	

Problem	Short description	Description	Steps to reproduce
PRB1291076	schedules in the 'On-call Schedules' module	on-call schedules" tab. In addition, the All On-Call Schedules tile does not show any groups or schedules when a name is typed into the filter.	
Outbound Messaging PRB1255559	Outbound REST method is returning "The request failed: javax.net.ssl.SSLProtocolException: handshake alert: unrecognized_name" after Kingston upgrade	The outbound REST method also sends server_name in requests, whereas in Jakarta, there is no server_name in requests.	
Patterns PRB1296736	If cmdb_ci is not extending cmdb, Discovery should get the child and extension tables from 'cmdb_ci' and not 'cmdb'	When the 'create relationship/ reference step' is leveraged in a pattern, the product checks if the parent and child tables satisfy certain conditions. One of the conditions is whether the tables are part of list returned from calling getCITypes(). For some users, the root is 'cmdb_ci' and not 'cmdb'. However,	

Problem	Short description	Description	Steps to reproduce
		'cmdb' is queried for the child and extension tables, which causes patterns to fail.	
Performance Analytics PRB1298843	An unexpected alter is triggered during the upgrade on the pa_scores table	An unexpected alter is triggered on the pa_scores table during the upgrade to Kingston or Jakarta due to the table size.	
Persistence PRB1235518 KB0696204	Source control operations fail when an application had rows in a table extending sys_metadata that was subsequently deleted	If a scoped application contains a record in a table extending sys_metadata, and that table is deleted, source control operations will fail for that app until the corrupt sys_metadata record(s) for the former table is removed. Even then, the local repository will be left in a bad state.	Refer to the listed Known Error KB article for details.
Persistence	Changing the column type with an update set commit does not change the column	When committing an update set which includes a column type change (for example, Integer to Decimal or Integer to String or Reference to	

Problem	Short description	Description	Steps to reproduce
PRB1246074	type in the database when there is no data in the related table	String or Date/Time to Date), the change is recorded at the sys_dictionary level. However, the type in the database is not changed even though there is no data in the related table.	
Persistence PRB1253960 KB0690068	Importing a scoped app deletes/ changes a task table field	If an update set is committed with a 'delete' update for a field on the child table and the field on the target instance is defined on the parent table, it is dropped from the parent table.	1. Create a scoped application. 2. Create a standalone scoped table with a column named 'number'. Scoped fields do not get a 'u_' prefix, so on the database/ dictionary/storage alias level, the field name can match an OOB field name. 3. Delete the standalone scoped table. 4. Create the same table again, and extends tasks. 5. Open the application record and publish it to an update set. The update set contains delete updates for the table and the number field. 6. Import the update set on the target instance and preview it. The update set contains an insert and delete updates for the

Problem	Short description	Description	Steps to reproduce
			same table (which will be created in a task hierarchy) and a delete update for the number field. 7. Commit the update set. 8. Open the task.number dictionary record. The record is broken and no label is shown. Confirm there is no task.number field on lists and forms of task tables.
Persistence PRB1273339 KB0714213	Transaction logger throws a Unique Key violation for REST requests that delete from tables where deletes are audited	LogTransactionMonitor will attempt to log REST transactions (even though they have already been logged) if the transaction deletes a record in a table where deletes are audited.	Refer to the listed Known Error KB article for details.
Persistence PRB1278124	Reglomming isn't allowing unique indexes to be created on shared columns	In TPP (CMDB) or TPH (TASK), it can often be impossible for customers to create unique indexes on their custom elements, because those elements are stored on columns used by other elements. The new Reglomming feature is supposed to allow	

Problem	Short description	Description	Steps to reproduce
		this by moving the element to a new column where a unique index can be safely applied. That does not appear to be working.	
Persistence PRB1298268	Too many events causing email processing delay	There is a property change (or something else) that triggers a cache flush. While the cache is synchronised across all the primary and secondary nodes at the same time, the database is not able to handle all the connections from few/more secondary nodes because they on the far side (secondary side).	
Persistence PRB1300795	StackOverflowError can cause the database connection corruption		
Persistence	Reglomming on column type (currency) during the		1. Activate the plugin Project Portfolio Suite with Financials (com.snc.financial_planning_pmo).

Problem	Short description	Description	Steps to reproduce
PRB1303007	London upgrade causes a column on child (pm_project) and parent(planned_task) pointing to same storage alias		2. Create a decimal column on table pm_project (with max length 15). For examole, u_column_1. The column will use the storage_alias which is of type decimal(15,2). 3. Change the column type of the column created in step 2 to Currency. The storage alias will still be pointing to the same column type. For example, decimal(15,2). 4. Upgrade to London. The storage alias for pm_project.u_column1 and planned_task.opex_cost is pointing to same storage alias. 5. Try to insert the record in pm_project. The insert fails with message 'Syntax Error or Access Rule Violation detected by database.'
Reporting PRB1280460	Trend reports show duplicate second-level group by values (on the chart and the legend)	When grouping by related records that have identical names, Trend and Column reports show duplicate results.	1. Create a new Trend or Column report with the table asmt_metric_result. 2. Configure the report with the following values: • Grouped by: Metric Definition

Problem	Short description	Description	Steps to reproduce
KB0693893			- Trend by: Created - Per: Month - Aggregation: Count Note the duplicated values in the columns and in the legend as well. If you click duplicate elements, they point to the same list.
Reporting PRB1286468 KB0713025	Bar/pie charts show the value instead of the label or the sys_ID	When a column's group by field name is over 30 characters, bar and pie charts show the actual value instead of the display value.	Refer to the listed Known Error KB article for details.
Reporting PRB1292058 KB0694624	Creating a List Report or Database View on a table with a long name fails throwing a Java SQL exception	When trying to create a List Report or a Database View on a table that has a long name, the instance gives errors and does not create the list view.	Refer to the listed Known Error KB article for details.
Resource Management PRB1160060	Resource Allocation Report doesn't show the requested hours for the group	When creating a resource report for a resource plan with the resource type as 'Group Resource', the report does not show any allocation which is 'Requested'.	

Problem	Short description	Description	Steps to reproduce
	resource with specific users		
Resource Management PRB1295307	After upgrading to London, the resource grid does not load	The message "Resource Management upgrade is in progress. Please check after sometime" is displayed.	
Resource Management PRB1317229	When the system date format is set to dd-MM-yyyy, the Requested Allocations date are getting changed to some random dates	When system date format is set to dd-MM-yyyy under Resource Plan when Planned Hours are changed after Allocation, the Requested Allocations date are getting changed to some random dates.	
Security Access Control Lists PRB1293528 KB0692491	Checklist templates restricted to specific groups are not available to non-admin group members	The checklist template should be available to only members of the selected group and the user who created the checklist. However, checklists are no longer available for group members.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
Server Side Scripting PRB1301969	NPE error when attempting to retrieve a record with an uppercase letter in the sys_id field	Using gr.get() on a sys_id that does not exist will return false. However, if you do a subsequent gr.update() to this object, it will perform an insert with the invalid sys_id. When a sys_id has an uppercase letter in it, errors are thrown when viewing the record in the UI.	
Server Side Scripting PRB671588 KB0596972	After a restart, the default value for the glide.servlet.uri property overrides the sys_property value		Refer to the listed Known Error KB article for details.
Server Side Scripting PRB703946 KB0623900	When high security plugin is inactive, clicking the 'New' UI action for the columns embedded list on the sys_db_object throws an		On a pre-high security instance: 1. Navigate to sys_db_object, and select the Incident record. 2. In the Columns embedded list, click New. The form reloads and an error is thrown.

Problem	Short description	Description	Steps to reproduce
	error: "RP is not defined"		
Service Catalog: Service Portal Widgets PRB1289581 KB0694553	Catalog item count in SC Category page is not accurate when user criteria is used		1. Add 12 catalog items under a category. 2. In one of the items, add a user criteria for it to be shown only to admin users. 3. Set the Number of items per page option in the SC Category Page widget to a low number, such as 2 or 3. The issue can't be seen when the items load all at once, or when a single click on 'Show More' is enough to show all items. 4. Impersonate a non-admin user. 5. Navigate to the category (/sc_category page). 6. Verify the initial count of items will display all regardless of the user criteria applied. After you click 'show more' a couple of times, the count will update to the correct one.
Service Catalog: Service Portal Widgets	Labels are not displayed for the checkbox on Service Portal		1. Navigate to a catalog item on platform (such as Apple iPhone 5). 2. Create a Label type variable with order 100.

Problem	Short description	Description	Steps to reproduce
PRB1312685 KB0715811			3. Create two Checkbox variables with order 101 and 102. 4. Navigate to the catalog item on Service Portal. The newly created label is not displayed for checkbox variables.
Service Catalog PRB1252663	Self Service - When hovering over an icon, a pop up displays with information and UI action Open record, but users cannot click it	Users cannot click the Open record UI action because the pop up disappears immediately on hovering off the icon.	
Service Catalog PRB1268040 KB0691890	A setValue client script causes the catalog item to have a changed form	After upgrading to Kingston, while navigating from the catalog form to the previous screen, a popup 'Are you sure you want to leave this page' is displayed even though no changes are done on the form.	Refer to the listed Known Error KB article for details.
Service Catalog	In the RITM form, the 'requested_for' field is not set to the user who's		

Problem	Short description	Description	Steps to reproduce
PRB1286653	requesting the item		
Service Catalog PRB1290614 KB0696180	The entire User Criteria cache gets flushed on a sys_user update for one user	Every time a single sys_user is updated, the whole user_criteria_cache is flushed. When the user_criteria_cache is flushed, it must be rebuilt for every user who performs an operation that is controlled with user criteria. Depending on how slow it is to evaluate the scripts of all user criteria records, this has varying degrees of impact on system performance ranging from mild slowness to extreme degradation. The fix for this PRB makes the following changes: • The user criteria cache is not flushed unless these fields in sys_user record are changed: active, company, location, department.	1. Navigate to Knowledge > Home. 2. Try to view a Knowledge base record. 3. Open /xmlstats.do?include=cache. Notice the value of the entries attribute in <user_criteria_cache>. 4. Open /sys_user_list.do. 5. Double click the 'Active' field on any user and set it to 'false'. 6. Look at /xmlstats.do?include=cache again and notice that the entry in <user_criteria_cache> has been set to 0. 7. Try to view the KB article again. The scripts of all the User Criteria records will be run.

Problem	Short description	Description	Steps to reproduce
		• If there are other fields on whose change the cache needs to be flushed, those fields need to be added, comma separated, in the property glide.cache.flush.user_criteria_cache.sys_user.	
Service Catalog PRB1303772	Issue with the macro function in record producers and the service catalog		
Service Catalog PRB1309689	Variables not cascading in Service Portal		
Service Level Agreement (SLA) PRB1297251	When SLA Definitions are in a domain other than global, the calculations on the Task SLA records can be incorrect		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0713660	and/or the workflow will not attach or be updated		
Service Mapping PRB1264241 KB0714630	Service Model's blob reaper causes high load on instance, affects performance	Service Model's blob reaper job is not executed very often - once a week - but once it does, performance issues occur. For example, there is high memory consumption, the job takes hours to run, and it causes a high load on the node on which it runs.	Execute 'Service Model's Blob Reaper' from sys_trigger.
Service Mapping PRB1291033	MID Server SystemCommand and CitChanged introduces slowness and HTTP 429 errors	The default semaphore is exhausted, leaving the instance completely unresponsive for several minutes. This PRB is related to PRB1201839.	
Service Mapping PRB1303545 KB0712498	The Application Services module redirects users to the home page		

Problem	Short description	Description	Steps to reproduce
Service Portal PRB1242592 KB0714295	The List and Form widget (id = lf) should create the CSS exception for panels embedded by all formatters (i.e. variable editor)	On the Service Portal, the activity log section overlaps the variables section after an upgrade.	On a Kingston instance an example of a mis-styled formatter can be seen at the following URL:/sp?id=lf&table=sc_req_item&sys_id=c422fbd80a0a0b1200a293da219a72df&spa=1
Service Portal PRB1268347	Knowledge articles created using article templates are not displayed correctly in Service Portal	When creating knowledge articles with legacy Knowledge widgets and article templates, the KB articles do not display correctly in Service Portal.	
Service Portal PRB1282507 KB0687771	The Service Catalog Service Portal plugin must not be activated before the core Service Portal plugin	Installing Service Portal plugins in different orders can cause missing pages/ widgets, dependencies and route maps.	1. Upgrade an instance from Helsinki to Kingston so it does not have the com.glide.service-portal plugin active. 2. Activate the Service Portal - Service Catalog V2 plugin, which will automatically activate the Service Portal - Service Catalog plugin. The Service Portal for Enterprise Service Management plugin that depends on the Service Portal -

Problem	Short description	Description	Steps to reproduce
			Core plugin has not been activated. 3. Activate the Service Portal for Enterprise Service Management plugin. 4. Check the sp_page.list for catalog-specific pages such as sc_category, sc_home, sc_landing, sc_wishlist. They are missing. (e.g., the sp_page record with id=sc_category and sys_id=07261a2147132100ba13a5554ee49092 has not been loaded). Check sp_page_route_map.list and note that catalog-specific route maps are missing (Catalog Landing and Order Status).
Service Portal PRB1290254 KB0693248	In Kingston, using catalog client scripts to set the value of a choice variable to boolean true or false does not work	Catalog client scripts which set the value on a checkbox variable does not work on Service Portal. However, the string 'true' or 'false' works.	Refer to the listed Known Error KB article for details.
Service Portal PRB1290476	Unable to edit fields with sp-editable-field (e.g. on user profile) in Service Portal	When editing the User Profile via Service Portal, if a user edits any field and clicks Save, nothing happens and a 500 Internal	

Problem	Short description	Description	Steps to reproduce
	due to REST error if mandatory fields are on the form	Server Error is displayed. This issue only affects the Service Portal user profile editing, not the basic UI editing functionality.	
Service Portal PRB1297624	Search page id=search doesn't refresh results while searching for a different term	Search results don't return the newly searched term, and the results remain the same.	
Service Portal PRB1304578	Date validation client script conflicts with built-in validation in Service Portal	When a Data or Data/Time variable value is validated using a catalog client script which uses the 'showFieldMsg' function, it will conflict with the validation built-in to the "sp.datePicker.js" directive.	
Service Portal PRB690479	Translations of Service Portal translated_text fields are not captured in update sets (e.g., sp_instance.title) - missing Dictionary attribute	Internationalization of Service Portal pages, such as an instance record (sp_instance), cannot be transferred with update sets. As a consequence, creation or customization of Service Portal pages that includes	

Problem	Short description	Description	Steps to reproduce
		translations, cannot be transferred via update sets.	
Service Portal PRB737096 KB0662443	TinyMCE attached images are stored with the table name kb_social_qa_question in sys_attachment_list	Attachments are stored in kb_social_qa_question table for Service Portal widgets.	Refer to the listed Known Error KB article for details.
Service Portal PRB857577 KB0621652	Setting for the date picker for the first day of the week is not working in Service Portal	The setting for the date picker for the first day of the week (the glide.ui.date_picker.first_day_of_week system property) is not applied correctly in Service Portal.	1. Set Monday as the first day of the week in the calendar picker. a. Go to sys_properties_list.do. b. Click New. c. Add a property with the name glide.ui.date_picker.first_day_of_week and set the value to 2. d. Click Submit. 2. Navigate to Self Service > Service Catalog, and click Can We Help You?. 3. Choose Report Outage. 4. Click the calendar icon for the field At what time did you notice the outage began?.

Problem	Short description	Description	Steps to reproduce
			The first day of the week in the calendar is Monday. 5. Navigate to Service Portal > Service Portal Home and click Order Something. 6. Under Categories, click Can We Help You? and then click Report Outage. 7. Click the calendar icon for the field At what time did you notice the outage began?. The first day of the week in the calendar is Sunday rather than the Monday setting for the glide.ui.date_picker.first_day_of_week property.
Service Portfolio Management PRB1305017 KB0714453	In the Task-Outage Relationship plugin, changing the system date format to anything other than the default yyyy-MM-dd format results in the error "End date must be after begin date"		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
System Applications PRB1246094 KB0661842	Changing the prefix in a table can cause exact match to fail for older records	For example, changing the incident or task number prefix causes exact match search results to fail. The fix for this PRB provides the following options. • To enable pessimistic search behavior, add the property glide.ui.text_search.enable_fallback_number_search and set it to true. This falls back to searching "task" and "kb_knowledge" when doing exact match searches. • To search a specific list of tables, create the property glide.ui.text_search.fallback_table_list and set its value to a comma-separated list of tables to search. This overrides the default of 'task' and 'kb_knowledge.' For example, setting this to	The same steps listed below produce different results and behavior in Jakarta or in Istanbul instances. 1. Go to an Incident list and pick any existing incident. 2. Go to the Global Search and search this selected incident. An exact match is returned. 3. Go to the [sys_number] table and change the prefix from INC to INT or some other prefix. 4. Create an incident. It will be created by this new prefix. 5. Search for the same incident which was picked in step 1. Notice that the exact search does not work anymore. 6. Search for the incident created in step 5. Notice that an exact match is returned.

Problem	Short description	Description	Steps to reproduce
		'change_request,sc_task,sys_product_help' would search those 4 tables if no exact match was found originally. • To search all tables that have a Number prefix, set glide.ui.text_search.fallback_table_list to the value all.	
Tables and Dictionary PRB1296576 KB0694107	Adding elements to a TPP grandparent and grandchild table in an update set can cause the alias corruption	When adding an element to a particular table in the CMDB hierarchy, and another element to a grandchild (or lower) of that table, within the same update set, the storage aliases can be corrupted so that the elements are stored in the same column. This can cause functional problems and data loss.	Refer to the listed Known Error KB article for details.
Tables and Dictionary PRB1297613	StackOverflowError can be caused by queries in v_customer_uploads or enabling DB Trace		

Problem	Short description	Description	Steps to reproduce
Templates PRB1156185	Cannot apply a date field while using a template if the date format system property is altered	When using a template to create a knowledge article, the field 'Valid to' is not populated by the value added to the template.	
Templates PRB692227 KB0635121	Unable to add items with a comma in the display value to a template for a glide list field	When creating a template with 'Watch List' (glide_list) as a template variable, if there is a comma-separated item chosen, it will splice the display name and display an error: "Please enter a valid email address or User." This limits user ability to set template values for Watch List, especially when they have the 'Last Name, First Name' display name format, as it doesn't allow the users to select those comma-separated items.	Based on a baseline instance, where the User Name field is calculated based on the values of First name and Last name in the user record. If the display value for the user name is different in the instance working with, the goal is to get a comma to appear in the display value of the user record. Other data may need to be modified if the display column is not the same as baseline. 1. Bring up the sys_user record for Abel Tuter. 2. Change the first name to Ab,el. 3. Bring up any existing incident. 4. If the template bar is not displayed at the bottom of the form, press the three dots in the header and select Toggle Template Bar. 5. In the template bar, press the + sign to add a new template.

Problem	Short description	Description	Steps to reproduce
			6. In the list of template fields, change one of them to Watch List, in the left column. 7. In the template value field for the watch list, in the right column, either: • Use the magnifying glass to select Ab,el Tuter from the list, click out of the value field, back into the field, and out of the field again. • Type ab into the field to start autocompleter, then select Ab,el Tuter from the list, then click out of the value field. Instead of Abel Tuter being saved as a valid entry in the watch list template field, an error about invalid email, user (Please enter a valid email address or User) and username is partially truncated.
Templates PRB705120	Template stores date/ times with user's format instead of a system-wide or internal format, causing conflict when another user accesses that date	The template_value field types store date/time values in the user's format instead of the system's format. This causes issues when: • Trying to apply a template that has a date in a different format (even if it's the same as the	

Problem	Short description	Description	Steps to reproduce
		current user's format) • Sharing values across users with different formats	
Transaction and Session Management PRB1293794	Large number of HTTP requests with malformed x-forwarded-host header yields memory exhaustion	Requests with an invalid x-forwarded-host value raise IllegalArgumentException exception which can cause leaked Request and Response objects, eventually causing excessive garbage collection, memory exhaustion, and HTTP-500 error messages.	
UI Components PRB837118	The WYSIWYG editor in the KB article doesn't work for URLs or the local video library	When a user clicks Insert/update video to embed a local .mov file to a KB article, the error "This plugin is not supported" is displayed using Chrome/Firefox. When a user clicks Insert/update video to choose a URL and put a URL, the video will be rendered as blank.	

Problem	Short description	Description	Steps to reproduce
UI Pages/ Macros PRB1295255	'Show Other Active tasks' gives an error in the frame max_allowed_packet exceeded (and uses high memory while executing the xmlhttp.do transaction)	When a user clicks the 'Show Other Active tasks' icon beside the Configuration Item field on a TASK (Incident/Change Request) form, the request • Times out with an error "Could not send query: max_allowed_packet exceeded" • Utilizes huge amount of memory on the application node where this transaction runs	
Update Sets PRB1272514 KB0685077	Retrieved batched update sets are missing a parent value when the property glide.invalid_query.returns_no_rows is set to true	If the system property glide.invalid_query.returns_no_rows is set to true, the query will return no results and the hierarchy will not be built.	1. Create a True | False system property called glide.invalid_query.returns_no_rows and set its value to true. 2. Set up another instance as an update set source. 3. On the source instance, create a parent and child update set and complete them. 4. On the target instance, retrieve the completed update sets. 5. Observe the parent-child relationship is not maintained.

Problem	Short description	Description	Steps to reproduce
			6. Repeat the process with glide.invalid_query.returns_no_rows set to false to see the intended results.
Update Sets PRB1314701	Committing a batch update set with an update that is missing an action can lead to unintended results		
Upgrade Engine Issues PRB1303827	Exporting and then importing XML on a sys_dictionary record generates an 'empty' sys_db_object record	Unloading (as opposed to updating) sys_dictionary generates 'empty' sys_db_object records. This can occur during upgrades, plugin and application installs, and XML import.	1. Export any sys_dictionary record, such as task.short_description. 2. Import that same sys_dictionary record.
Usage Analytics PRB1295059	The usage data of the last month should not be uploaded if the job context is empty	OOM exceptions are thrown due to many records being uploaded in the past month payload.	

Problem	Short description	Description	Steps to reproduce
Usage Analytics PRB1296187	When downloading licenses, there are many 'INSERT INTO ua_app_family 'errors		
Usage Analytics PRB1302760 KB0719360	Loading a dashboard causes hundreds of error messages in logs		Refer to the listed Known Error KB article for details.
Virtual Agent Platform PRB1309347 KB0714593	London instances with Oracle databases throw exceptions and errors when a topic is opened in the Virtual Agent Designer	When a topic is opened in the Virtual Agent Designer, London instances with Oracle databases throw java.lang.NullPointerExceptions and other exceptions and errors.	Refer to the listed Known Error KB article for details.
Visual Task Boards	Changing sys_user.user_name of VTB user breaks the freeform card activity stream	The VTB activity stream can be broken when: • Increasing the max length of sys_user,	

Problem	Short description	Description	Steps to reproduce
PRB1089529		for example from 40 to 100 • Increasing the user ID to more than 40 characters while sys_updated_by or sys_created_by remain the same (max length of 40 characters)	
Workflow PRB1249919 KB0711946	Inconsistency of stage in list view for Catalog Task execution for the main flow and subflows with the 'Workflow-Driven' stage renderer	The list view sometimes shows the stage as the following: "Fulfillment Waiting for Catalog Task: Task 1" Other times, the "Waiting for Catalog Task" stage does not show.	Refer to the listed Known Error KB article for details.
Workflow PRB1269804 KB0697348	Active flag is not set to false after the RITM's workflow stage switches to Completed because the 'Set Active Flag' business rule condition does not run	After Jakarta, when the workflow on a requested item only contains Set Value or Run Script activities, the requested item's active flag stays set to True even when the stage field is Complete.	Refer to the listed Known Error KB article for details.
Workflow	'current' can be replaced during the	During the business rule processing, if a	

Problem	Short description	Description	Steps to reproduce
PRB1296149	workflow processing, and this can affect the processing of all subsequent business rules under certain circumstances	script updates a record in a different table and the updated record has multiple active workflows, the first workflow updated results in one of the other active workflows being completed or canceled. When the workflow context that was completed or canceled is then processed, 'current' will be set to the record for that workflow. However, it will not be restored to the original record when the workflow processing completes.	
Workflow PRB713638 KB0696745	When launching a wizard record generator, a global record is created which will trigger any business rules and workflows running off of	When launching a wizard record generator (e.g. out of box on call generator), a global record is created. The global record will trigger any business rules and workflows running off of the global table.	Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
	the global table	Many on-demand workflows target the global table so that they do not run when a record is generated (i.e. incident, cmdb_ci), but they are available to be run on-demand. Creating this global record will trigger each global workflow which can cause serious performance degradation.	
Workflow PRB897733 KB0676161	Workflow Canvas performance is seriously degraded and slow when a large number of transitions are on the canvas	A large number of transitions in a workflow may cause performance issues when editing in the workflow editor.	1. Open the workflow editor and create a new workflow. For more information, see the product documentation topic Workflow editor. 2. Add workflow activities and create about 30 activities attached via various transitions. 3. Check in and check out. Note the slow load times and the slowness of drawing transition lines.
Project Management	Unable to change project start date after	When creating a project (and project tasks), users are unable to change the project's 'Planned	1. Navigate to Project > All > Create New.

Problem	Short description	Description	Steps to reproduce
PRB1110839	creating a project	Start Date'. If a user attempts to do so, it reverts back to the date it showed originally when the project was created.	2. Create a Project Task. Do not manipulate any fields. 3. Go back to the project form and attempt to change the Planned Start Date to an earlier date. 4. Attempt to save. Notice the date will revert back to the original Planned Start Date. The behavior sometimes occurs after the page is refreshed several times.
Forms and Fields PRB1316836 KB0720733	When a script uses the showFieldMsg method to render an error type message in the Service Portal view of the service catalog item, the error blocks the user from submitting the item request	This issue occurs when using showFieldMsg (of type 'Error', or 'Info' as well if the variable is set to mandatory) in a catalog item. During submission, the variables get reset to mandatory which prevents the items from getting submitted.	Refer to the listed Known Error KB article for details.
Import / Export PRB1317233	After upgrading from Jakarta to London, the Netcool Integration with JDBC and MID		Refer to the listed Known Error KB article for details.

Problem	Short description	Description	Steps to reproduce
KB0721933	Server throws an error		
Reporting PRB1303294	When users export a PDF with a two-level group by or trend with group by the secondary tables and display grid enabled, the display grid is displaying JSON object rather than plain strings		1. Create report, and trend by with group by and display grid enabled. 2. Save. 3. Export the PDF. 4. Look at the display grid in the PDF export. JSON objects are serialized in the sub-tables column.
Persistence PRB1321123	Many corrupted images identified in Oracle	This issue affects images and attachment chunks larger than 4k.	
Authentication PRB1322982	Timeout issues for some users on HI		

All Other Fixes

To view a list of all other PRBs fixed in Madrid, refer to All other Madrid fixes.

All other Madrid fixes

The Madrid release contains fixes to these problems.

Madrid was released on January 24, 2019.

Build date: 01-17-2019_1433

Build tag: glide-madrid-12-18-2018__patch0-01-08-2019

For more information about how to upgrade an instance, see Upgrade to Madrid.

For more information about the release cycle, see the ServiceNow Release Cycle. For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

Note: This version is under FedRAMP evaluation.

All other Madrid fixes

Problem category	Number	Short description
Activity Stream	PRB1259814	When an email is received, the activity log displays the wrong value
Activity Stream	PRB1271869	Property com.glide.attachment.max_get_size not working as expected
Activity Stream	PRB1292488	After upgrade from Istanbul to Kingston, the approval summarizer section does not show the work notes from Enhancement record
Activity Stream	PRB1304776	Activity formatter strips out the newline "\n" from fields
Activity Stream	PRB1272370	Hebrew - Live Forms do not display text correctly in Activities Filter
Activity Stream	PRB1294854	User record activity feed (history) Issue: Email Address field changes from a Sys ID to 'Empty'

Problem category	Number	Short description
		after a notification is triggered from the user table
Activity Stream	PRB1295781	When there are more than two Journal input fields, the selector shows fields that are not available on the form for that view
Activity Stream	PRB1295380	Journal Fields displayed on the form are based on the order configured within the Activities Formatter
Activity Stream	PRB1298929	On an incident record, changing the incident state (New -> Closed -> New) caused the journal field checkbox value to change
Activity Stream	PRB1301408	Activity Stream displays "Field Changes" instead of "Email Sent" or "Email Received" when the user checks or unchecks "Sent/ Received Emails" in Configure available fields
Activity Stream	PRB1303119	In some cases the 'was' string changes to italics, causing changes in translations when using French
Activity Stream	PRB1310069	Posting comments to incidents moves them to the default domain
Activity Stream	PRB1312033	Navigating from global search exact match, to incident, to calendar history, then back to incident, causes invalid update to incidents using global Save UI Action
Activity Stream	PRB1312770	Journal field selector missing from the Activity Stream flyout when the user passes contextual ACLs
Activity Stream	PRB1315444	If an HTML field added to the activity stream changes, its content shows on the activity stream including HTML tags with High Security not active

Problem category	Number	Short description
Agent Workspace	PRB1294758	Long text in choice drop down field does not reformat correctly in the form UI if the browser window is made smaller or bigger
Agent Workspace	PRB1296744	Performance - Loading a chat in the workspace takes from 5 - 16 seconds for 100 user load
Agent Workspace	PRB1298889	When the property glide.invalid_query.returns_no_rows is set to true, Agent Assist is not showing any results based on the Table Configuration field
Agent Workspace	PRB1301589	When an incident is created via interaction, the opened_at field is populated with GMT time
Agent Workspace	PRB1306291	Agent Workspace - The list does not load or keeps spinning when an extended field is added to columns
Agent Workspace	PRB1308013	Agent Workspace ribbon for customer360 component will not load when the primary fields contain extended or dot-walked fields
Agent Workspace	PRB1309866	Reference Auto Completer Column values are concatenated in Workspace type-ahead
Agent Workspace	PRB1311921	Dot-walked fields in case tables (e.g. sn_customerservice_task) are not visible by non-admin users
Agent Workspace	PRB1313290	[Agent Workspace] A field cannot be made writable using a client script if it was first made read only using a client script
Agile Development	PRB1308640	Reference qualifier for Epics in the Story form does not work when upgrading from Jakarta to London

Problem category	Number	Short description
Agile Development	PRB1292802	Agile Development 2.0 - Date Time Picker does not apply the system time format
Agile Development	PRB1292508	Story form doesn't open fully when on the task_planning_board
Agile Development	PRB1317378	Missing images in the Agile Development Guided Setup page
Agile Development	PRB1300228	Velocity graph is reopened when back button is clicked
Agile Development	PRB1304743	Clicking on "Add/Remove multiple" action navigates back to Agile Board
Agile Development	PRB1309629	Clicking the Release Backlog module, and then clicking a record in the Release column navigates to rm_release_scrum record but with a view (release_backlog view) inherited from rm_story
Agile Development	PRB1311515	Views for rm_release_scrum form are missing form section reference,s and the views like SDLC and Release are not selectable from the form
Application Navigator & Banner Frame	PRB1255721	System setting "Compact User Interface" produces opposite effect of option selected
Application Navigator &	PRB1198384	Searching for a module in the navigator filter, the first module it finds is selected, even after selecting the preferred module

Problem category	Number	Short description
Banner Frame		
Application Navigator & Banner Frame	PRB668311	UI16 nav header buttons disappear when overlapped by the Product Description
Application Navigator & Banner Frame	PRB691066	Back button is not visible after personalizing list v2
Application Navigator & Banner Frame	PRB1263590	Slow response in the impersonate-user picker
Application Navigator & Banner Frame	PRB1195406	No mouseover tooltip information for folders in the minimized Navigation panel
Application Navigator & Banner Frame	PRB1242042	Under Windows High Contrast, all radio buttons appear to be selected
Application Navigator & Banner Frame	PRB1273528	It is possible to impersonate an inactive and locked out user in UI15
Application Navigator & Banner Frame	PRB1294029	The Application Navigator in UI15 does not remember its collapsed state and is always open after refresh

Problem category	Number	Short description
Application Navigator & Banner Frame	PRB703032	Three tabs of the navigator have inadequate focus states, so it is hard to tell when the keyboard focus is on them
Application Navigator & Banner Frame	PRB1261447	Global search - Frame title is not descriptive - impacts the following 508 standards: 22(i)
Application Navigator & Banner Frame	PRB1262095	Two unique scripted elements are named "Incident."
Application Navigator & Banner Frame	PRB1275075	Large product description disrupts the user menu
Application Navigator & Banner Frame	PRB1278350	Issue with user impersonation when the user has an apostrophe in their username (email)
Application Navigator & Banner Frame	PRB1293582	Timezone choices are not displayed in the selected Language. Choices are displayed in the language specified in glide.sys.language
Application Navigator & Banner Frame	PRB1300960	In IE11, clicking the Home banner icon does not remove focus from the banner.
Application Navigator & Banner Frame	PRB1305256	Form 'back' button doesn't work after 'previous record' or 'next record' button is clicked if the record is opened from the parent list

Problem category	Number	Short description
Application Navigator & Banner Frame	PRB1313474	IE11 - Instance throws "Page not found" error when accessing a module where filter condition has Non-English characters like Japanese or German
Application Portfolio Manageme nt (APM)	PRB1293962	'Technology Lifecycles' module date format issue
Application Portfolio Manageme nt (APM)	PRB1296758	APM Indicator doesn't generate any score
Application Portfolio Manageme nt (APM)	PRB1307541	APM: Having multiple scoring profiles generates duplicate indicator scores
Application Portfolio Manageme nt (APM)	PRB1298724	Project Management roles (it_project_manager) do not grant access to Business Capabilities Table
Approvals	PRB1263478	The stage "Waiting for approval" not translated to French
Archiving	PRB1171985	Archiver thread can cause OOM and stackoverflow error
Assessments	PRB1298237	An assessment warning error is displayed in the log 'org.mozilla.javascript.EcmaError: 'primary' is not defined'
Assessments	PRB1301353	After adding a parent question to a survey, assessment_take2 UI page can no longer render survey responses taken prior to this change

Problem category	Number	Short description
Assessments	PRB1310187	A non-login user taking a public survey bypasses "scheduled period" restriction
Asset Management	PRB888774	Unable to add an Asset CI Install status mapping when there is an existing Asset State & Asset Substate, or CI Status
Asset Management	PRB1250631	An asset attribute is still being updated after a related CI's attribute is prevented from update due to a reconciliation definition
Asset Management	PRB1300291	ILMT - The name field is updated with the serial number when ILMT server sends a null value
Asset Management	PRB1296230	SCCM Integration 2016 - Incremental Import (SAM enabled) 2016 Import throws Invalid Dateformat error
Asset Management	PRB1297836	StockRuleTransfer.transferOrderAvailability() function does not exclude delivered & canceled alm_transfer_order_line
Asset Management	PRB1302999	ILMT - The request times out at 300 seconds on the ECC record
Asset Management	PRB1310591	Unique Key Violation error occurs when updating cmdb_ci_win_server records with "null" model_id value
Asset Management	PRB1313798	The counter on 'Capture asset tags' can disappear
Asynchronous Message Bus	PRB1244290	AMB thread idles during logout, blocking the connection and preventing other connections from sending messages

Problem category	Number	Short description
Asynchronous Message Bus	PRB1290070	NullPointerExceptions in logs
Asynchronous Message Bus	PRB1180643	After restart / failover, amb_session_setup.do is not able to 'resume' the session
Asynchronous Message Bus	PRB1167602	AMB stops sending messages on disconnect/ reconnect
Audit History	PRB1249729	The activity stream does not display changes for fields whose column name is longer than 40 characters
Audit History	PRB1288620	Audit issues with record created with 'Insert and Stay' UI action
Audit History	PRB1296391	ACLs which matches the group of the user with the current record's assignment group, fails to evaluate properly first time, renders Activity Stream as empty
Authentication	PRB1204631	The "Login" installation exit's "max inactive interval" value is overridden by the "glide.ui.session_timeout" value
Authentication	PRB1270132	Confusing log "Type pkcs12_key_store is NOT supported!" message can lead admins to believe that the certificate they are trying to use is invalid.
Authentication	PRB1116483	HTTPAuthProcessor and HTTPAuthSessionSetup do not verify that a user id returned from the "Remember me" cookie is valid when the "glide.ui.forgetme" property is set

Problem category	Number	Short description
Authentication	PRB606979	SAML requests sent by the instance are missing the NameQualifier, preventing SAML based logouts
Authentication	PRB1250674	QR code is not generated in Multifactor google_auth_setup_page UI page for snc_external users
Authentication	PRB1266283	GlideExpressionWrapper.escapeJS(String s) method is replacing character '%2F' with '/' even if there is no script tag (<script></script>) present in it.
Authentication	PRB1307896	SAMLResponse is not processed when custom URL is defined with a service portal URL
Authentication	PRB1292144	User is redirected to regular login page instead of oauth login page when he has MFA enabled and Web Service Access Only checked
Authentication - SSO	PRB1277955	When a web service access only user logs in using SSO, after successful login, the system goes into a loop of logout_redirect transactions which can cause semaphore exhaustion
Authentication - SSO	PRB1305482	When the glide.security.file.mime_type.validation property is set to true, password protected .docx files cannot be attached
Authentication - SSO	PRB1240802	Instance running on Oracle DB, 401 Request failed error thrown on mobile app when user tries to re-authenticate
Authentication - SSO	PRB1281697	Signing signature is embedded in the SAML logout request, which is against SAML compliance for redirect binding.

Problem category	Number	Short description
Automated Test Framework	PRB1300874	The Set Field Values test step in the Automated Test Framework cannot set values of dotwalked fields
Automated Test Framework	PRB1264788	Automated Test Framework Test Step 'Click a UI Action' fails when clicking 'Implement' on the Change Request form.
Automated Test Framework	PRB1301952	snc_read_only role causes Service Catalog tests to fail.
Automated Test Framework	PRB1266216	Race condition occurs when an Automated Test Framework 'Click Modal Button' test step clicks a button that redirects to another page
Automated Test Framework	PRB1292992	The record query step fails if the table has a column named 'query' or 'next'
Automated Test Framework	PRB1272093	Client Test Runners opened through the Pick A Browser modal are added to the navigation stack, which can cause a JavaScript error
Automated Test Framework	PRB1304238	Automated Test Framework Test Suite email results include other test suites that were previously executed for the same sys_number_counter.
Automated Test Framework	PRB1307428	Missing sys_atf_step_config record can cause a NullPointerException when a scheduled test or suite executes.
Automated Test Framework	PRB1309390	Instances run on an Oracle database can truncate the test script in the "Run Server Script" test step to 512 characters, even though the field has a 2000 character max value

Problem category	Number	Short description
Benchmarks Application	PRB1292376	When cloning a production instance from any other instance, Benchmarks client configuration properties are missing
Benchmarks Application	PRB1295945	Downloaded Benchmark Dashboard report is missing the latest month in x-axis. Tabular report shows the missing month.
Benchmarks Application	PRB1298122	Performance Analytics scores are uploaded when date format is not YYYY-MM-DD.
Benchmarks Central Application	PRB1291982	IA scores are not pulled for few customer instances
Caching	PRB1294868	When domain separation in active, caching inconsistency prevents UI Actions from appearing as expected
Change Manageme nt	PRB1293113	Change Conflict Calendar view is not displaying Blackout schedules in month view
Change Manageme nt	PRB1315487	When the 'Applies to' field in a blackout schedule is empty, users receive an error when viewing the Change Schedule List
Change Manageme nt	PRB1264021	'Revert to New' UI action repeatedly triggers the same sub-workflow, causing the transaction to time out
Change Manageme nt	PRB1307320	change_request_calendar_view page does not honor the read-only attribute made at the dictionary level or ACLs
Change Manageme nt	PRB1314015	CAB Workbench - While using the French language, JavaScript shows up instead of the agenda on the form

Problem category	Number	Short description
Change Manageme nt	PRB1316405	Excluded Schedule entries - In certain date/ time formats, the 'excluded' schedule span can display an incorrect date
Change Manageme nt	PRB1317090	When adding an associated CIs to a change request for 'Affected CIs' and 'Impacted Services/CIs', confusing errors occur
Change Manageme nt	PRB1289022	When trying to access the Kingston CAB Workbench, the console receives an error ("Cannot override options")
Change Manageme nt	PRB1294379	Change Task Template [std_change_proposal_task] mandatory fields do not hold entered data while clicking save
Change Manageme nt	PRB1295637	UI issues for the standard change catalog and change requests
Change Manageme nt	PRB1297213	'Change Properties' does not include the new feature to have discovery automatically launched when a Change Request is fulfilled
Change Manageme nt	PRB1302374	When the Encrypted Workflow Scratchpad is enabled, approvals are not canceled when a change request is put on 'Hold'
Change Manageme nt	PRB1303752	CAB Workbench Calendar Open button not working as expected in month view
Change Manageme nt	PRB1305144	Change Request Values (date fields) are editable when read-only on Standard Change Proposal
Change Manageme nt	PRB1306682	When a change template is modified to enter a new value for 'Template description', the new value is not applied

Problem category	Number	Short description
Change Manageme nt	PRB1307886	The 'Revert back to New' UI action on change request table changes the 'on hold' approval behavior
Change Manageme nt	PRB1311009	CAB Workbench Meeting Notes timestamp issue
Change Manageme nt	PRB1312933	Request Approval in Standard Change Proposal form does not generate approvals when ITIL user proposes to retire a standard change template
Change Manageme nt Conflict Detector	PRB1305653	Check Conflicts: After clicking 'Close', the modal does not close
Change Manageme nt Conflict Detector	PRB1303127	Conflicts are detected on an inactive change request
Change Manageme nt Conflict Detector	PRB1313295	Users cannot cancel the conflict detection job
Change Manageme nt Conflict Detector	PRB1313296	Conflict detection can produce unexpected results when extensions of Change Request are being used
Change Manageme nt Risk Assessment	PRB1309059	When editing an existing Risk Assessment, previously selected choices are lost when a user selects more than one choice in a multiple selection questions
Change Manageme	PRB1291925	When a user closes a Risk Assessment before submitting it, and then opens a new record by

Problem category	Number	Short description
nt Risk Assessment		using the related list's 'New' UI action, a blank page with an error appears
Chat	PRB1288792	After Hours (Not available) Message for Chat Queue does not show on French Translations
Chat	PRB1253523	Agent name and avatar do not show up in Anonymous Chat the first time the chat is opened
Chat	PRB713827	Chat actions can show up on the chat action menu, even if the action is configured to only display in specific conditions
Chat	PRB1163954	A user is able to click 'Rejoin session' outside of the chat schedule
Chat	PRB1236927	After a chat session is initiated, the Connect Chat support window displays a popup message for a few seconds: 'Arguments required'
Chat	PRB1253529	Links to non-image attachments do not work in Connect
Chat	PRB1286081	Connect Support: The 'Position in queue' browser title text displays the same number for multiple users waiting in the queue
Chat	PRB1297473	On hovering over a URL in the Connect Chat, the URL embeds "nav_to.do"
Chat	PRB1303411	Chat - When transferring a chat session, a small piece of code displays in the message box: $[SP]
Chat	PRB1244519	508 compliance: The Connect Support UI needs better contrast

Problem category	Number	Short description
Chat	PRB1297488	Connect chat: When a chat is transferred to another queue, the 'Closed(closed_at)' field has null values for the 'Closed Escalated' status
Chat	PRB1297513	Clicking on @mentions in the Connect Support widget will show a 'Send a direct message' button that does not work
Chat	PRB1304501	An unnecessary sound notification is played to the end user when submitting the first chat message
Chat	PRB955111	Upon activating the connect.support plugin, the 'task closer' business rule is incorrectly updated, which can affect task states and other issues
Chat	PRB1240762	connect_support_session_expired - An incorrect UI macro message is displayed when a chat session is disconnected after being idle
Chat	PRB1294444	In the full Chat window, the hover text for 'Upload Attachments' is incorrect
Chat	PRB1296666	System messages in the Chat Queue are logged as the user's activities log in incidents created by Chat
Chat	PRB1305294	The Chat module shows the user's city and country in the Profile, but the module does not appear to honor the user's language selection
Chat	PRB1313828	Even if users themselves close a chat (i.e. the chat is not closed by the agent), the users see 'The agent has closed the support session.'
Chat	PRB1316100	The Chat notification counter has limit of 99

Problem category	Number	Short description
Chat	PRB1296923	"Send a direct message" is still visible under user profiles to users who are restricted to use connect chat via the connect.roles property
Cloud Management Application	PRB1303312	"Reconcile CI" issues: Excessive memory usage and events backup as workers are busy
Cloud Management Application	PRB1310951	Azure Billing: Even though billing probes are not processed (no import set rows in import set) for Cloud Management, the billing job is marked as successfully finished
Cloud Management Application	PRB1293457	Global UI actions are overridden when the Cloud Management plugin is activated
Cloud Management Application	PRB1290565	KP7: An empty resource block shows up in the stack with conditions on provision steps
Cloud Management Application	PRB1294669	Certain errors are buried in trails which makes it impossible to find the actual cause of ARM provisioning failures
Cloud Management Application	PRB1294842	Intermittent issues during Resource Block import and export
Cloud Management Application	PRB1251716	A VMware VM provision creates an empty resource in the stack, even though the VM provision failed in CAPI

Problem category	Number	Short description
Cloud Management Application	PRB1283549	Policy to deregister an IP asset is skipped when the deprovision operation is performed on a resource level
Cloud Management Application	PRB1304042	VMware "Create_vSphere_NIC_VM_Response_Processor" is not using IPs attached to NICs when creating NIC configuration items
Cloud Management Application	PRB1316331	The Logical Datacenter values are not being populated in "sn_cmp_stack_item" table
Cloud Management Application	PRB1271902	Azure Security group provision: need support for associating security group with a subnet/NIC
Cloud Management Application	PRB1284173	CMPv2 - Views Mine/My Groups/All don't show consistent numbers
Cloud Management Application	PRB1286376	Discover datacenter for Azure errors out when MID Server cannot communicate with Azure
Cloud Management Application	PRB1295564	AWS: Deprovisioning a stack that is attached to an elastic IP address does not release the IP address
Cloud Management Application	PRB1297975	Installing the Cloud Management Core plugin activates the "Price Discovery" module that is exposed to ITIL Users

Problem category	Number	Short description
Cloud Management Application	PRB1298182	Config Discovery does not mark the entities which were deleted on Ansible Tower as terminated
Cloud Management Application	PRB1298768	Cloud User Portal: Search functionality does not find resources that are not owned by the user even if the user is an admin
Cloud Management Application	PRB1298773	License and Compliance: Script producing license data is incorrect and needs to be replaced
Cloud Management Application	PRB1298838	CMP Widgets: Poor use of record watchers causes slow performance on the "Stack" page
Cloud Management Application	PRB1302579	Azure Alert Basic Error occurs in logs
Cloud Management Application	PRB1302796	Blueprint rules are not created for customer on Oracle database
Cloud Management Application	PRB1308033	Unable to append tags to the resource group and NIC resources in Azure Portal
Cloud Management Application	PRB1308039	Not able to create resource group through a catalog item called 'VM with Additional Storage Volume'

Problem category	Number	Short description
Cloud Manageme nt Application	PRB1308371	Azure Microsoft resources/deployments resources are using an API version header which is too outdated
Cloud Manageme nt Application	PRB1309151	ARM: VM state not updated when provisioning VM using arm
Cloud Manageme nt Application	PRB1311026	The resource mapping for "Cloud Event" is not catering to the difference in the mapping for "AWS::ElasticLoadBalancing::LoadBalancer"
Cloud Manageme nt Application	PRB1312101	Data from forms should be read before making the prefill form
Cloud Manageme nt Application	PRB1312175	Policy creation experiencing multiple issues from the original INT description
Cloud Manageme nt Application	PRB1313008	Issues creating a new resource group
Cloud Manageme nt Application	PRB1313476	Deleting an input parameter from Resource Block Operation Input Parameter does not remove the input from the Blueprint Catalog items
Cloud Manageme nt Application	PRB1316239	CMPv1: AWS Web Service discovery is not associating EC2 instances to AWS account ID

Problem category	Number	Short description
Cloud Management Application	PRB1302088	Cloud Management plugin updates ACL for 'read' on sc_task records, causing ACL to fail on script check for itil users with the role 'sn_cmp.cloud_service_user'
Condition Builder	PRB1292542	Can't use dynamic filters for watchlists in new reporting UI
Condition Builder	PRB1303010	The filter builder expands with an error message
Condition Builder	PRB1297926	On the homepage, multiple gauges that reference the same table cause issues with the breadcrumb filter
Condition Builder	PRB1246973	Unable to set relative date filter for VTB board
Condition Builder	PRB1290621	New UI does not specify AM/PM times under the Condition filter
Condition Builder	PRB1284738	Report does not show Service Catalog variable filter conditions for variables that are part of a variable set
Condition Builder	PRB1260503	New condition builder shows different condition operators for report source than previous versions when the table extends from cmdb
Condition Builder	PRB1295166	OR condition in filter builder is not working as expected for keywords
Condition Builder	PRB1302883	'New UI' Filter Condition Builder: Missing translation for 'OR' and 'AND' when creating a filter

Problem category	Number	Short description
Condition Builder	PRB1251171	In new report UI, the From Date/time picker in the v3 condition builder overlaps with TO date picker when "BETWEEN" filter is chosen
Condition Builder	PRB1287259	The time_worked field in condition builder v3 is not showing options to enter time in Day:Hour:Minute:Second format
Condition Builder	PRB1290940	Breadcrumbs filter for dot-walking to variables is dropped when a query is executed
Condition Builder	PRB1294168	Condition builder allows --None-- to be selected when using the "is one of" conditions, but does not work
Condition Builder	PRB1302731	New UI: If a currency column has a value of 0, and another condition is changed, the subsequent select statement translates the 0 to null
Condition Builder	PRB1305066	Condition builder removes condition after changing the field type
Configuration Management Database (CMDB)	PRB1267732	Health inclusion rule is not working on few classes like 'cmdb_ci_vcenter_datacenter', 'cmdb_ci_vmware_template', 'cmdb_ci_vmware_instance', 'cmdb_ci_esx_server', '
Configuration Management Database (CMDB)	PRB1269069	Netscaler load balancer with a long pool member name using patterns fails with identification errors
Configuration Manageme	PRB1293903	Generated SQL in Oracle DB report has an error

Problem category	Number	Short description
nt Database (CMDB)		
Configuration Management Database (CMDB)	PRB1294776	Orphan rule is not calculated correctly for relationships in the CI Dashboard
Configuration Management Database (CMDB)	PRB1300174	A null pointer exception is thrown on the Duplicate Resolver if any CI reference fields is marked inactive in the system dictionary
Configuration Management Database (CMDB)	PRB1302767	When we have a reconciliation definition with some fields not selected for "Update with null". Then the expected behavior is this data source should not update those fields with null/empty values
Configuration Management Database (CMDB)	PRB1313589	Criterion attributes for related entries within identification rules should be indexed
Configuration Management Database (CMDB)	PRB1314872	Query results incomplete if any node has special characters in the name
Configuration Management Database (CMDB)	PRB1272594	Lookup Based Identification: IRE does not have a specific order for matching lookup records when there are multiple lookup records with the same criterion attribute, pointing to different CIs

Problem category	Number	Short description
Configuration Management Database (CMDB)	PRB1287261	Group View of Type 'Health' does not use the 'dynamic' filter when configured to create the dashboard view
Configuration Management Database (CMDB)	PRB1293571	CPU spikes on the DB server related to the OOB query
Configuration Management Database (CMDB)	PRB1293941	Event rule binding - identification engine failed to work on reverse direction
Configuration Management Database (CMDB)	PRB1297781	Relation Dashboard: Missing ACL on relation_health_result to show only current domain results
Configuration Management Database (CMDB)	PRB1302945	"Omit if no records" is not honored for scheduled reports
Configuration Management Database (CMDB)	PRB1307408	Ci Class Manager shows incorrect columns for classes after upgrade with TPP turned off
Configuration Manageme	PRB1310921	Last and first discovered should not get updated by batched update if IRE payload itself provides this value

Problem category	Number	Short description
nt Database (CMDB)		
Configuration Management Database (CMDB)	PRB1312870	Affected CI Notifications - Recipients receive multiple emails for the same notification and the jobs can take a very long time generating the emails
Configuration Management Database (CMDB)	PRB1313637	Unable to save changes when deleting relationships with no relationship type in the relationship editor
Content Management System (CMS)	PRB1262260	Remove content from "CMS Admin Sitemap" content block
Contextual Search	PRB1243153	Issues with the Contextual Search results on the ESS/CMS (scrolls the page up - to the top)
Contextual Search	PRB1277502	Can't preview video content from Contextual Search in Service Portal
Contextual Search	PRB1304511	Contextual search on record producer does not work for users without the 'snc_internal' role
Contextual Search	PRB1287311	[CXS] Some OOB catalog items are not working in Portal CXS and Agent Assist CXS
Contextual Search	PRB1293548	SAP order guide is attached as Item instead of an order guide
Contract Management	PRB1312872	OOB scripts for non-task tables should use document_id, not sysapproval

Problem category	Number	Short description
Core Platform	PRB1100531	gs.dateGenerate return value causes filters based on variable date fields is off by a day
Core Platform	PRB1288753	HR - Users with protected roles (sn_hr_core.xx) and impersonating another user (having protected roles) do not have access to some modules
Core Platform	PRB1268988	Clone copies records from the Memorable Items [snc_monitorable_item] table
Core Platform	PRB632740	Wrong field name used when multiple tables have identical field names
Core Platform	PRB1262298	Translated Fields/Translated Text elements do not return translated value in Database view
Core Platform	PRB1263318	GlideRecord does not escape carets consistently
Core Platform	PRB1291544	Scripted ACL is altering the "current" value when evaluating styles on a form
Core Platform	PRB1302011	When system property is deleted using update sets, it still returns a value from background script
Core Platform	PRB1302606	Notifications conditions are not being honored for the 'Changes from' and 'Changes to' operators
Core Platform	PRB1180971	If a role is added or removed from a group with a large number of users, the role change does not apply to all users in the group
Core Platform	PRB1244806	Not able to add "Sent/Received Emails" to the Activities filtered field on sn_hr_core_case records (glide.ui.sn_hr_core_case_activity.fields error)

Problem category	Number	Short description
Core Platform	PRB1270242	Choices not saved in choice field with more than 80 characters (when using Studio)
Core Platform	PRB1282042	Glide Record uses session domain for sys_choice fields, but not for the domain of the record
Core Platform	PRB1292806	Table names greater than 40 characters in length are truncated in the document field on the sys_trigger table
Core Platform	PRB1068252	The domain_path glide datatype is not located in the base system
Core Platform	PRB1250293	Dot walking to translated text field with the same name as a translated text column on the current record will causes the incorrect value to be displayed
Core Platform	PRB1260734	PDF export changes "<" to "&lt"
Core Platform	PRB1261823	When the function definition is provided, improper syntax throws "Record not found" for the corresponding table
Core Platform	PRB1263453	Diagnostic Events on Servicenow Performance Dashboard display time in GMT rather than the user timezone
Core Platform	PRB1264845	Currency Exchange is not honored in the platform when having Users with a different Country code.
Core Platform	PRB1267957	"Multiple update complete after updating X records" shows even after failed update

Problem category	Number	Short description
Core Platform	PRB1272825	The 'Accessible from' field on sys_db_object is read-only for ServiceNow application tables, but appears editable
Core Platform	PRB1281598	The db_video table should not extend the sys_metadata table
Core Platform	PRB1284354	When compressed content exceeds field length, compressed value becomes corrupted, and causes an uncaught NPE on decompress.
Core Platform	PRB1284788	Errors committing update set for new tables with function fields. Version loading was stopped by DictionaryUpdateLoader for sys_dictionary_<table_name>_null
Core Platform	PRB1288715	Changing property glide.i18n.single_currency from false to true changes how a currency field with a blank value is saved on a scoped app table field
Core Platform	PRB1290189	Record count incorrect when user navigates to list view from a column chart
Core Platform	PRB1290358	The 'more than' value for reference fields is not translated
Core Platform	PRB1295481	Trying to use the condition builder to call the custom script include returns NULL.
Core Platform	PRB1296587	A different number of ACLs are returned for Configure->Security Rules and Configure->All context menu options
Core Platform	PRB1298292	Record Cache holding stale references

Problem category	Number	Short description
Core Platform	PRB1300391	The parseInt function in a scoped application using ES5 Standards mode changes after upgrading to Jakarta or later
Core Platform	PRB1302479	Attachment is downloaded when a user attempts to rename it
Core Platform	PRB1305327	State field in State Transition records(sys_state_transition) for State model is showing the choices with incorrect language in multi-language environments.
Core Platform	PRB1305654	Multi-byte languages does not display property on pop up dialog windows
Core Platform	PRB1314374	Translated Fields/Translated Text elements do not return translated value in Database view
Core Platform	PRB1266297	GlideRecordSecure insert creates a record with NULL value in a field, if the field has ACL condition that depends on the default value of another field
CSM Communitie s	PRB1302845	Social Q&A question, answer, comment posting in Knowledge sometimes fails, if the communities plugin is not installed
CSM Communitie s	PRB1298473	Community portal widget URLs are broken if the portal name is changed
CSM Communitie s	PRB1314596	The user unable to Edit the Community Profile when the user in French Canada language
Currency	PRB1303161	The ECBDownloader URL cannot be changed and the downloader cannot parse the response payload if the site redirects

Problem category	Number	Short description
Currency	PRB1275638	Currency update notification triggered when new work note is posted
Currency	PRB1302702	Issue with the currency field in the database view
Currency	PRB1307771	Currency toggle does not work on price fields in the new report UI but does work in the "Classic UI".
Customer Service Manageme nt	PRB1310399	Time Card for CSM is logged into the wrong date if the system timezone is not set to US/ Pacific
Customer Service Manageme nt	PRB1317436	Recipient List: Type account should not be shown while creating a recipient list from publication
Customer Service Manageme nt	PRB1317280	Customer_account styles defined in wrong scope
Customer Service Manageme nt	PRB1295561	After activating the plugin 'Performance Analytics - Content Pack - Customer Service (New)' - com.snc.pa.customer_service, there are many errors in the logs and files are loaded properly.
Customer Service Manageme nt	PRB1298160	HTML field in the Publication page widget doesn't present the font size as defined
Customer Service	PRB1302159	Cursor gets stuck on Openframe Header and moves the window

Problem category	Number	Short description
Management		
Customer Service Management	PRB1302551	Reference list gets stuck in Loading state when one of the values contain a "<" character
Customer Service Management	PRB1305339	With "CSM Default" theme, "CSM Header Menu" doesn't render notification bell icon (menu item)
Customer Service Management	PRB1313481	The Updated and Updated By fields on the sn_customerservice_case table display incorrect dates after completing the data migration task
Customer Service Management	PRB1314968	Create New Application module is deactivated during activation/upgrade
Customer Service Management	PRB1315227	Research performance issues with dynamic recipient lists for publications
Dashboards and Home Pages	PRB1264889	Widgets don't load if an applied breakdown is deleted
Dashboards and Home Pages	PRB1303845	Dashboard order is not evaluated in London
Dashboards and Home Pages	PRB1297965	Role names containing special characters break dashboards

Problem category	Number	Short description
Dashboards and Home Pages	PRB1302972	Issues with duplication encountered when creating a dashboard version on a homepage
Dashboards and Home Pages	PRB1306941	The user does not have option to create a dashboard or see other dashboards if the last visited dashboard is not shared with the user anymore
Dashboards and Home Pages	PRB1316356	Interactive filter records do not display related lists
Dashboards and Home Pages	PRB1272292	The Edit Homepage UI action from sys_portal_page redirects to the wrong homepage
Dashboards and Home Pages	PRB1285517	Focus is taken away from navigator to the homepage on load/reload
Dashboards and Home Pages	PRB1301451	Widget Tooltip / help text hover can go out of bounds on the left of a dashboard
Dashboards and Home Pages	PRB1301595	Report title format issues when report is named "ASSIGNED TO ME"
Dashboards and Home Pages	PRB1302168	Dashboards: Renaming a dashboard tab that contains special characters can display HTML code
Dashboards and Home Pages	PRB1311311	Interactive filter group doesn't allow user to add same choice from different interactive filter

Problem category	Number	Short description
Data Certification	PRB1286931	Certification users do not see images attached to the schedule definitions, as these are only visible for the certification admin
Delegated Development	PRB1300876	Successful cds_client_schedule jobs were not pulling complete data from sncdataservices repository
Delegated Development	PRB1296334	Error message appears in Approvals due to Designated Development roles
Demand Management	PRB1312319	Certain demand assessments have empty trigger ID
Demand Management	PRB1294507	On Demand (dmn_demand) creates assessment Instances for stakeholders but no notification is sent.
Demand Management	PRB1296267	Demand workbench - Performance issue in loading the demands list
Demand Management	PRB1305679	After installing Application Portfolio Management, issues occur with Insert and Stay for an idea record
Dependency Views (BSM Map)	PRB1306284	CMDB Dependency View - CI Type filter shows the table name instead of the display name for non-English languages
Discovery	PRB1296757	Deadlock at DiscoverySensor (line 345) causes scheduler to overload or stick
Discovery	PRB1266263	Duplicate entries occur in the dscy_router_interface table

Problem category	Number	Short description
Discovery	PRB1291922	When classifying Unix\Linux machines with unsupported shell - classification fails as F5, ESX and ZOS are reporting errors
Discovery	PRB1297922	Parsing parameters from ECC queue records with text nodes in a parameter fail
Discovery	PRB1239489	SNMP - Routing sensor failed with oversized payload attachment
Discovery	PRB1261379	ZOS - OS probe introduced in Kingston throws error and causes classification to fail
Discovery	PRB1265978	'UNIX-OS Uptime' probe fails to parse date when MID Server's locale is Italian, German, or Japanese
Discovery	PRB1268722	Split payload mechanism should cover related tables
Discovery	PRB1270477	"Windows - Azure" probe executes against the MID Server instead of the remote target
Discovery	PRB1309396	Event queue performance issues due to slow discovery.device.complete events
Discovery	PRB1312056	Discovery is not populating First Discovered and Last Discovered on Windows Cluster CIs
Discovery	PRB1284564	Hitachi SMI-S server returns duplicate serial numbers
Discovery	PRB1303015	Network Switch and Network Router HD Pattern fails on step 33.14 (SNMP - Switch - Vlan Library) with JAVASCRIPT_CODE_FAILURE
Discovery	PRB1304580	Discovery external credentials: Performance and credential affinity issues

Problem category	Number	Short description
Discovery	PRB1293504	Invalid MID Servers in a schedule cause multiple 'discovery.canceled' events from each Discovery Status, triggering the powered waterfall
Discovery	PRB1298079	Custom choices for 'cmdb_ci.discovery_source' are not available after an upgrade
Discovery	PRB1302033	Cloud Management Discovery. The AWS Server - EC2 relationship does not get built
Discovery	PRB1305798	Discovery not populating First Discovered and Last Discovered on Hyper V servers causing CI's to be marked as stalled on CMDB Dashboard
Discovery	PRB1307318	CI Schedule Manager - Dates showing Incorrect when date format property is customized
Discovery	PRB1310922	NetApp discovery fails on metrocluster from node to disk relations
Discovery	PRB1255432	CI IP updated unexpectedly if Identity probe failed at retrieving adapter information
Discovery	PRB1258913	Malformed xmlstats.do in namespace com.snc.discovery.SnmpSensor
Discovery	PRB1263374	PowerShellProbe does not work with WinRM using HTTPS
Discovery	PRB1276780	Router discovery reconciles router interfaces twice, resulting in duplicate and absent records
Discovery	PRB1284563	Hitachi and Pure SMI-S servers return HTTP 200 with error code for invalid credential

Problem category	Number	Short description
Discovery	PRB1292098	Linux Identity exception when adapter list contains "0.0.0.0/0"
Discovery	PRB1292267	ADM: Synthetic process is erroneously classified and explored if port matches an IP Service
Discovery	PRB1293143	MID Server does not log if more than one vCenter Event Collector is in use
Discovery	PRB1295311	Websphere Instances not being created correctly via ServiceNow Discovery
Discovery	PRB1300539	Software Installations related list missing from some CI forms, including AIX, Solaris, HP-UX
Discovery	PRB1300804	The discovery of UCS fails
Discovery	PRB1302717	Error return is suppressed for Linux probes that use dmidecode command
Discovery	PRB1304056	Shazzam fails HTTPS scan when the target server allows only TLS 1.2
Discovery	PRB1306731	SNMP Routing Reconcilers cannot reconcile records based on the State change (e.g. Installed --> Absent)
Discovery	PRB1311082	New generation EC2 instance classes fail to create a relationship between Linux Server CI and AWS EC2 Instance CI
Discovery	PRB1313156	Serverless execution patterns are not executed with different URL parameters provided
Discovery	PRB1313767	Network Discovery doesn't discover all subnets when using patterns as main routers discovery
Discovery	PRB1191524	Discovery for Solaris Zones is not using the unique "Zone ID" value

Problem category	Number	Short description
Discovery	PRB1264260	Discovery Pattern log: on Oracle, the unique index definition does not allow more than one log entry to enter DB
Discovery	PRB1268924	Generic server records won't get reclassified as ESX servers
Discovery	PRB1273600	Running Tomcat pattern for discovery pollutes MID Server logs
Discovery	PRB1276440	Chassis type (SCCM Computer Identity transforms) needs to reflect latest spec
Discovery	PRB1279292	Entry in the IP affinity table not removed after removing the CI containing the IP address
Discovery	PRB1281985	Credential-less discovery creates CIs with FQDN as the hostname in error
Discovery	PRB1283734	The credentialless discovery appears to classify the network device (Cisco IOS) as a computer (Apple iOS) instead of a switch/router
Discovery	PRB1284233	Credentialless discovery does not classify the host correctly
Discovery	PRB1289907	The Debug session auto-reconnect does not sync on the events/parsing strategy
Discovery	PRB1290920	Discovery should not delete install records created by other data sources
Discovery	PRB1291261	Issues with install date/time for Windows-installed software
Discovery	PRB1292237	vCenter's Name is not updated

Problem category	Number	Short description
Discovery	PRB1293425	GenericJDBCDatabase: MID Server memory leak issue due to the H2 database connection leak
Discovery	PRB1293496	Multiple 'discovery.canceled' events from each Discovery Status trigger powered waterfall
Discovery	PRB1293943	Netscaler issue svcGrpMemberGroupName does not display the name properly if more than 32 characters are in the list of members
Discovery	PRB1294064	SCCM - Removed software transform map doesn't delete software install
Discovery	PRB1294316	Device classification issue with router and switch
Discovery	PRB1295346	Solaris - Identity sensor only uses inserts/ updates one serial number even if more are available in payload
Discovery	PRB1296372	DiscoveryJSONIDSensor and DiscoveryIDSensor can create a blank model record for CI if adding real model records fails
Discovery	PRB1296818	Process 'grep db2sysc' passes DB2 server process classification and ends up in creating invalid DB2 instance
Discovery	PRB1296822	Cant debug pattern when multiple main CIs are discovered
Discovery	PRB1298183	Windows storage discovery is not populating the correct mount point in Windows 2012 and 2008
Discovery	PRB1298452	Bug report: AIX - CPU probe doesn't calculate cpu count properly

Problem category	Number	Short description
Discovery	PRB1298824	DiscoveryLinuxStorageSensor does not set install status of undiscovered storage HBAs to absent
Discovery	PRB1300442	Pattern: A load balancer discovery does not populate all the Virtual Services
Discovery	PRB1300968	CI relationship table is missing
Discovery	PRB1301760	Null pointer exception error running WIndows cluster identification probe on a Windows server
Discovery	PRB1301835	CI updated multiple times if device has multiple IPs used in a single discovery
Discovery	PRB1302599	During NetScaler device discovery, some data gets corrupted
Discovery	PRB1303578	MSSql DB - On Windows, patterns do not create choice list entries for Engine Edition
Discovery	PRB1303791	Performance issues performing a query for serverless discovery pattern
Discovery	PRB1306286	Ace load balancer VIPs aren't getting discovered when using context switching
Discovery	PRB1310115	Issue using two SNMPv3 credentials with the same username
Discovery	PRB1310512	SNMP walk commands are not built correctly when generating them for querying a table using a filter that matches more than 1 row
Discovery	PRB1310862	Linux total disk size calculated incorrectly when fdisk uses mapped device names

Problem category	Number	Short description
Discovery	PRB1311779	Discovery of SNMP Network devices creates unnecessary Network Adapter and IP Address records
Discovery	PRB1313425	vCenterDatacentersSensor may delete its vCenter record
Discovery	PRB1313944	Remove 'Migrate to pattern' modules from the navigation bar
Discovery	PRB1315212	Migration of VM between vCenters is mis-identified, leading to duplicate CIs
Domain Support	PRB1068318	Activating Domain Support - Domain Extensions Installer automatically loads demo data with no warning or documentation
Domain Support	PRB1291757	Possible memory leak in Domains caching
Domain Support	PRB1210103	Domain picker is set to empty after processing a session_change event
Domain Support	PRB1243830	After activating Domain Separation, when editing a related list on a record, the URL does not update
Domain Support	PRB1254526	Adding a sysparm_query in the URL does not change the session to the record's domain
Domain Support	PRB1272450	Domain hierarchy validation jobs bypass GlideRecord API and generate database queries that cannot be rerouted to a read replica
Domain Support	PRB1274827	The domain reference picker does not correctly reference the domain after the session timeout

Problem category	Number	Short description
Domain Support	PRB1304073	Glide List field on incident form shows users from a different domain
Domain Support	PRB1315459	getMyGroups returning inconsistent results in domain-separated instance
Edge Encryption	PRB1305924	Edge Encryption proxy alert reports Edge Encryption Proxy status as "Unresponsive" but the proxy is actually "Online"
Edge Encryption	PRB1296276	Links on Edge proxy download page do not work if there are restrictive ACLs on sys_attachment
Edge Encryption	PRB1273328	Edge Encryption SOAP rule incorrectly assumes the content is XML
Edge Encryption	PRB1284394	Encrypted value is shown when a change is copied from the Change Request form
Edge Encryption	PRB1292115	Email attachments are attached to records unencrypted even though attachments on the table are marked to be encrypted
Edge Encryption	PRB1296370	Edge encryption rules should be compiled once per update, not once per thread
Edge Encryption	PRB1299048	Edge Encryption proxies are not optimizing responses for compressible responses
Edge Encryption	PRB717452	The Edge proxy uses deprecated GzipFilter and StAXDialectDetector
Edge Encryption	PRB1270146	Auto AHA transfers leave four edge proxies in an unresponsive state
Edge Encryption	PRB1272479	Edge proxy continuously receives "Missing body in JSON response" error messages

Problem category	Number	Short description
Edge Encryption	PRB1296201	Values inserted from embedded list on form do not get encrypted
Edge Encryption	PRB1298233	Unable to deactivate Edge Encryption settings even if the table.column it is created on is deleted
Edge Encryption	PRB1298264	Encryption context displayed as many times as the number of Encryption context roles the user has
Edge Encryption	PRB1304991	Edge Encryption attachments: unexpected UI behavior
Email	PRB1240675	Email diagnostics reports false negatives when the number of email accounts exceeds the number of available progress workers
Email	PRB1275864	ServiceNow processing CSV or other text attachment as inline text, or losing the attachment
Email	PRB1264040	Scheduled List Reports to CSV always append the Users timezone to the end of any date/ time field
Email	PRB1245551	Delegates are included as recipients even when the original recipient failed by personal notification subscription filters
Email	PRB1268184	Inbound email action of Action type: "Reply Email" is not checking the condition picker or condition script
Email	PRB1313785	The Preview Notification renders as text instead of HTML when glide.ui.escape_text is set to false

Problem category	Number	Short description
Email	PRB1238319	IEAs executed as normal the first time an email is processed
Email	PRB1261260	When using the ${description} variable in Quick Messages Templates, all new line entries are removed from the description
Email	PRB1261330	Attachments copied to an email client record are not removed when removed from the attachments modal
Email	PRB1265348	Watermark written in the body of an email message
Email	PRB1267980	TLS email account does not respect certificate
Email	PRB1277839	Watermark still visible when glide.email.watermark.visible is false
Email	PRB1294964	Content is escaped inside "< >" character created with Japanese half-width katakana if the mail is in the text format
Email	PRB1297888	Email client fields To and CC do not recognize the value when it is pasted into the fields
Email	PRB1264762	From and ReplyTo field values are in different format in outbound email
Email	PRB1266647	Using in an email notification causes emails to display all HTML code
Email	PRB1274837	Notification preferences restricted by ACL or domain visibility can cause Consolidated Preferences UI to loop indefinitely
Email	PRB1280034	No way to hide or not allow "Allow Notifications" option from the Notification Preferences for Non-Admin users

Problem category	Number	Short description
Email	PRB1284374	Calendar notifications do not have correct dates
Email	PRB1289173	Property glide.email.outbound.max_total_attachment_size_bytes is ignored
Email	PRB1289565	Reply and Forward buttons distort originating emails HTML and escape CSS tags
Email	PRB1295353	Inbound Action 'BP - Create Incident With Watchlist' causes Rules (Assignment) to fail
Email	PRB878576	Push notifications stopped working after certificate was changed
Email	PRB1237586	Email content not correctly generated according to HTML in template
Email	PRB1280419	Email client can still send email to an active user even if the notification device is disabled
Email	PRB1284009	The recipient fields in the Compose Email popup no longer allow users to press <Enter>
Email	PRB1292245	A non-admin user cannot see attachments in the Email client on tables that are not extensible
Email	PRB1294986	Missing email attachments when sent via email client and recipients exceeds glide.email.smtp.max_recipients
Email	PRB1295386	Users with an apostrophe in their first or last name causes the notification preview to be blank
Email	PRB1296792	Changing the reply or forward prefixes property sometimes does not work

Problem category	Number	Short description
Email	PRB1297783	Mandatory notifications are not delivered if user has disabled the primary email channel
Email	PRB1298378	Response to iCal from Outlook returns to ServiceNow in the Junk mailbox
Email	PRB1302106	Non-ASCII language characters in "User Label" field appear garbled in the Email client "Reply to" field
Email	PRB1303758	Ignore duplicate business rule does not work when emails contain text "Ref:MSGXXXX" in the body
Email	PRB1310634	Mail Script is called from "Message Text" field when the notification is set for Content Type - HTML Only
Email	PRB1311352	Notification subscription condition is case-sensitive
Event Management	PRB1290174	Alert Console: An error message appears when clicking on an alert: "Tear off called for a non existent reference field"
Event Management	PRB1254568	"/ImpactManagerUser.do" transaction related to Get Impact Tree may cause OOM condition
Event Management	PRB1291875	Incoming event maintenance flags blank out all alerts glide_date_time fields through the impact calculator
Event Management	PRB1280849	New line characters are removed from 'Description' for events coming from the MID Server

Problem category	Number	Short description
Event Manageme nt	PRB762618	Out-of-memory and performance issues processing events
Event Manageme nt	PRB1296215	Recurring excessive memory usage by Maintenance Calculation job
Event Manageme nt	PRB1296648	Selecting and opening an alert from the Dashboard alert panel causes an exception
Event Manageme nt	PRB1251027	The status of 'resolved' in the vRealize Operations alert is never updated
Event Manageme nt	PRB1289536	CMDB CI lookups should not perform a query if there are no conditions
Event Manageme nt	PRB1292160	Zabbix and Nagios connector stores Japanese characters in event/alert description field as html character code
Event Manageme nt	PRB1303944	Excessive logging from ImpactHandler.java class
Event Manageme nt	PRB1272323	Issues occur when building the impact tree for a business service with many CIs
Event Manageme nt	PRB1294952	Users cannot see the Event Management dashboard on mobile devices
Event Manageme nt	PRB1296084	"Alert Impact" is not retrieved by vRealize connector out of box

Problem category	Number	Short description
Event Management	PRB1298111	NagiosXI connector - NagioIX version 5.5.2 response API does not contain 'statehistory' on the JSON
Event Management	PRB1310469	SCOM: Timing issue causing duplicate events
Event Management	PRB1313159	Errors occur when running RCA leaner jobs calculation on MID Server
Event Management	PRB1317844	SNMP v3 Inform doesn't work then trap sent with engine ID
Event Management	PRB1262408	An event threshold rule configured to process a huge amount of data can run the instance out of memory
Event Management	PRB1272724	The same property is used in Event Management to control reading of the alert table and alert history
Event Management	PRB1273669	Event processing is logging many errors
Event Management	PRB1274189	The OOB SolarWinds regex pattern does not work
Event Management	PRB1291229	Issue when the 'Additional info' on an event has a field containing 'incident'
Event Management	PRB1291940	Event Management runs expensive table cleaner job against the em_alert_history table

Problem category	Number	Short description
Event Manageme nt	PRB1295428	OMI Connector script doesn't support a date without milliseconds
Event Manageme nt	PRB1296289	'Undefined' parameter in the close notes of incident closed by event management alert
Event Manageme nt	PRB1296802	AI - Agent Assist missing "Actions" in Alert form
Event Manageme nt	PRB1297700	Wrong comparison inside the vRealizeJS mid script for single event conversion
Event Manageme nt	PRB1303515	The business rule 'Close Associated Incident' appears to be running unnecessarily
Event Manageme nt	PRB1303941	Need to create an INT and log the issue when EvtMgmtCustomIncidentPopulator throws an exception
Event Manageme nt	PRB1304681	Event Management - Node Count job causes high memory consumption
Event Manageme nt	PRB1308479	In London, when the Remediation Workflow is launched via 'Quick Response', a remediation task is created without any references to configuration items
Event Manageme nt	PRB1310345	Node count - need to add fix script to update Other type as non-licensable

Problem category	Number	Short description
Event Management	PRB1311033	Issue with Self-Health Monitor Core Class EvtMgmtHealthMonitorCommon
Event Management	PRB1311257	SCOM- Same event is fetched twice when the last fetch had more than one event
Event Management	PRB1315853	Connected Services Cache - (ConnectedBSGraphCache) is working insufficiently
Express	PRB1297616	BR 'Set Approver No Longer Requested' does not update approvers if approval is 'Rejected'
Express to Enterprise	PRB1298235	System property "glide.approval_engine.sc_request" value changes from "approval_engine" to "'off"
Facilities Service Management	PRB1296296	UI policies do not work on the variable editor in facilities request
Facilities Service Management	PRB1291638	Field service templates do not work when searching for assets in facilities
Facilities Service Management	PRB1293520	Facilities Workbench - The Zoom (+/-) buttons block lower floors on the map on mobile apps
Facilities Service Management	PRB1302851	"Assign to me" UI action is changing the assignment group

Problem category	Number	Short description
Facilities Service Manageme nt	PRB1300846	Facilities module - Single User Move Task creates additional blank requests
Field Normalizatio n	PRB1281114	MakeAndModel script include does not check for field normalization, which can lead to duplicates on cmdb_model and core_company
Field Service Manageme nt	PRB1280846	Auto-assignment performance issue with large number of cmn schedule spans (>40K)
Field Service Manageme nt	PRB1316274	Questionnaire behavior is not worked as expected
Field Service Manageme nt	PRB1295060	Weekday and Date picker translation are not available on Appointment Booking window
Field Service Manageme nt	PRB1297914	Appointment Booking not displaying times as expected when (glide.sys.time_format) property is modified
Field Service Manageme nt	PRB1297935	Appointment booking slot which is canceled should free-up for booking again
Field Service Manageme nt	PRB1297942	The work order gets closed after the work task is closed incomplete with a follow-up task created
Field Service Manageme nt	PRB1298626	The available appointments displayed in the appointment booking popup differ depending on the current timezone when setting a small appointment window

Problem category	Number	Short description
Field Service Manageme nt	PRB1301867	On Task Ordering Rule form, changing any field value clears the connecting task field
Field Service Manageme nt	PRB1303349	Admin gets logout while making the changes for event configuration
Field Service Manageme nt	PRB1311018	Submitting an Appointment Booking request from portal redirects to a nonexistent page
Filters	PRB1298228	Updating a dynamic default record does not capture the resulting sys_dictionary change in an update set
Filters	PRB1298356	Filter breadcrumb translation issue
Filters	PRB1299104	Fields containing ampersand (&) in labels do not display correctly on condition builders
Financial Manageme nt	PRB1284720	Project Actual Cost (pm_project.work_cost) is set to the user session currency
Financial Manageme nt	PRB1297329	"Total actual cost" doesn't auto populate value on basis on cost plan breakdown after upgrade.
Financial Manageme nt	PRB1298876	Contract rate card business rule "Update Contract" is using GlideAggregate and not honoring the users session currency
Financial Manageme nt	PRB1301428	Validating Fiscal period throws error "The period from xxxx-xx-xx for fiscal unit Month is not valid"

Problem category	Number	Short description
Financial Manageme nt	PRB1302487	Unit cost and Quantity of Cost plan is editable through list View
Financial Manageme nt	PRB1308510	"Process Last Month CI Costs" schedule job is pointing to Legacy CICostProcessor. It should be FMCostProcessor SI
Financial Manageme nt	PRB1308522	Fiscal admin should be able to generate when domain is global
Financial Manageme nt	PRB1312185	"Project Cost Allocation per Fiscal Period" report throws error: "Cannot generate the report. Stack By field itcoa_segment_five does not exist"
Financial Manageme nt	PRB1314815	task.short_description 'Display' Dictionary Value set to 'true' when activating 'com.snc.financial_planning' plugin
Flow Designer	PRB1294209	PFLogListener overflow DBLazyWriter causes the instance to become unresponsive
Flow Designer	PRB1291705	Flow designer: "Ask for approval" action does not change the approval field as expected on the sn_vul_vulnerable_item table.
Flow Designer	PRB1271176	When using the flow designer to update an HTML field on a form, data pills do not working correctly
Flow Designer	PRB1292405	'Remove Condition' button on a flow trigger does not successfully delete the most recently deleted condition
Flow Designer	PRB1307954	The flow execution causes excessive sys_compiled_choice cache to flush

Problem category	Number	Short description
Flow Designer	PRB1316605	Script step in Flow designer does not show full code
Flow Designer	PRB1284215	Condition used in a subflow does not go into the Else loop if the condition fails
Flow Designer	PRB1293050	Error encountered when applying an update set that has a Flow Designer within it
Flow Designer	PRB1297060	Boolean values cannot be saved in a flow designer as expected
Flow Designer	PRB1298454	Ask for Approvals Action creates duplicate approvals for non-task tables
Flow Designer	PRB1298578	Unable to use code tags to add a hyperlink to "Additional Comment" journal field
Flow Designer	PRB1311326	Flow Designer: Cannot use "Name/Values" input type
Flow Designer	PRB1315140	Flow Designer - From within an action, users are unable to add a third condition to the 'Wait for Condition' step
Forms and Fields	PRB1294562	Slowness in the item_option_new form when loading page
Forms and Fields	PRB1299102	Add/Remove multiple icon for list type field does not work if it's added as a dot-walk field
Forms and Fields	PRB1293898	The search bar when selecting users/groups to add to tags does not work
Forms and Fields	PRB1032506	Item Designer - Question column doesn't always match section selection
Forms and Fields	PRB1042731	Drop-down value is blank when read-only, instead of showing "--None--"

Problem category	Number	Short description
Forms and Fields	PRB1292721	Multi-level bullets and numbered lists don't behave correctly in Wiki KB articles
Forms and Fields	PRB1112736	Field type 'Name-Value Pairs' cannot be set to read-only on client or server
Forms and Fields	PRB1286217	Encryption issues in live form
Forms and Fields	PRB1293054	Read-only decimal fields are saved incorrectly when comma is used as the decimal separator
Forms and Fields	PRB1295009	Selecting the button to expand timing details in the response time indicator sometimes causes the page to load a blank form
Forms and Fields	PRB1264425	The reference variable on the record producer does not respond on the Mobile UI when there is a Hebrew value in it
Forms and Fields	PRB1297913	A read-only multi-line text field on a form (incident) doesn't automatically resize for non-admin users
Forms and Fields	PRB1307115	Chrome auto-fill data overlaps the auto-completion of reference field(Assigned To) on the form
Forms and Fields	PRB1283750	While form loads, read-only fields can be expanded and drop-down values can be viewed and selected
Forms and Fields	PRB1288769	Multi-variable type "Look up select box": Lookup from table field appears 'read only' for admin, but is editable
Forms and Fields	PRB1289754	In the mobile application for Kingston, text is not translated

Problem category	Number	Short description
Forms and Fields	PRB1293315	Wiki field label is showing on HTML type articles
Forms and Fields	PRB1293536	Date/times displayed on forms in 'Time Ago' format do not update on change
Forms and Fields	PRB1295589	The character counter for long text fields is not accessible
Forms and Fields	PRB1297959	Accessibility enabled increases the form loading time
Forms and Fields	PRB1299088	Adding apostrophe or quote(s) in "Name" field breaks GlideModal's functionality. (Example: Run Fix Script UI action fails)
Forms and Fields	PRB1305232	Token errors appear on the browser console when loading the approval form
Forms and Fields	PRB1305989	Opening the link for a project created from a demand does not apply the view rule
Forms and Fields	PRB1307477	The read-only values in a dropdown are visible if the user presses the up or down keys while the input has focus
Forms and Fields	PRB709946	Annotations that denote sections of a form should use header tags
Forms and Fields	PRB1317413	The currency code is reverted to "$" when currency field updated with a client script
Forms and Fields	PRB1267232	Cannot get focus via keyboard in Tag Details if accessed via "Show related Lists" pop-up
Forms and Fields	PRB1289882	Unable to rename the file on attachment popup attached with drag & drop.

Problem category	Number	Short description
Forms and Fields	PRB1292014	Choice list fields are not sorted by value when dependent value is one of the choices
Forms and Fields	PRB1294139	On-call roster member changes to null when moved in slush bucket
Forms and Fields	PRB1294409	Clicking Advanced view of wizard UI policy changes the form layout and shows the system UI policy form
Forms and Fields	PRB1294465	The 'field_decorations' dictionary attribute does not work on 'Phone Number' field
Forms and Fields	PRB1294642	Modifying a check box from a list using client script does not save the checkbox
Forms and Fields	PRB1294859	The date is set to where the cursor points, not to the highlighted date when you press Enter
Forms and Fields	PRB1295374	g_form.getValue is giving different results between Mobile and Service Portal
Forms and Fields	PRB1298155	Demand field only previews assessment data when viewed from Planning Console view of project record
Forms and Fields	PRB1298372	Adding a tag to a cmdb_ci record and then adding a group or user in the 'viewable by' dialog doesn't save the groups/users
Forms and Fields	PRB1300240	Business rule not saved correctly with glide.ui.syntax_editor.async_post
Forms and Fields	PRB1300292	Date fields do not change to "Days ago" after updating the field
Forms and Fields	PRB1302270	Correct currency values not auto-populated when user does not have write access to the currency field

Problem category	Number	Short description
Forms and Fields	PRB1302446	Additional actions for incidents cannot be selected when context menu has scroll bar
Forms and Fields	PRB1302678	'Settings' popup in Configuration Item - CI Relation view is cut when the language is set to Hebrew
Forms and Fields	PRB1302775	Edit Tag Audience dialog does not show full group names when searching for groups to add
Forms and Fields	PRB1303847	Form header text "Engagement New Record is incorrect for non-admin users
Forms and Fields	PRB1303868	iPad issues when clicking "i" icon in a list view
Forms and Fields	PRB1304670	Issues with favorite/bookmark URLs after instance is cloned
Forms and Fields	PRB1305460	The 'Viewable By' field on the 'Edit tag audience' dialog is not working on the HR case records.
Forms and Fields	PRB1306200	Text color in Calendar History view
Forms and Fields	PRB1306586	Sending email from incident form breaks when an updated field contains more than the browser max number of characters
Forms and Fields	PRB1307810	Mandatory asterisk does not appear on form section when required field is a dot-walked List type
Forms and Fields	PRB1309256	If LiveUpdate is interrupted, saving a workspace record can cause data loss

Problem category	Number	Short description
Forms and Fields	PRB1310518	"Activity Properties" popup in Workflow Editor does not close when you click outside the popup
Forms and Fields	PRB1310731	Multiple popups appear when hover on Reference field icon in form sections
Forms and Fields	PRB1311044	Can't perform actions in form layout due to commented-out validation scripts
Forms and Fields	PRB1311198	With custom-formatted locales, currency value saved incorrectly if updated via client script
Forms and Fields	PRB1311216	On the task progress board, the popup and edit form modal windows overlap
Forms and Fields	PRB1313755	Firefox: issue submitting a form with multi-line mandatory fields that aren't filled in
Forms and Fields	PRB1314978	URL is overwritten when user does not have write privilege on ACL.
Governance, Risk and Compliance	PRB1303162	After London upgrade, ACL from the GRC scoped app caused an issue on cmdb_ci_service table
Governance, Risk and Compliance	PRB1171658	Skipped error for "sys_dictionary_sn_risk_risk_number" when upgrading because it exists on parent table already
Governance, Risk and Compliance	PRB1270030	Delete UI action on the Citation record does not work
Governance, Risk and Compliance	PRB1297082	All controls default to non-compliant regardless of responses in attestation

Problem category	Number	Short description
Governance, Risk and Compliance	PRB1307997	Upgrade from Jakarta to Kingston sets flag on all profiles as true as if created manually
Governance, Risk and Compliance	PRB1292068	Warning logs are seen whenExecuting an Indicator with a failed indicator result
Governance, Risk and Compliance	PRB1292209	Creating new service in data certification task creates a new certification task instead of a new service
Governance, Risk and Compliance	PRB1292638	'Order' field on GRC Content table is is set to numeric not Integer, creating an issue with sorting in the list view
Governance, Risk and Compliance	PRB1300289	Slowness opening "item" reference qualifier list on Indicator form(GRC Indicator table)
Governance, Risk and Compliance	PRB1302139	Inactive profiles for active controls under policy statement
Governance, Risk and Compliance	PRB1305345	"Control attestation nightly run" scheduled job does not get controls frequency
Governance, Risk and Compliance	PRB1305649	Domain separation and GRC: records created in TOP domain instead of originating child domain
Governance, Risk and Compliance	PRB1314785	'Show incorrect and unscored responses' filter does not work for 'Choice' data type
Governance, Risk and Compliance	PRB1315809	Typo in "Assessment Detail" portal widget error message

Problem category	Number	Short description
Graph API	PRB1301851	CuckooMap.values() function can return a NULL entry causing the GraphQL schema build to fail
Guided Tours	PRB1291491	The Guided Tour Designer throws an error if the Openframe plugin is installed
Guided Tours	PRB1293518	Guided tour rendering issues
Guided Tours	PRB1310062	URL in the "Override tour Auto Launch preferences" UI action should be structured differently
Guided Tours	PRB1315522	Callout created on a guided tour related list is saved on a different related list
Guided Tours	PRB1238660	(USG Incident) - Guided Tours prevent from adding Callout due to Dictionary entry attribute no_attachment = true
Guided Tours	PRB1294070	Create Guided Tour breaks and generates an error "Cannot read property 'getAttribute' of undefined" unless the Service Portal plugin is activated
Guided Tours	PRB1297874	Callouts do not work on a custom tab in an incident
Guided Tours	PRB1300586	Guided Tours issue - Cannot add callouts to dot-walked fields
HTML Editor	PRB1249535	TinyMCE - PowerPaste pop-up needs to be translatable
HTML Editor	PRB1271312	 and new lines in body field of email templates are converted to when rendered in TinyMCE

Problem category	Number	Short description
HTML Editor	PRB1273142	Insert/Edit link in text editor replaces images with the text
HTML Editor	PRB1307701	Tiny MCE editor doesn't display thumbnail when inserting image into KB articles
HTML Editor	PRB1287625	Email client does not delete attachment when the clipboard content is deleted from TinyMCE editor
HTML Editor	PRB1309893	"Find and replace" pop-up screen is showing "Add Me" Icon Instead of X
HTML Editor	PRB1292351	Hint text on wiki field displays twice in IE (Kingston)
HTML Editor	PRB1294500	Cursor placement is not maintained when content is pasted into text editor
Human Resources	PRB1259107	The KB knowledge base is not entertaining the HR criteria
Human Resources	PRB1274476	HR user cannot edit Assignment group field in HR Case list view after upgrade to Kingston P3
Human Resources	PRB1295516	After installing the Knowledge Blocks plugin, bookmark/favorite icons are not shown properly
Human Resources	PRB1294367	Service Portal (Upgrade Issue): "HRJ Completed Items" widget, if added to custom page, generates console errors if upgraded to Kingston
Human Resources	PRB1315846	Inbound action created an HR case with the wrong priority
Human Resources	PRB1303288	Role used in ACL for HR Core Scoped app plugin does not exist

Problem category	Number	Short description
Human Resources Service Management	PRB1279410	HR: Integration imports cause slow events
Human Resources Service Management	PRB1292852	The HR case "Restrict Query" business rule is invoked multiple times for non-HR records
Human Resources Service Management	PRB1310155	HR - HR PA roles (sn_hr_pa.admin and sn_hr_le_pa.admin) need to be handled correctly
Human Resources Service Management	PRB1293872	HR Transfer Case modal breaks where there is an apostrophe in the HR Service or Topic Category with the system property 'glide.ui.escape_all_script' disabled
Human Resources Service Management	PRB1302929	Upgrade issue with hr_AssignmentAPI script include
Human Resources Service Management	PRB1292195	Orphaned reference to .jsx file on (accept_signature) UI Page
Human Resources Service	PRB1297688	Additional comments in HR cases are saved in IE but not Chrome

Problem category	Number	Short description
Management		
Human Resources Service Management	PRB1292280	Typo in sn_hr_integrations.HRIntegrationsOutboundHelper script include
Human Resources Service Management	PRB1294045	Non admin/non HR profile_writer roles cannot see Notifications in system settings
Human Resources Service Management	PRB1294160	Case Creation list view is 'default' instead of 'case_creation'
Human Resources Service Management	PRB1295115	Issues creating an HR Case from a template with no template fields explicitly set
Human Resources Service Management	PRB1295249	PDF generator - Cannot render a footer image across the page
Human Resources Service Management	PRB1295480	Cannot view report drill-downs in HR applications

Problem category	Number	Short description
Human Resources Service Management	PRB1297258	Duplicate RCA files in EDM causing db insert exceptions in log files
Human Resources Service Management	PRB1300766	The business rule 'Auto Assign' of HR Task throws a message "No agents meet the auto-assignment criteria for HRT000****"
Human Resources Service Management	PRB1302488	Missing translations for 'sn_hr_core_link' records
Human Resources Service Management	PRB1305647	'End date can not be before start date' error message on sn_hr_core_link table if the date format is not the default yyyy-MM-dd
Human Resources Service Management	PRB1306206	Transfer Case screen pop-up displays all the &'s as &amp
Human Resources Service Management	PRB1314384	Disabled HR record producer is re-enabled after daily license download job
Human Resources Service	PRB1315495	Sign Document does not add signature to HR PDF template for specific pdf files

Problem category	Number	Short description
Management		
Human Resources Service Management	PRB1316868	Managed document permissions do not carry over to HR portal
Human Resources Service Management	PRB1293147	HR auto-assign logic is not excluding inactive users who are in the assignment group
Human Resources Service Management	PRB1293324	HR document template is not editable in the French language
Human Resources Service Management	PRB1293402	Client script "Validate mobile number (submit)" does not validate valid phone numbers with non-US formats
Human Resources Service Management	PRB1293981	Transfer case option copies the closed date if we transfer a reopened case
Human Resources Service Management	PRB1294526	The SLA field on the HR Talent Management case does not get populated

Problem category	Number	Short description
Human Resources Service Management	PRB1294611	Scoping messages are contradictory in the HR properties UI
Human Resources Service Management	PRB1295228	Transfer Case does not populate certain fields from the service template
Human Resources Service Management	PRB1295289	HR Integrations Scheme Mappings: constant value is not mapped correctly
Human Resources Service Management	PRB1296649	HR Portal - The activity 'Complete' button do not function correctly
Human Resources Service Management	PRB1296953	HR Case Management COE configuration throws error if user has both admin and sn_hr_core.admin roles
Human Resources Service Management	PRB1297964	Double-byte character such as Japanese does not get merged to the fillable PDF
Human Resources Service	PRB1298142	PDF files generated within HR module have no MIME type (pdf extension)

Problem category	Number	Short description
Manageme nt		
Human Resources Service Manageme nt	PRB1298203	Module names where 'legacy' is applied are not translated
Human Resources Service Manageme nt	PRB1298288	HR Service Portal header configuration not being set on HR Services
Human Resources Service Manageme nt	PRB1298490	When an HR user requests an onboarding, the user record that is added does not have a user ID and password
Human Resources Service Manageme nt	PRB1303276	Activity widgets on HR Portal refresh the entire page after posting a message
Human Resources Service Manageme nt	PRB1304416	Users without HR roles can see question-answer records
Human Resources Service Manageme nt	PRB1304924	'Suspend Dialog Box' client script shows an error in Print view for HR payroll case form

Problem category	Number	Short description
Human Resources Service Management	PRB1308468	Clicking the "Show cases created" UI action redirects to the home page
Human Resources Service Management	PRB1309343	Issues changing the state from Suspended to anything and then back to Suspended
Human Resources Service Management	PRB1310063	HR Portal - Information widget does not display after upgrade
Human Resources Service Management	PRB1311293	Templated snippets with the same name cause issues
Human Resources Service Management	PRB1312797	HR Announcements might not display on the HR Portal if their start date is compared to the current date in GMT
Human Resources Service Management	PRB1313293	Users unable to view dashboards created in HR Scope
Human Resources Service	PRB1315193	Date variable does not follow any set format

Problem category	Number	Short description
Manageme nt		
Human Resources Service Manageme nt	PRB1315999	Improve performance of case form loading with similar cases
Human Resources Service Manageme nt	PRB1316128	'Mark Signature Blocks' UI page does not display the expected PDF in some cases
Human Resources Service Manageme nt	PRB1305829	RCA error on HR Task form when form is read-only and email_template is not displayed
Human Resources Service Manageme nt	PRB1316636	ACLs are not executed in scoped app
Import / Export	PRB1292084	ImportSetTransformer spins for a long time for mutex to be freed when coalescing on a null value
Import / Export	PRB1248838	When a user clicks the Preview button on an export definition record, the list's filter options are not responsive and the preview list columns are not sortable
Import / Export	PRB1251964	Easy Import is not exporting all columns

Problem category	Number	Short description
Import / Export	PRB952946	LDAP Listener generates "LDAP exception validating object:Read timed out" errors
Import / Export	PRB715483	Load all records in Datasource creates a field in the Global scope in a scoped import set table
Import / Export	PRB1263518	Listener is inactive but it appears in the LDAP log as being updated every 5 minutes
Import / Export	PRB1296361	When running a scheduled report in CSV format that includes variables as the columns, the column header does not show the variable name/header
Import / Export	PRB1302277	Importing data using the load data functionality returns a blank page upon submit
Import / Export	PRB1260233	Append timestamp does not match the export history with the filename that is exported to the MID Server
Import / Export	PRB1262995	Setting property "glide.db.impex.json.max.file.size.mb" to a value above 2000 causes imports to fail
Import / Export	PRB1266847	Imported records missing mandatory data are processed without error
Import / Export	PRB1273065	FTPS is no longer supported but is still available as an option
Import / Export	PRB1247425	Easy Import fails when the admin role is an elevated privilege
Import / Export	PRB1249280	Easy Import maps to 'inactive' fields when the transform map is auto created upon the data load

Problem category	Number	Short description
Import / Export	PRB1268382	When a scheduled export job is enabled for post-script but not enabled for pre-script, job outputs "Failure during scheduled run of job: java.lang.NullPointerException" even though export and scripts run fine
Import / Export	PRB1290800	Transform Map:Coalesce on Glidelist field always inserts
Import / Export	PRB1292477	Clicking the back button within the UI loads the data after choosing existing table and file
Incident Alert Manageme nt	PRB1303271	domain path fix included in reparenting of incident_alert takes a very long time in a customer sub-prod with 172917 records
Incident Manageme nt	PRB1300955	Error: Illegal access to package
Incident Manageme nt	PRB1293805	Contact definitions are created with empty user/group values
Incident Manageme nt	PRB1297358	Incident state not updated when state value changes on incident form
Incident Manageme nt	PRB1295521	When multiple users are in the same record, the '<user> is typing' presence indicator is not working
Incident Manageme nt	PRB1318253	OOTB "Create Incident" inbound action fails to set priority on incidents from high importance emails

Problem category	Number	Short description
Incident Manageme nt	PRB1300390	Major Incident Workbench - chat button is visible to users who cannot access Connect
Incident Manageme nt	PRB1301480	Activating Major Incident Management plugin can cause issues with collision detection
Incident Manageme nt	PRB1303558	Order of the Major Incident Management workbench, Communications Section, does not follow the Flow Designer
Incident Manageme nt	PRB1311051	Major Incident Plugin issue
IntegrationH ub	PRB1307289	API key length issues
IntegrationH ub	PRB1313195	Action Description field limitation to be increased
IntegrationH ub	PRB1293422	Multiline text allows only 40 characters in the flow
IntegrationH ub	PRB1312120	Response attachment handling does not honor correct target record
Integrations	PRB1259353	Setting "Maximum retry" = 1 on an ECC Queue Retry Policy can cause an infinite number of retry attempts
IT Asset Manageme nt	PRB1296985	Software entitlements are not reconciling
IT Asset Manageme nt	PRB1288195	Per-device and per-user-license metrics are not available when the Microsoft Metric Group is selected

Problem category	Number	Short description
Knowledge Manageme nt	PRB1304243	If user does not have role found in glide.knowman.show_user_feedback, user feedback is not created
Knowledge Manageme nt	PRB1284491	User Criteria that is not used by any knowledge base is evaluated on the first article opened in the session
Knowledge Manageme nt	PRB1276269	Date corruption in kb_knowledge causing unexpected behavior
Knowledge Manageme nt	PRB1290357	SPUI: Knowledge Management Service Portal Home is slow due to missing indexes/slow SQL
Knowledge Manageme nt	PRB1314501	Images in knowledge article tables are not displaying properly when published
Knowledge Manageme nt	PRB1291783	"Attachment link" in article check box help text implies an attachment opens not downloads
Knowledge Manageme nt	PRB1296051	KB search for duplicates cuts off at "&" or "#" characters
Knowledge Manageme nt	PRB1296765	Text alignment issue while importing Knowledge article
Knowledge Manageme nt	PRB1296870	Issue on right-click option in "Your Answer" field in Knowledge question form
Knowledge Manageme nt	PRB1298476	KB article rating not being validated correctly

Problem category	Number	Short description
Knowledge Manageme nt	PRB1306939	When clicking on 'An updated version of this article is available' message, the latest version of the article is opened in the /kb portal, regardless of the current portal
Knowledge Manageme nt	PRB1308043	Updating attachments on KBs does not change "Updated" and "Updated by" fields
Knowledge Manageme nt	PRB1311757	Not able to post a question if a knowledge base has many categories and sub-categories
Knowledge Manageme nt	PRB1312330	Duplicate article search results while searching KB with order by view count
Knowledge Manageme nt	PRB1314656	Attachment name in KB article widget does not adhere to box boundary
Language and Translations	PRB1251397	Popup of a reference field (cmn_location table) is blank when using Russian language
Language and Translations	PRB1302965	List edit incorrectly displays English value instead of system language for element type documentation field
Lists	PRB1308349	loadRow failure java.lang.NullPointerException when a "table name" field type is added to a form
Lists	PRB953283	Long column names cause formatting issues on the light personalization slushbucket in Microsoft Edge
Lists	PRB1264831	Clicking Show choice list for extended CMDB table shows blank list

Problem category	Number	Short description
Lists	PRB1247195	gs.addInfoMessage and gs.addErrorMessage outputs are displayed before redirection when triggered from a list action
Lists	PRB1255338	Lists - list header menus should not appear for "other active tasks"
Lists	PRB1290293	Column search does not work in Assignment Data Lookup table
Lists	PRB1302216	Filter condition builder is breaking when date is included
Lists	PRB1308904	IE browser. The mouse pointer jumps on the Category field when left clicking, and the user is not able to choose the subcategory
Lists	PRB1115640	Unable to export query builder results
Lists	PRB1283568	Issues with editing a list inline using JAWS screen reader
Lists	PRB1290246	In IE, if a Reference popup is open to show a list of records and you right click on any record to Open in a New Window, the new window opened is empty
Lists	PRB1296371	Read-only text field has formatting issues when creating new record
Lists	PRB1300322	In a list view when hovering over the comments and work notes field. Line breaks are not taken into account for List V2
Lists	PRB1304015	Date Field Hover-over Pop-up inconsistently switches between weeks, days and hours if repeatedly triggered
Lists	PRB1304899	Firefox: Stage field labels are lined up below the stage symbols when expanded in

Problem category	Number	Short description
		sc_req_item if the associated workflow has Stage Rendering set to "Workflow Driven" or "Main Flow"
Lists	PRB1306152	Adding large number of records on a List type field prevents the field from loading and shows 'This page isn't working' error
Lists	PRB1308597	List condition in the expanded filter is different from the breadcrumb
Lists	PRB1311214	Generated URL of the change task has the parameter "sysparm_record_target=conflict" when more than one embedded list is added to a form
List v2	PRB603872	Related list record counts are incorrect after viewing a related record from a list with multiple pages of records
List v2	PRB1198029	Duplicate Approve and Reject list actions on List v2 in IE11
List v2	PRB1292255	State drop-down in filters on Approvals tab has unexpected values
Live Feed	PRB1099808	Some comments are not viewable after adding a .png file
Live Feed	PRB1295729	Adding a Journal Input field to the kb_knowledge table causes any comments added in the "Add a comment" field to not show
Live Feed	PRB1297691	Avatar Initials are Incorrect if parenthesis is present
Live Feed	PRB1291746	LiveFeedMessage API postMessage() does not correctly process the 'from_profile' in the activity feed

Problem category	Number	Short description
Managed Documents	PRB1303097	Managed Document: Canceling a rollback is creating a new revision of the document
Memory: Heap Space	PRB1293027	Frequent low memory occurrences after archiving the CMDB table
MID Server	PRB1297648	SNCSSH: "Timed out while waiting for TCP to connect" occur when not caused by network or target delays
MID Server	PRB1314105	During the MID upgrade, two-minute time-out for deleting old files is not enough for some customers
MID Server	PRB1206641	Unable to assign the mid_server role to an integration user
MID Server	PRB1274535	Large ECC Queue payloads created in the TEMP folder are not removed
MID Server	PRB1292553	MID Server selection throws the "Unable to find default MID Server sys_id.." error even when other MID Servers are available
MID Server	PRB1298495	MID Servers connect via mid.proxy.host parameter even if mid.proxy.use_proxy=false
MID Server	PRB1274323	'Pending jobs' field in ECC Agent Status is calculated using input rather than output ECC queue records
MID Server	PRB1298206	Issues with Discovery Schedules timing out
MID Server	PRB1271381	MID script Include 'ArrayPolyfill' causes the MID Server to query /ecc_agent_script_include.do excessively
MID Server	PRB1288426	MID Server auto-upgrade repeatedly fails if an incomplete ZIP file was downloaded, as the

Problem category	Number	Short description
		bad ZIP is not checked before continuing the upgrade, or redownloaded
MID Server	PRB1305027	The custom operation pattern discovery in AWS does not support external credentials such as CyberArk
MID Server	PRB1244307	HTTPS connections are being closed explicitly when initiating AMB connections
MID Server	PRB1265192	Powershell probe has a very small chance of leaking two threads
MID Server	PRB1294691	If mid.pinned.version configuration parameter is set as empty, the MID Server will remain pinned or will not auto-upgrade
MID Server	PRB1250922	MID Server script file cannot handle Japanese characters
MID Server	PRB1278645	Failures running SSHCommand probe with 'bash'
MID Server	PRB1294837	MID Servers query ecc_mi table unnecessarily and agent logs are flooded with ACL errors
MID Server	PRB1295941	The mid.ssh.session_timeout setting is always ignored
Mobile	PRB1281304	When there are Chinese characters on the form, the reference lookup function breaks
Mobile	PRB1304198	setValue() is not working for the currency field on Mobile
Modals & Dialogs	PRB1293202	"This helped" and navigation buttons are not working in incident related search results in the VM

Problem category	Number	Short description
NotifyNow	PRB1303132	Notify call failing when the incident is added as a parameter(fifth) to NotifyAPI
NotifyNow	PRB1281522	Notify-Twilio: Need to import the voice-enabled only and SMS-enabled only numbers from Twilio
NotifyNow	PRB1296584	Notify conference call fails when the CalledVia parameter is not an E.164 compliant number
NotifyNow	PRB1298854	UI actions "Send SMS" and "Start a Conference" not working correctly
NotifyNow	PRB1302464	Send SMS workflow activity throws error when Notify number is a Short Code
On-call Scheduling	PRB1293070	Schedule members are not filtering based on groups while creating on-call schedules
On-call Scheduling	PRB1274521	The Schedule report takes a long time to calculate when a user is a member of several large groups
On-call Scheduling	PRB1294137	Overlapping time-off creation should be allowed across groups
On-call Scheduling	PRB1294491	The On-call Schedule Interceptor triggers global workflows
On-call Scheduling	PRB1298269	On-Call Schedule entries have an incorrect 'end time' when they are created from schedules with dates in Daylight Savings Time
On-call Scheduling	PRB1298517	Manage Rota provides incorrect shift end values when shift spans to a new month
On-call Scheduling	PRB1301988	The "User Removed from Rostered Group" email notification has incorrectly formed URLs

Problem category	Number	Short description
On-call Scheduling	PRB1308915	When trying to schedule primary coverage in the on-call calendar, the schedule button is disabled
On-call Scheduling	PRB1310718	Large number of v_alternate_rotation records created when "My schedule report" is generated
On-call Scheduling	PRB1316976	Inconsistent behavior when using 'Manage Rota' when time off and coverage overlap for a user
On-call Scheduling	PRB1262006	Escalation plan is correct during scheduling, but the escalation report is incorrect
On-call Scheduling	PRB1291736	Mismatch in behavior of the com.snc.on_call_rotation plugin after upgrading from Jakarta to Kingston
On-call Scheduling	PRB1293987	Skipping/Missing Roster member issue on the On-Call calendar
On-call Scheduling	PRB1296458	On-call JS API - invalid code
On-call Scheduling	PRB1297670	The "deactivate" button on cmn_schedule_span records doesn't work as expected
On-call Scheduling	PRB1304393	On-call calendar ($oc.do) allows users to type dates as "9999-01-02", which consumes the memory of the node and restarts it
On-call Scheduling	PRB1304727	On-call Schedule report has duplicate schedule and date created columns
On-call Scheduling	PRB1309484	Issues with replies to Twilio numbers

Problem category	Number	Short description
Orchestration	PRB1273953	Skip errors seen in upgrade log when upgrading to Kingston
Orchestration	PRB1276455	Domain separated instances don't have a default MID Server, causing orchestration activity error in resolving host name
Orchestration	PRB1267529	"Resolve DNS Name" activity in orchestration fails to use available MID servers when no default is set
Orchestration	PRB1273432	Manual creation of JSON object with string manipulation should be changed
Orchestration	PRB1296231	When Activity Creator performs "Test Inputs" on Powershell activity, the "Test Inputs" window is stuck loading
Orchestration	PRB1296652	When workday password contains '&' character, the SOAP request fails
Orchestration	PRB1096926	GenericException script include has a syntax error which returns errors since 'this_cause' is not defined
Orchestration	PRB1236357	A related list file is skipped during plugin activation
Orchestration	PRB1291928	JDBC activity multiple Insert issue against Oracle DB
Orchestration	PRB1296255	ASYNC: Automation - Sensor scheduled jobs are needlessly created, causing scheduler backlog and performance issues
Outbound Messaging	PRB717409	RESTMessageV2 does not include mutual authentication info when endpoint returns 301

Problem category	Number	Short description
Outbound Messaging	PRB1266129	When "Generate sample SOAP messages" is used, the messages have extra text in them
Outbound Messaging	PRB1293144	Issue with the REST Message/Function when a record producer is submitted through the service catalog
Outbound Messaging	PRB1295234	Unable to pass parameters to outbound REST message via Mid Server using probe files
Outbound Messaging	PRB1297940	Outbound SOAP - Not able to overwrite Content-Type with setRequestHeader when using executeAsync
Password Reset Application	PRB1292471	The Active directory activity 'Change AD user password' cannot handle all error codes returned from Active Directory
Password Reset Application	PRB1294927	Enrolling from two different session simultaneously creates two duplicated answers to enrollment questions
Password Reset Application	PRB1248994	Password reset/change does not correctly handle non-ASCII characters
Password Reset Application	PRB1264803	Tooltip hover text not getting translated in Password Reset page
Password Reset Application	PRB1269684	Possible issue with Jelly tags in password reset UI macros and pages
Password Reset Application	PRB1280902	When domain separation is enabled, Password Reset doesn't create workflow contexts in correct domain

Problem category	Number	Short description
Password Reset Application	PRB1283217	Incorrect enforcement of maxlength variable length on the Password Reset UI pages
Password Reset Application	PRB1303760	Password Reset Process stuck on captcha because MID server is unavailable during upgrade process
Patterns	PRB1298431	MSSQL database names with spaces are truncated when using the MSSQL database on the Windows pattern
Patterns	PRB1291451	The Azure database pattern fails to discover MySQL database
Patterns	PRB1308660	Assigned_To attribute is not getting populated by Discovery
Patterns	PRB1282786	Issues occur with load balancers because the identification pattern continues to fail
Patterns	PRB1291151	Conversion script to migrate from Probes to Pattern
Patterns	PRB1293296	Unexpected behavior from WMB on the Unix Pattern
Patterns	PRB1293297	Issues terminating Amazon AWS Route53 when hosted zone is empty
Patterns	PRB1296826	Cisco interfaces and Cisco VIPs are not discovered properly due to version issues
Patterns	PRB1307721	The pattern 'Network Switch' fails due to neighbor interface being down or neighbor not being discovered

Problem category	Number	Short description
Patterns	PRB1293288	When discovering Hyper-V servers, they appear as class "windows server" with no virtual instances
Patterns	PRB1297294	Issues with the pattern for JBoss on Linux and Windows
Patterns	PRB1303326	AJP Endpoint Invalid URL
Patterns	PRB1312929	Multiple CIs can appear with the same chassis serial number
Patterns	PRB1317058	Azure Website pattern: retrieve list of websites with a single REST call
Patterns	PRB1292301	DataPower Server pattern throws an error
Patterns	PRB1293992	Linux server pattern fails to bring in the Object_ID for the newer EC2 instance
Patterns	PRB1294812	The Oracle options table samp_oracle_options is filled with invalid data when Pattern commands fail
Patterns	PRB1296032	Reconciliation issues on the networking device discovery
Patterns	PRB1296637	The Cisco GSS create connection does not work correctly and the cluster is not created correctly
Patterns	PRB1296990	HP-UX server discovery error - Pre sensor failed due to: TypeError: Cannot convert null to an object
Patterns	PRB1300836	Netapp query doesn't run in debug mode
Patterns	PRB1303547	MS SQL DB on Windows Pattern does not support multiple namespaces

Problem category	Number	Short description
Patterns	PRB1303780	'Child' Service Account Discovery from an AWS Master Account is limited to the first 20 accounts
Patterns	PRB1306631	UCS blade duplication issue
Patterns	PRB1311020	Mongod DB pattern does not recognize the -f flag for configuration files
Patterns	PRB1313294	Issue with pattern 'Oracle DB on Windows'
Patterns	PRB1313306	The MS SQL Enrich Attribute Library is inactive by default in London instances, causing the MSSQL DB on Windows patterns to fail
Patterns	PRB1314459	As downstream connections, the pattern 'F5 BigIP LTM' fails
Patterns	PRB1314470	"MSSql DB On Windows Pattern" didn't make correct db connection
Performance Analytics	PRB1263130	Issue with creating new dashboard tabs when using domain separation
Performance Analytics	PRB1293827	A malformed JSON reply occurs in PA Indicator REST API if a duplicate indicator-breakdown mapping is inserted via XML (update set, script, business rule)
Performance Analytics	PRB1286744	PA text analytics : Text analytic widget/ dashboard loads slowly when there more than 50K records
Performance Analytics	PRB1295079	Updating and saving some OOB PA Indicators (for example 'Number of CIs Installed') gives the error: "Indicator Source Facts table and Script Facts table must have the same value"

Problem category	Number	Short description
Performance Analytics	PRB1300887	Performance Analytics: The breakdown relation does not work as expected
Performance Analytics	PRB1261391	PA Data Collections job is slow when counting elements
Performance Analytics	PRB1262244	When the $pa_dashboard.do page is opened outside of nav_to.do, the custom fav icon is not shown in the browser tab
Performance Analytics	PRB1294467	Widget with follow element is not following if the user doesn't have pa_viewer role
Performance Analytics	PRB1296034	In the performance dashboard's pie chart Data labels, & is shown as &
Performance Analytics	PRB1298000	Warning is thrown when adding or removing PA widgets on a homepage or dashboard
Performance Analytics	PRB1304505	Mobile app - For all the indicators in the favorite list, the realtime value is queried, even though the indicator itself has the "Show real-time score" unchecked
Performance Analytics	PRB1314074	Issue displaying PA dashboards on Instances with legacy domain separation configuration
Performance Analytics	PRB678054	PA formula indicators with 'No Score' are not detected and cause issues with Averages / Percentages
Performance Analytics	PRB1254895	Collecting from non-separated table with a domain configuration fails with a null pointer exception
Performance Analytics	PRB1267941	PA_migration - If there are two or more invalid indicators, the invalid score numbers are not calculated correctly

Problem category	Number	Short description
Performance Analytics	PRB1274298	[PA old code] Labels on "spider" type visualization widget are not shown
Performance Analytics	PRB1274700	Manually running the PA Scores Migration in Kingston fails with an error
Performance Analytics	PRB1274831	Breakdown elements are not captured if the breakdown mapping is on rotated table and field is dot-walked
Performance Analytics	PRB1279962	Add ability to disable 'forecast per' indicators
Performance Analytics	PRB1281084	PA collection jobs lead to replication lag
Performance Analytics	PRB1283776	PA score migration fails due to records in the [pa_scores] table with NULL field values
Performance Analytics	PRB1288251	The Share feature in the Interactive Analysis Filter Info Panel is not creating the URL with source filter
Performance Analytics	PRB1292044	Speedometer settings: If scale is specified, the speedometer hand points to the incorrect value
Performance Analytics	PRB1294486	Breakdown selector options are not translatable
Performance Analytics	PRB1294512	Creating a time series widget based on an indicator, where the unit is 'time', no Y axis is displayed when added to a dashboard
Performance Analytics	PRB1295355	Interactive filters display child table choices if the filter is on the parent table
Performance Analytics	PRB1297157	Issue opening related records from "Word Cloud" widgets

Problem category	Number	Short description
Performance Analytics	PRB1300419	Switching between dashboards that share the breakdown element filter triggers a reload that delays the switching
Performance Analytics	PRB1303298	Issues with the Performance Analytics Data Collection Job failing to collect scores
Performance Analytics	PRB1304790	In Chrome 69 and Firefox 62, labels are not visible on threshold lines in the Scorecard
Performance Analytics	PRB1308843	Scorecards - Export to PDF converts "IS&T" to "IS&T" in the exported PDF
Performance Analytics	PRB1309476	"Reports.UpdatedBy" script returns "undefined" result
Performance Analytics	PRB1311030	Workbench widget with a time widget indicator shows wrong display value when using non-Roman alphabet languages
Performance Analytics	PRB1312378	Fields with type "Timer" should be handled the same way as fields with type "Duration"
Performance Statistics and Graphs	PRB1300256	Performance Dashboards - Replication lag reports "0" if the the first database pool record is inactive
Persistence	PRB636410	Incorrect join on dot-walked query condition 3 levels deep when preceded by same dot-walk 2 levels deep
Persistence	PRB1041283	Performance Analytic jobs fail when using an Indicator condition based on a field of the type 'Translated Text'
Persistence	PRB1254469	BootstrapBatcher adds/modifies columns on the DB table if there is a discrepancy between dictionary metadata and the database column definition

Problem category	Number	Short description
Persistence	PRB1285805	"*** ERROR *** Field: sys_domain ref='<<table_name>>' must be specified" may be in the logs when committing an update set
Persistence	PRB1278292	No matching records are returned when searching for multiple tags using the AND condition
Persistence	PRB1278421	Lists with 4 or more joins sometimes display values from the wrong record
Persistence	PRB648343	Adding a new column from "Form Layout" does not check whether the field exists in a table that extends from the current table
Persistence	PRB1280424	Disable in-app clone with properties
Persistence	PRB1303474	Tables should not be audited upon delete to prevent delete recovery from kicking in
Persistence	PRB1241317	Backup tables for reparenting in TPH cause spurious validation failures
Persistence	PRB1263390	DBConnection held large buffer in memory for an extended period of time
Persistence	PRB1294725	Adding a column to a TPP table in a scoped application packages bootstrap XML for all child tables
Persistence	PRB1285665	Schema map shows empty table names and no columns for referenced tables
Persistence	PRB1249660	TPP migration logging stops after reaching maximum transaction per logging limit
Persistence	PRB1290798	When grouping by report results using a dot-walked field, the total records shown for each

Problem category	Number	Short description
		group do not match the total number of records returned overall
Persistence	PRB1290879	Committing an update set can fail on Oracle instances if the ALTER has both ADD and DROP
Persistence	PRB1297534	No results are returned by an inner join query if the condition builder has two or more empty dot-walked fields
Persistence	PRB1297880	Using an update set to edit the field label on a parent table does not sync the updated field label on the child table
Persistence	PRB683015	Oracle line chart of weekly averages that crosses the year boundary mid-week plots a final point incorrectly for the following year
Persistence	PRB966602	Oracle Database - Updating multiple operations between groups ignores lower case
Persistence	PRB1316897	Possible upgrade failure (IllegalArgumentException) when reglomming identically-named fields in TASK hierarchy
Persistence	PRB1241657	Unable to change a field the type of 'List' to 'Reference' when the values in that field are less or equal to 32 characters long
Persistence	PRB1281035	Performance issues when using INSTANCEOF to filter a table
Persistence	PRB1281668	Decimal field gets truncated on upgrade if dictionary does not match database type
Persistence	PRB1284507	Migrating two columns offrow that have the same element name in the same hierarchy overwrites the first storage alias

Problem category	Number	Short description
Persistence	PRB1286626	After upgrading to Kingston, the order in which conditions are listed for reports returns a smaller query than the correct result
Persistence	PRB1295271	Upgrade rollback failed due to failure to download War file
Persistence	PRB1236286	Starting Jakarta, creating Field level ACLs on Tables created in scoped application extending from table 'Configuration item' do not show fields from Parent table
Planned Maintenance Application	PRB1297482	Creating a schedule template from within a maintenance schedule Inserts additional templates
Planned Maintenance Application	PRB1306199	Duplicate Facilities Request is created intermittently from monthly maintenance plans
Platform Security	PRB606404	Error message: "Insufficient permission to access reports" occurs on the ESS Reports page when user has no role
Platform Security	PRB1297102	ASCII control characters (% followed by certain hex codes) are removed from HTML fields
Platform Security	PRB1312932	SSO (SAML2) configuration breaks during upgrade to London with modification of Identity Provider URL
Platform Security	PRB1252502	SysAttachment.changeEncryptionContext API is corrupting attachments when user doesn't have access to encryption context being changed to

Problem category	Number	Short description
Platform Security	PRB1284799	incident.* - save_as_template ACL shipped in 'com.glide.acl.service' has admin_overrides null, should be true
Platform Security	PRB1296088	Can't Remove sn_si.admin role from the admin role when using SSO
Platform Security	PRB1311556	Using templates on Encrypted Text Field results in cipher text showing
Policy and Compliance	PRB1315016	Users with "sn_compliance.user" role cannot access the Attestation metric results, but they can read the metric result
Problem Manageme nt	PRB1295106	Issue with copying workaround text to a linked incident
Procuremen t	PRB1306295	Purchase orders are consolidated in error when the vendor and destination are the same for the RITMs
Procuremen t	PRB1307453	Unable to source a request and add to the purchase order
Profiles and Remediatio n	PRB1105276	When associating one policy to the policy statement, the progress bar on the top becomes unresponsive
Project Manageme nt	PRB1303251	The Planning Console loads slowly
Project Manageme nt	PRB1247837	When closing all project tasks, the project state does not change to "Closed complete"

Problem category	Number	Short description
Project Manageme nt	PRB1256753	Decision records (dmn_decision) have only the 'Rejected' state configured as a close state
Project Manageme nt	PRB1291478	The Planned end date changes for the milestone when the project/task is closed
Project Manageme nt	PRB1300824	Project tasks with finish start dependencies are not recalculating
Project Manageme nt	PRB1303035	Project export to Microsoft Project always shows project <start> time in PDT timezone
Project Manageme nt	PRB1308630	Updating the 'Actual end date' is updating the 'Planned end date' on dependent project tasks
Project Manageme nt	PRB1294296	MPP import/export issues in the Project Portfolio Suite Application
Project Manageme nt	PRB1300559	Slowness when creating a project through a template
Project Manageme nt	PRB1301449	'Update resource capacity' scheduled job has blank end date after processing
Project Manageme nt	PRB1302460	After the upgrade to Kingston, the Related Links section is missing from the Planning Console view of Project Tasks
Project Manageme nt	PRB1309946	The state of the stories is changed unexpectedly and cause data corruption

Problem category	Number	Short description
Project Management	PRB1316543	Changing the Actual start date in Project populates the Actual end date
Project Management	PRB1316449	Using Copy Project, the relation (predecessor and successor's top task) points to the old top task not to a new top task
Project Management	PRB1316330	Deselect all on Timeline view of portfolio workbench not working
Project Management	PRB1261210	Changing a planned project date to another year displays the wrong project count on the Portfolio Workbench
Project Management	PRB1291154	Difference in behavior between Jakarta and Kingston when a project created from a template is set to 'Work in Progress' state
Project Management	PRB1292860	Resource plan and Cost plan evaluate demand start date incorrectly
Project Management	PRB1293039	Top program field is not set when an .mpp file is imported in existing project that is related to a program
Project Management	PRB1296828	Can't close a Program in Kingston if contains a few decisions
Project Management	PRB1302426	Drag and drop operation to increase duration of task in client side planning console is inconsistent and is based on the zoom scale
Project Management	PRB1303958	Project form accepts negative number in percent complete

Problem category	Number	Short description
Project Manageme nt	PRB1304412	In Planning Console, double-clicking the dependency field to update date it does not take lag of more than 23 days
Project Manageme nt	PRB1307088	Issue creating a project in Project Workspace if the template has no "scheduled start date" element
Project Manageme nt	PRB1307234	Estimated Duration value is not correct when an MPP file is imported
Project Manageme nt	PRB1307379	Timeline Visualization navigation arrows are not working, and get stuck for the future dates
Project Manageme nt	PRB1309308	Adding multiple users to the Additional Assignee List from the Planning Console refreshes the page
Project Manageme nt	PRB1309684	Dates/times in the planning console are not updated when users change their timezone
Project Manageme nt	PRB1311155	When the Planning console critical path is ON, the wrong highlighted critical paths appear when printed
Project Manageme nt	PRB1311907	In Internet Explorer, the date format MMM-dd-yyyy auto-populates an invalid Planned End Date in a new project
Project Manageme nt	PRB1312062	'Planned start date' and 'Planned end date' fields are not set to read-only or disabled when the project task is closed
Project Manageme nt	PRB1313803	Client-side planning console issues

Problem category	Number	Short description
Project Manageme nt	PRB1315254	Planning Console: Cannot see Planned Effort until you save the record
Project Manageme nt	PRB1315678	My Project workspace: There are no colors when using French or Spanish
Project Manageme nt	PRB1315970	From benefit plan breakdown, clearing the Entered Benefit value does not get rolled up to Total Planned Benefit
Project Manageme nt	PRB1316162	Error running business rule 'Recalculate' on pm_project_task
Project Portfolio Manageme nt	PRB1242846	List v3: Incorrect count on related list: On the Project form, the Resource Plan related list record counter display the incorrect count
Project Portfolio Manageme nt	PRB1298867	Non-admin users unable to create reports in the Project Status Portal
Project Portfolio Manageme nt	PRB1303577	On the investment portal, the new Investment view form shows options in all languages for the category field
Project Portfolio Manageme nt	PRB1297178	The planned effort field is not imported from the MS project file
Project Portfolio	PRB1308555	Setting an invalid 'end date' on a resource plan takes nodes OOM

Problem category	Number	Short description
Manageme nt		
Project Portfolio Manageme nt	PRB1316755	Project status field icons are not displayed in Investment portal
Project Portfolio Manageme nt	PRB1316382	Investment portal doesn't load all the reports and is not honoring the pagination
Project Portfolio Manageme nt	PRB1292999	Planning Console: State of selected tab is not announced
Project Portfolio Manageme nt	PRB1301426	Project Portfolio Suite with Financials plugin activated reports failure for planned_task_recalculation_exclusions_entries. xml
Project Portfolio Manageme nt	PRB1301612	Milestone dots in Program Timeline view renders strangely when printing
Project Portfolio Manageme nt	PRB1303108	Grid UI displays Cost Plan 'Total Planned Cost': 12'000.5 as 1'200.5 incorrectly
Project Portfolio Manageme nt	PRB1310165	Portal page displays 404 error after adding the "Callout" widget to the index page

Problem category	Number	Short description
Project Portfolio Manageme nt	PRB1312612	Resource Management - Allocation workbench throws error when trying to create a new board
Project Portfolio Manageme nt	PRB1315099	Timeline Visualization is stuck on '100%' if a record in roadmap_user_page exist and is defined in a scoped app
Record Watcher	PRB1294006	Record Watcher is adding syslog record changes to the evaluation queue undesirably
Record Watcher	PRB1286294	Real-time updates on single score report widget do not get up-to-date information when the 'contains' filter condition is used
Related Lists	PRB1311959	List edit box on related lists renders at the bottom of the page and form is unusable
Related Lists	PRB1252233	Issues loading related lists in the "Switch with routing" view in IP Switches page when loading preference is 'After form loads' or 'On Demand'
Related Lists	PRB1304459	Related list filter does not load the 'order by' sort correctly after it was saved
Reporting	PRB1269391	The bar report displays the same column data repeatedly
Reporting	PRB1291895	The breakdown filter on dashboard resets on switching tabs - NullPointerException
Reporting	PRB1275086	Multilevel pivot reports cannot be exported to PDF if the report title contains "&"

Problem category	Number	Short description
Reporting	PRB1294377	Using a date filter with "group-by" on the title in column type reports does not display data in bar graphs
Reporting	PRB1296480	Report title is rendering "&" as "&"
Reporting	PRB1258167	In a multilevel pivot report, the columns header position changes/overlaps depending on the size of the condition builder when it is expanded
Reporting	PRB1316337	Map report doesn't aggregate values as defined by Map Source in last level (Latitude/ Longitude)
Reporting	PRB1279199	Real-time updates should not be allowed for single score report widgets when the report source is a database view
Reporting	PRB1291887	In interactive filters, date filter list values are not translated in other languages
Reporting	PRB1294262	When executing a Multilevel Pivot export from the report designer or report builder, the filter will not be applied
Reporting	PRB1303267	Column and Trend charts fail to load when user sets "Group by" on any time field with display data labels ON
Reporting	PRB1247633	'Insert a new row' is displayed twice when the list edit inserts row = true
Reporting	PRB1272748	The trend chart displays the max number of groups and other UI elements show, even though it does not support these elements
Reporting	PRB1294279	The HTTP 500 error occurs while exporting reports as a PDF

Problem category	Number	Short description
Reporting	PRB1294896	For a trend series, if the report is using a database view, the transaction may be in a non-run state for a certain condition
Reporting	PRB1296650	Exporting a pie chart report to PDF in Hebrew with grid / data table causes the letters order to be mirrored
Reporting	PRB1297835	In non-english languages, an extra column appears for (empty) for Bar type report, even if there is no empty record
Reporting	PRB1297917	Asterisk has reversed colors after navigation to a report widget
Reporting	PRB1303641	When creating certain labels for a column (e.g Priority field for change_requests), reporting labels are still showing the parent label when using the Additional Group By field.
Reporting	PRB1305298	Clicking 'Add to Dashboard' to share a report causes the 'Homepage' tab to display 'Dashboard', 'Tab' fields in error
Reporting	PRB1306155	Portal - Report widget shows "Loading report" and does not load reports if 'Show Chart title' is selected as "Always"
Reporting	PRB1314783	On-click behavior is not working on the single score report outside of report designer
Reporting	PRB831588	The 'Show Other' checkbox is not disabled when 'Remove Other' value is selected
Reporting	PRB1267099	Pie/Bar/Column on sc_task returns no data when grouping by "Variables"
Reporting	PRB1290342	The dashboard is slow when filters are applied

Problem category	Number	Short description
Reporting	PRB1292539	In Donut chart the show total sum of values is displayed incorrectly when it contains negative values
Reporting	PRB1293831	Data labels are not displayed correctly on piecharts in right to left languages
Reporting	PRB1294963	A list view containing an empty translated HTML 'Description' field results in messy PDF export file
Reporting	PRB1303318	Issue running 'Bubble' type report when Step Line with "Display data labels" option is checked
Reporting	PRB1304719	The widget performance threshold property is ignored for some users
Reporting	PRB1306306	Ordering doesn't work on Line report if a data set is added
Resource Manageme nt	PRB1300349	London Resource Workbench update error when the date format is not YYYY-MM-DD in the user profile
Resource Manageme nt	PRB1241324	Resource Workbench fails to load when the Start and End Dates are far apart (~4 years)
Resource Manageme nt	PRB1310045	Resource report shows invalid dates if the user in the profile has system date set to: dd-MM-yyyy
Resource Manageme nt	PRB1314044	The 'Update Resource Aggregates' UI action does not work properly

Problem category	Number	Short description
Resource Management	PRB1293152	Resource managers are unable to update the resource plan or earlier dates
Resource Management	PRB1303492	Group resource plan is allocating hours to inactive/locked out users
Resource Management	PRB1304752	Resource Calendar date/time format cannot be set to 12 hours
Resource Management	PRB1243016	"Allocations" resource reports are not correctly filtered when a non-system language is used
Resource Management	PRB1292332	Error is displayed when creating an operational resource plan
Resource Management	PRB1294089	Resource widget (Allocated Vs Actual) doesn't show correct data for customer's timezone (Asia/Manila)
Resource Management	PRB1297829	Resource plan start date and end date are not updating correctly when we change demand/project start date
Resource Management	PRB1300161	On upgrade to London, Requested allocations are not created if only the com.snc.project_portfolio_suite plugin is active
Resource Management	PRB1300235	Resource Calendar date/time format cannot be set to 12 Hours
Resource Management	PRB1302237	Manage UI action in the Resource Plan related list for a project is not working

Problem category	Number	Short description
Resource Manageme nt	PRB1302492	Monthly resource aggregates are empty for specific months
Resource Manageme nt	PRB1307030	Significant performance issues occur when confirming resource plans for large groups (> 30 people)
Resource Manageme nt	PRB1309366	Resource plan can take incorrect date as user input
Resource Manageme nt	PRB1311303	The resource finder shows user allocated to the project with '0' hours
Resource Manageme nt	PRB1312256	Resource plan requested allocations round up to nearest hours instead of the nearest multiple of specified minutes
Resource Manageme nt	PRB1313540	Resource capacity planning is not updated from resource group
Risk Manageme nt	PRB1258918	Unable to set default filter for 'Risks' related list on sn_risk_definition records
Risk Manageme nt	PRB1303352	Error attempting to continue a Vendor Risk Assessment on Vendor Portal when the URL has a "/" at the end
Schedules	PRB1295438	Changing system date/time format to "MMM-dd-yyyy" and "hh:mm a," full day event is not created on My Resource calendar
Schedules	PRB1243976	Monday event on the calendar always starts from 00:00 irrespective of start time

Problem category	Number	Short description
Schedules	PRB1297647	Schedule span record that repeats on 29th of every month has issue on non-leap years
Security	PRB1267267	SMTP Authentication (glide.smtp.auth) is deprecated and no longer in use after Geneva
Security	PRB1304348	Remove the reporting of 'glide.whitelist.manager.collection_mode.override' as its deprecated
Security Access Control Lists	PRB1300925	When adding a user to a group fails, no error message is shown
Security Access Control Lists	PRB1249207	With CSM plugin activated public/external users are not able to see images of knowledge articles in KB which does not have any user criteria
Security Access Control Lists	PRB1281073	isMemberOf function returns inconsistent value in domain separated environment
Security Access Control Lists	PRB1289591	Create ACL on checklist_template retains, which blocks non-admin users from saving checklist items as template
Security Access Control Lists	PRB1297369	ACL problem in list
Security Access Control Lists	PRB1297744	Editing an existing custom role name honors the old role name but not the new one
Security Incident Response	PRB1251089	Using the "Assign To Me" UI action on a response task causes a blank state field

Problem category	Number	Short description
Security Incident Response	PRB1294839	String fields >255 characters may be displayed as textarea boxes after activating 'Security Incident Response'
Security Incident Response	PRB720734	The Update Risk Score business rule causes multiple workflow contexts to be triggered
Security Incident Response	PRB1269461	User Reported Phishing Inbound Email Action is skipped and does not process
Security Incident Response	PRB1290332	Security Incident Cancel button does not cancel workflow and creates new activity
Security Incident Response	PRB1295604	"Determine Shell Script by OS" workflow throws case-sensitivity errors on non-standard operating systems
Security Incident Response	PRB1295943	SIR: requesting assessment in the Review state does not always generate PIR
Security Incident Response	PRB1297929	The URL field of a security scan request can get truncated
Security Incident Response	PRB1298715	Security Incident: multiple knowledge articles are created when "Create knowledge article" is selected
Security Incident Response	PRB1305247	Taxii integration: Outbound REST call fails from Taxii application but passes test run from REST message
Server Side Scripting	PRB1290308	Business rule date fields cannot get correct date because they are not following date format (MM-DD-YYYY) and (DD-MM-YYYY)

Problem category	Number	Short description
Server Side Scripting	PRB1285930	After upgrading to Kingston, users can no longer use a script include as a default filter
Server Side Scripting	PRB1297269	Scoped application UI page with an array does not return objects within the array
Service Analytics	PRB1247056	Connector instance check to validate that the metric extension is running doesn't handle a cluster
Service Catalog	PRB1266722	Unable to remove 'SNC External' user criteria from the catalog item 'Not Available For' related list
Service Catalog	PRB1296017	"Order Now" button appears when enable_order_now property is true and cart layout is false
Service Catalog	PRB1297366	In two-step checkout, using a scripted web service to order an item in a custom cart orders all items in the default cart
Service Catalog	PRB1309233	Multi-row variable sets do not work with dates (TZ problem)
Service Catalog	PRB1256988	Attachments to an HTML type variable display in the activity stream but not as a record attachment
Service Catalog	PRB1292101	Issues with the Set visible UI policy action and client scripts for System Wizards
Service Catalog	PRB1303951	Printer-friendly version does not display multi-row variable set
Service Catalog	PRB1253712	Slow query pattern on question_answer

Problem category	Number	Short description
Service Catalog	PRB1261369	System property "glide.sc.cat_view_use_popup_for_details" is not applied on the Service Catalog homepage
Service Catalog	PRB1286273	Multi-line text variables set to mandatory or read-only break the printer friendly page
Service Catalog	PRB1295519	Service Catalog categories not displaying in the Mobile UI
Service Catalog	PRB1300701	Availability settings do not work as expected for variables to show on an order guide in Service Portal
Service Catalog	PRB1307395	A simple reference qualifier does not work on Catalog reference variables in non-English languages
Service Catalog	PRB1315493	Check box type variable is disabled when accessed from a public page in London
Service Catalog	PRB1210839	Issue with translating multiple choice variable records if text field value matches a value field does not match
Service Catalog	PRB1290363	OnChange client script to clear/add options to a variable does not change RITM values
Service Catalog	PRB1300810	Error occurs when variable mandatory policy is set to true or false on RITM or SCTASK records
Service Catalog	PRB1304386	Users with 'Allow Scripting' access are not able to work with scripts
Service Catalog	PRB1304403	Create Request UI action is not mapping the caller name value to the generated request

Problem category	Number	Short description
Service Catalog	PRB1308323	Automated Test Framework fails to rollback sc_request records when an individual catalog item has 'use cart layout' set to false
Service Catalog	PRB1310558	Unable to add a condition using dot-walk in the rule base of an order guide
Service Catalog	PRB1269302	DeliveryPlanMatcher script Include doesn't filter for active delivery plans
Service Catalog	PRB1274627	Missing table in update set when using the "Unload service portal page" function
Service Catalog	PRB1291066	The view specified in the URL of the catalog module is getting translated, and the wrong view is displayed
Service Catalog	PRB1292509	User criteria issue with domain separation in Knowledge
Service Catalog	PRB1293983	Multiple choice variable does not get checked when set to read-only from a catalog UI policy
Service Catalog	PRB1298035	Unable to submit the REST APIs if the set value is not a string
Service Catalog	PRB1303168	g_form cannot determine the scope of catalog variables
Service Catalog	PRB1307382	The checkbox variable wraps the text after an upgrade to London
Service Catalog	PRB1308250	Making a mandatory variable field require the admin role causes an error
Service Catalog	PRB1315302	Portal - For non-admin users, the onChange client script populates only the first option

Problem category	Number	Short description
Service Catalog	PRB1316010	Checkbox followed by a container split is not rendering correctly
Service Catalog	PRB1248987	Editing the order in the shopping cart causes the association to the project task to be lost
Service Catalog	PRB1262093	During 508 testing, found issues with color contrast, which impacts 508 standards: 31(b)
Service Catalog	PRB1266141	With two-step checkout, requesting an item for a different user does not update the hover text
Service Catalog	PRB1279902	View rule on table sc_cat_item is not working
Service Catalog	PRB1291921	JavaScript error is generated during onLoad if there is a variable which the current user is not able to read
Service Catalog	PRB1293095	Cross-reference issues when adding a new standard change request to RITM
Service Catalog	PRB1293146	JavaScript expression in date fields is not evaluated for Automated Test Framework
Service Catalog	PRB1293515	Setting a multiple choice field as read only causes an error
Service Catalog	PRB1296456	Using Chrome browser navigation, it is possible to subvert platform form validation
Service Catalog	PRB1297646	Search results for catalog items are missing information under 'Preview'
Service Catalog	PRB1302263	The advanced reference qualifier script does not work in the wizard variable if the wizard variable types are in a specific order

Problem category	Number	Short description
Service Catalog	PRB1304437	Creating "Container End" or "Container Split" variables in a variable set takes a long time
Service Catalog	PRB1304775	Standard Change items selected from search results are missing Parent URL parameters (CHG created from RL)
Service Catalog	PRB1304857	Issue creating a new variable for a record producer
Service Catalog	PRB1307246	List collector variable type throws undefined value in log statements
Service Catalog	PRB1309031	Adding an option that is already the selected value changes the selected value to the first option available
Service Catalog	PRB1309706	Issue with the standard change template not rendering variables on the form
Service Catalog	PRB1311200	In London, the OnLoad reverse if false UI policy is not honored
Service Catalog	PRB1312730	Additional text is added to check box variables for items in the Service Portal
Service Catalog	PRB1313539	[E2E] Unchecking components on sc_layout does not work
Service Catalog	PRB1314780	The setVariablesReadOnly method is not working on KP9 and London for catalog task records
Service Catalog	PRB1315198	Hover text displays the variable name instead of the question text
Service Catalog	PRB1315533	Issue with layout alignment for variables in catalog vs RITM

Problem category	Number	Short description
Service Catalog	PRB1288504	Table Variable: Function getRowCount() and getRow() are not allowed in scope
Service Catalog	PRB1307479	Write ACL added in London for Additional Comments field on sc_req_item table is not allowing ITIL users to access the field
Service Catalog: Service Portal Widgets	PRB1302849	UI policy does not function on checkbox variables if label variable is present
Service Catalog: Service Portal Widgets	PRB1304716	Poor performance for the widget "Recent & Popular Items"
Service Catalog: Service Portal Widgets	PRB1297159	glide.sc.enhance.labels property is not working as expected with Lookup Multiple Choice variables
Service Catalog: Service Portal Widgets	PRB1300966	Labels are not displayed for the checkbox with the label variable created under the order guide
Service Catalog: Service Portal Widgets	PRB1304739	Items added to an order guide with rule base do not get removed
Service Catalog: Service	PRB1315239	Catalog UI policy actions running on formatters cause UI policies and client scripts to fail

Problem category	Number	Short description
Portal Widgets		
Service Catalog: Service Portal Widgets	PRB1239027	Service portal question_choice items always display in USD ($) currency
Service Catalog: Service Portal Widgets	PRB1288750	Multiple choice variable in variable set doesn't work as expected in Service Portal Order Guide "Choose Options"
Service Catalog: Service Portal Widgets	PRB1297547	Unable to check out an order guide that contains only record producers
Service Catalog: Service Portal Widgets	PRB1298069	Excessive angular.do calls made in Service Portal Catalog item
Service Catalog: Service Portal Widgets	PRB1314147	Kingston patch 10: Unable to make checkbox variables read-only when a label is configured
Service Catalog: Service Portal Widgets	PRB1272372	SC Popular Item does not return any results if the catalog item is included in multiple catalogs

Problem category	Number	Short description
Service Catalog: Service Portal Widgets	PRB1296441	Order Guide - Recurring prices do not appear in Select Box variable on Service Portal
Service Catalog: Service Portal Widgets	PRB1296838	Title section on Order Guide item is missing in Internet Explorer 11
Service Catalog: Service Portal Widgets	PRB1307456	Request item approver name is not displayed on the Service Portal
Service Catalog: Service Portal Widgets	PRB1250166	Pricing information for catalog item always shows in $ (dollar) even if item is set to £ (pound)
Service Catalog: Service Portal Widgets	PRB1259875	SC Catalog Item widget: Messages from BRs based on sys_attachment are not displayed in the proper window
Service Catalog: Service Portal Widgets	PRB1291632	The SC Order Guide widget does not render CSS style in HTML correctly
Service Catalog: Service	PRB1294395	Inactive catalog item variables on Service Portal

Problem category	Number	Short description
Portal Widgets		
Service Catalog: Service Portal Widgets	PRB1298331	Catalog items created from Service Creator/ Producer Service are not supported in Service Portal UI
Service Catalog: Service Portal Widgets	PRB1306969	Price is not displaying on service portal
Service Catalog: Service Portal Widgets	PRB1307026	Unable to save new Catalog Task record in Service Portal form due to variable editor widget error
Service Catalog: Service Portal Widgets	PRB1309554	Variable reference lookups in service portal generate a different query from reference lookups in the platform
Service Catalog: Service Portal Widgets	PRB1316668	Submitting a variable set from the Service Portal using Service Creator/Producer places the variables in random order
Service Catalog: Service Portal Widgets	PRB1317317	Unable to hide variable set on Service Portal using the variable set name in g_form.setDisplay('<variable set name>', false);

Problem category	Number	Short description
Service Catalog: Service Portal Widgets	PRB1317273	Service Portal [SC Catalog Item (widget-sc-cat-item-v2)]: Images in the catalog item Description field are not sized dynamically
Service Catalog: Service Portal Widgets	PRB1292198	Currency sign "CHF" does not appear in the Service Portal if the price is more than 4 digits before the comma
Service Catalog: Service Portal Widgets	PRB1294552	Pop-up warning message does not appear after a field of the page was modified
Service Catalog: Service Portal Widgets	PRB1294740	the Description font color is not preserved when the item appears in a Service Portal order guide
Service Catalog: Service Portal Widgets	PRB1296543	SC Category Page widget does not load if there are multiple content items referencing the same KB article
Service Catalog: Service Portal Widgets	PRB1296880	Service Catalog Item page: Quantity selector is not labeled and is repetitive
Service Catalog: Service	PRB1296992	Service Portal, shopping cart v2: Alignment issue for View Cart (Einkaufswagen anzeigen) in German language

Problem category	Number	Short description
Portal Widgets		
Service Catalog: Service Portal Widgets	PRB1297881	Incorrect translation of messages in the "Messages" field of a client script
Service Catalog: Service Portal Widgets	PRB1302695	Service Catalogs with 100k+ items cause the search source queries to run slowly
Service Catalog: Service Portal Widgets	PRB1302881	Adding additional columns in the "Request for" service catalog widget breaks search functionality
Service Catalog: Service Portal Widgets	PRB1304213	Unable to attach a file in order guide when the message "View attached Image" has an apostrophe
Service Catalog: Service Portal Widgets	PRB1304398	Approval requests for catalog tasks in Service Portal do not display the variable options
Service Catalog: Service Portal Widgets	PRB1304997	Improper page title when user navigates to the 'All Categories' page in service portal

Problem category	Number	Short description
Service Catalog: Service Portal Widgets	PRB1311191	Record producer variables inside a container are hidden if the user does not have access to a restricted checkbox in the same container
Service Catalog: Service Portal Widgets	PRB1312387	"Item has been added to your cart" messages display in Service Portal in error
Service Catalog: Service Portal Widgets	PRB1312757	SC Order Guide widget -- variables that are set to null are saved as 'null' when two-step checkout is disabled
Service Catalog: Service Portal Widgets	PRB1313908	Filtering using a list type dictionary shows incorrect results on a reference variable
Service Catalog: Service Portal Widgets	PRB1314851	Multi-row variable set modal/dialog is not displayed on the Service Portal for snc_external users
Service Catalog: Service Portal Widgets	PRB1315087	Execution of variable set UI policies is not determined using variable set order
Service Catalog: Service	PRB1315711	'SC Popular Items' widget does not honor the count of the most popular items

Problem category	Number	Short description
Portal Widgets		
Service Catalog: Service Portal Widgets	PRB1316108	Popular Item widget in the portal does not honor the Visible on Guides feature for catalog item
Service Catalog Item Designer	PRB1292336	Translation is not working for Item Designer
Service Creator	PRB1283102	Clicking Preview on service creator record creates a record if it is canceled
Service Creator	PRB1288788	For new record, the assignment group is not saved in service_task
Service Desk Call	PRB1296684	Adding new_call record uses number searched in breadcrumbs filter
Service Level Agreement (SLA)	PRB1296984	'Achieved' and 'Breached' service offerings SLA results are not calculated in the [service_sla_result] table
Service Level Agreement (SLA)	PRB1295983	Floating parent schedule is not factored correctly when calculating business fields on task_sla
Service Level Agreement (SLA)	PRB1305315	When a new task SLA is attached to a task, the Business Time Left and Business Elapsed Time fields may be empty
Service Level	PRB1292349	Issues with async processing for SLAs

Problem category	Number	Short description
Agreement (SLA)		
Service Level Agreement (SLA)	PRB1301591	EscalationEngine throws a NullPointerException in PAAS and OEM versions of the platform when Domain Separation is installed
Service Level Agreement (SLA)	PRB1304119	Create or update on task table(s) throws a warning message during SLA contract add-on activation
Service Mapping	PRB1286427	While running Discovery on the IP switch, the pattern does not discover the switches in the stack mode
Service Mapping	PRB1198305	Support changes of host IP addresses
Service Mapping	PRB1277893	Azure database and website terminate ungracefully
Service Mapping	PRB1292740	The most recent service checkpoint can get removed
Service Mapping	PRB1274651	Pattern Designer & Discovery: performance issues with conversion to new OS Class format
Service Mapping	PRB1308267	Pattern Designer: Debug mode window stuck when server throws exception (2)
Service Mapping	PRB1308764	"Contains::Contained by" relation from CI to self causes infinite loop on map view
Service Mapping	PRB1274678	Need to add clearer error message in case no inclusion connection is created from CI
Service Mapping	PRB1280474	WMI installation problem when MID Server installed in directory with space in its name

Problem category	Number	Short description
Service Mapping	PRB1284107	The Solaris server fails due to ChassisSerialNumber 'unknown'
Service Mapping	PRB1284247	Recomputation job thread limit scripts for pre-Kingston releases must be removed or deactivated on an upgrade to Kingston
Service Mapping	PRB1290379	Hardcoded relation type sys_IDs cause a null pointer exception when running Discovery on a business service
Service Mapping	PRB1292562	Executing discovery schedule on large range of IPs when every IP causes errors can result in slow discovery execution
Service Mapping	PRB1298952	Need support creation of layer 2 connections in case we have NIC teaming
Service Mapping	PRB1309731	Top-down Discovery creates floating DNS cluster when Global DNS is defined
Service Mapping	PRB1314992	Process detection failing on Solaris
Service Mapping	PRB1268693	A Windows server that is not in the TrustedHosts list causes top down discovery to fail with "Access Denied" error
Service Mapping	PRB1269280	[SBS] Field labels in service form are not customizable
Service Mapping	PRB1273453	Application service form: Issues when populating particular fields in the modal form
Service Mapping	PRB1283300	PD: VeritcalFile parsing strategy creates HashMap instead of List<HashMap> that represents table

Problem category	Number	Short description
Service Mapping	PRB1287253	In the Single Service form, the update operation relies on a Change Management UI action and the operation may fail
Service Mapping	PRB1289466	The Checkpoint Reaper fails on broken service > layer reference
Service Mapping	PRB1292330	Extensions are not executed for patterns with empty metadata_id
Service Mapping	PRB1293323	Running debug pattern of connection section calls process detection command
Service Mapping	PRB1294108	Discovery: When entering debug mode of IP switch within stack, the slave host name displays instead of the master
Service Mapping	PRB1294589	Pattern Oracle DB on the Unix pattern needs improvement
Service Mapping	PRB1295442	F5 discovery using SSH causes tables to reach more than 60,000 rows
Service Mapping	PRB1295556	Getting error: 'Horizontal Pattern Debug error Host detection failed for IP address'
Service Mapping	PRB1298665	The job "Generate entry point candidates from netflow and netstat data" should only be activated if the Service Mapping plugin is active
Service Mapping	PRB1302533	install_status is no longer updated on LB patterns
Service Mapping	PRB1306187	Pre-execution script "Lightweight Process Info" has a missing parameter when calling the method "getRunningProcess"

Problem category	Number	Short description
Service Mapping	PRB1306966	Layer 2 connections from server to switch can be deleted after the switch discovery
Service Mapping	PRB1310326	Layer 2: Suggested performance improvement - multiple ports with the same MAC address can be processed only once
Service Mapping	PRB1310351	Large service map not shown, StackOverflow exception occurs in browser
ServiceNow Express	PRB1313811	Order Status does not show a call transferred to a request in Kingston Patch6
Service Portal	PRB1306928	Catalog client script issue when g_form.setValue is followed by g_form.showFieldMsg
Service Portal	PRB1203413	Certain Choice Lists cause dirty form warnings when no user change has occurred
Service Portal	PRB1246448	Inconsistent and confusing search results with multiple records for typeahead searches
Service Portal	PRB741780	on the id=approval page, activity stream should be for the approval vs. the record being approved
Service Portal	PRB1288882	Error messages display when using the Typeahead Search widget in Service Portal in non-English languages
Service Portal	PRB1034698	number gaps are generated even when a new record is created properly
Service Portal	PRB1189561	Approval Info widget: Approved time shows the previous updated time after approval instead of 'just now'

Problem category	Number	Short description
Service Portal	PRB717439	In scoped Service portal,$sp object loads javascript errors "$sp is not defined"
Service Portal	PRB1254527	Target is not honored for a menu item defined for the Icon Menu List widget
Service Portal	PRB1275216	Reference fields are not displayed correctly when the browser window resized below 100%
Service Portal	PRB1286296	The text field on the ticket conversation widget does not disappear when the record is closed
Service Portal	PRB1316073	Decimal fields format improperly when using a different system locale (like FR)
Service Portal	PRB1277834	'simple list' widget still display no data if "always_show" option is set to false
Service Portal	PRB1294056	Email field type on Service Portal form shows duplicate field label after navigating from a list with 'enable_filter' option enabled
Service Portal	PRB1300452	Double quotes in translated message can cause a syntax error preventing page from loading
Service Portal	PRB1300937	In the Service Portal, manually typed invalid dates, such as '02-09-0017', can be saved when the variable is set to Mandatory
Service Portal	PRB1302024	dot-walked fields/variables don't show in reference autocomplete
Service Portal	PRB1308538	On Service Portal, date validations do not work properly when the date format is set to dd-MMM-yy in Japanese

Problem category	Number	Short description
Service Portal	PRB878731	Multi-line text variable value is displayed without line breaks in ticket-fields, Approval, and Approval Record widgets
Service Portal	PRB762871	Service Portal Usage Overview reports "Service Portal Catalog Orders" and "Service Portal Catalog Views" are not updated when a user views or orders a catalog item
Service Portal	PRB1098132	Inaccessible date/time picker button in Service Portal
Service Portal	PRB1253076	Simple List widget displays future dates incorrectly
Service Portal	PRB1254335	Using the Branding Editor to change Theme Colors will delete custom CSS variables from the sp_portal record
Service Portal	PRB1260256	The clearMessages() method does not work on Service Portal
Service Portal	PRB1264750	On the mobile portal view, the header icon in the additional actions menu does not collapse when clicked
Service Portal	PRB1282862	Cloning "Header Menu" widget in a custom application throws a Javascript error
Service Portal	PRB1289758	Service Portal 2nd level menu item not showing
Service Portal	PRB1291290	The "No matches found" message is shown in auto complete for the reference variable in the Service Portal
Service Portal	PRB1294136	In Service Portal,"setValue" does not work after "addOption"

Problem category	Number	Short description
Service Portal	PRB1296647	setSectionDisplay fails in Service Portal for section using split layout
Service Portal	PRB1302440	field messages are wrongly cleared when the value did not change
Service Portal	PRB1312353	Knowledge article view count not displayed when it goes above 999 in Service Portal
Service Portal	PRB1194839	Date/time picker positioning is off on list form page in right form section. Date/time picker does not display in left form section
Service Portal	PRB1235920	TinyMCE Mobile - Cannot insert an image in the existing record
Service Portal	PRB1238851	Using $sp.log() on an array or object within a scoped app throws a JavaScript NullPointerException
Service Portal	PRB1240260	Inconsistent multi-line field size behavior on Service Portal form widget and page
Service Portal	PRB1240431	Date variables populated with a script that gets the value from a reference variable are set one day behind
Service Portal	PRB1260102	The "Data Table" widget does not correctly pass the query filter to the condition builder
Service Portal	PRB1260199	Cannot set glide_list or list collector using a display value containing a forward slash
Service Portal	PRB1262787	GlideSPUserCriteria scriptable methods are not available in scoped widget context
Service Portal	PRB1262835	g_form.hideRelatedList does not work in Service Portal if the related list is a defined relationship (sys_relationship)

Problem category	Number	Short description
Service Portal	PRB1262997	Picture image/icons do not appear in the type-ahead search box as expected
Service Portal	PRB1271158	Yes/No variable is not translated in Ticket Fields widget
Service Portal	PRB1272121	"Show Matching" "Filter Out" and clicking direct breadcrumb link do not update "Save Filter Dialog box query"
Service Portal	PRB1274413	Service Portal:"Field Name" dictionary, when added to a form, breaks Form widget
Service Portal	PRB1292046	Read-only text fields should adjust it to a reasonable height depending on the text
Service Portal	PRB1292063	Announcement widget unexpectedly shows both "banner" and "widget" announcements
Service Portal	PRB1293869	There are two Read ACLs for sp_log.* with the same permissions
Service Portal	PRB1297105	Message in the KB Article Helpful widget does not update: "x% found this helpful"
Service Portal	PRB1297168	'Did you mean' suggestions on faceted search doesn't work for 'Knowledge Base' search source
Service Portal	PRB1298424	Dot-walked condition in UI Policy evaluates to false in the Service Portal but true in the Platform UI
Service Portal	PRB1303252	Using reference field/variable in search does not return results
Service Portal	PRB1311408	Service Portal in Safari causes 404 Not Found error

Problem category	Number	Short description
Service Portal	PRB870421	Sass variables in style sheets and do not work correctly in widgets
Service Portal	PRB954016	need ability to log search to sp_log table for unscripted search source
Service Portal	PRB956277	Widget: Ticket conversation: French translation of "Start" (Démarrer) does not fit in the circle
Service Portal	PRB933016	Time field value on forms increments by one hour when the form is saved via the Form widget and user is in UTC+1 time zone
Service Portal	PRB916138	Widgets are not visible in the SP designer edit mode when column has CSS Class of hidden
Service Portal	PRB762335	Accessibility - User Profile - BIO
Service Portal	PRB755264	provide option in ticket-conversations widget to omit attachment icon, for example, when embedded in a form
Service Portal	PRB729065	Form popup doesn't have 'X' button
Service Portal	PRB712332	Glyph icons not showing for some sections
Service Portal	PRB1317569	Approval Info widget can unexpectedly update the record after an unrelated update
Service Portal	PRB1240932	In Service Portal, g_form.setValue does not set the value for multiple choice
Service Portal	PRB1241411	Unexpected behavior in Service Portal's menu header(mobile view) when menu items contain other menu Items

Problem category	Number	Short description
Service Portal	PRB1244038	Important instance options are not passed to Data Table widget when "Data Table from instance definition" is used
Service Portal	PRB1249747	Setting the sn-record-picker directive values to "display-field=name" and display-fields to another field does not display the name to end users
Service Portal	PRB1250078	Close option (x) in long Info message is overlapping in the service portal
Service Portal	PRB1259231	User criteria not honored properly in menu items on Service Portal
Service Portal	PRB1262155	My Favorite Tags widget sorts community posts by sys_id of the tags instead of the tag name
Service Portal	PRB1263492	Viewing service portal on iPad, header menu appears to use the standard web view
Service Portal	PRB1270617	Service Portal Designer retina icon fonts wrongly impact pages viewed in Designer
Service Portal	PRB1271355	"Did you mean" suggestions do not appear as links in Service Portal
Service Portal	PRB1274291	reference field information icon (i) doesn't show target record if archived
Service Portal	PRB1277130	On a user's profile in Service Portal, hovering over any item in the Teams widget displays the tooltip 'Team'
Service Portal	PRB1283825	Using a login menu item on a public homepage that links to a landing page does not redirect to the correct homepage

Problem category	Number	Short description
Service Portal	PRB1286253	Some Menu Item link types don't work unless a Page is specified. Page should be mandatory
Service Portal	PRB1289266	End user can update an activity without write access to the record
Service Portal	PRB1290819	System Property: glide.ui.attachment.force_download_all_mime_types has no effect in Service Portal
Service Portal	PRB1290821	in the form widget, image attachments download with iix file extension and sys_id file name
Service Portal	PRB1290858	User Profile widget should order team members and direct reports by name
Service Portal	PRB1291299	Approvals widget on Service portal does not show eSignature authentication window when Approval source_table is empty
Service Portal	PRB1292039	Tables that are not text indexed should not show Keyword Search input in the Data table Widgets
Service Portal	PRB1293557	When a user submits a form with errors in mandatory fields, the form loads indefinitely
Service Portal	PRB1293961	Selecting a header widget reference for an sp_instance_menu record can prevent the portal from rendering
Service Portal	PRB1293991	After logging into a portal and then updating the URL to navigate to the platform UI, Service Portal UI still displays
Service Portal	PRB1294159	Page route maps have unexpected behavior with public / non-public pages

Problem category	Number	Short description
Service Portal	PRB1294679	Service Portal does not de-duplicate UI actions on the form based on action name
Service Portal	PRB1294923	Reference drop-down may show duplicates
Service Portal	PRB1296066	Adding an attachment with the icon in the Ticket Conversation widget header saves the attachment to the wrong place
Service Portal	PRB1296335	Invalid list column can break reference field in Service Portal
Service Portal	PRB1297599	The showFieldMsg clients script calls with "error" parameter cause unexpected behaviors on date variable types in the Service Portal in London
Service Portal	PRB1298707	Incident comments with [CODE] blocks can cause formatting issue
Service Portal	PRB1298794	Embedding multiple 'report' widgets does not work when using the sp-widget directive and $sp.getWidget
Service Portal	PRB1300850	HTML tinyMCE toolbar text is not translated for simplified/traditional Chinese, French, Hebrew, Korean, Portuguese
Service Portal	PRB1301494	UI action - form styles don't work in Service Portal
Service Portal	PRB1302241	Dot-walked fields with reference qualifiers do not limit choices in Service Portal
Service Portal	PRB1302754	"Tickets are picked up within 4 hours" is not getting translated for any language on Ticket Form widget in Service Portal

Problem category	Number	Short description
Service Portal	PRB1303112	Attribute "ref_ac_order_by" only honors a single field in resulting DB query in Service Portal
Service Portal	PRB1303962	Approval Info widget shows wrong state if update is aborted by a business rule
Service Portal	PRB1304002	Reference variable on an Edge Encrypted table does not work correctly
Service Portal	PRB1304012	sp_widget form rendering can break in the Desktop UI when Body HTML template field is read only
Service Portal	PRB1304052	'Approval Info' doesn't live update the timestamp at the title bar when "Approve"/"Reject" is clicked
Service Portal	PRB1305015	Service Portal info message disappears even if hovered over
Service Portal	PRB1305105	Typo in hover text over a date field when using accessibility
Service Portal	PRB1305805	Ticket Attachments widget: Show delete and edit icons based on ACLs
Service Portal	PRB1307180	Change Password Widget doesn't work on IE 11
Service Portal	PRB1307316	Dot-walked HTML fields are broken on the form (tinyMCE)
Service Portal	PRB1307371	Creating a single CSS Include in related list produces two include records
Service Portal	PRB1307534	Changing the title of a Service Portal from the branding editor does not reflect changes in the preview window

Problem category	Number	Short description
Service Portal	PRB1307536	Mobile view of the Ticket Conversations widget with long title causes format issues
Service Portal	PRB1308005	Service Portal search page does not honor the secondary display fields order defined in the search source
Service Portal	PRB1309621	Knowledge articles do not display on service portal search page if "Is scripted source" is not used in a search source
Service Portal	PRB1309806	Data table from URL Definition widget does not set the table parameter in the URL to the record table when configured to show records from a base table
Service Portal	PRB1311052	"Remember me" option fails in IE if a default login page is not set for the Service Portal
Service Portal	PRB1315633	Issues using eSignature function on the Service Portal
Service Portal	PRB1316070	Field attribute 'format=none' for an Integer field is not considered on Service Portal
Service Portfolio Manageme nt	PRB1303505	Integer values stored in the Name field in the Service Offering table cause a blocking error when trying to add content on the homepage
Service Portfolio Manageme nt	PRB1304264	Service Availability for last 7 days is showing 8 days in the report and calculation is also based on 8 days
Slushbucket	PRB593638	Arrow direction in slushbucket is not right
Software Asset Manageme	PRB1304085	Sensor error when processing Windows - Installed Software. ReferenceError: "related_data" is not defined

Problem category	Number	Short description
nt Professional		
Software Asset Manageme nt Professional	PRB1267472	Installed Software probe fails when there is a mismatch in the data retrieved
Software Asset Manageme nt Professional	PRB1298211	Reclamation candidate not having savings tied to it due to incomplete entitlement data back port Kingston and London
Software Asset Manageme nt Professional	PRB1299092	Inconsistent results of GlideRecord.updateMultiple()
Software Asset Manageme nt Professional	PRB1302995	Normalization UI actions are displayed incorrectly
Software Asset Manageme nt Professional	PRB1237539	Asset is not created when purchase order line item in ordered and then received
Software Asset Manageme nt Professional	PRB1263114	"Consumed" is available in the State field for an asset, even when the class is Hardware

Problem category	Number	Short description
Software Asset Management Professional	PRB1290865	An exception is thrown when upgrading SCCM 2012 to version 1702
Software Asset Management Professional	PRB1302720	Two script includes have the same name 'SubscriptionUtil
Software Asset Management Professional	PRB1311353	Create Software Normalization BR on Install table should clear out norm values on install when DM is not properly normalized
Source Control Integration	PRB1274689	Worker threads refreshing a GIT source control repository can hang indefinitely if there is an issue communicating with the external GIT repository
Studio	PRB1244287	Date/time is updated in the future, and sorting by "updated" returns inconsistent results
Survey Management	PRB1297362	Metric type -Assessment- Assessable record 'string value' field is shown as blank
Survey Management	PRB1317493	Mandatory error messages are not translated in surveys
Survey Management	PRB1292598	The "Assign Survey" UI action allows multiple user selection, but only one assessment instance is created

Problem category	Number	Short description
Survey Manageme nt	PRB1292889	Survey questions are jumbled after saving when question has "metric_type_group" value
Survey Manageme nt	PRB1293168	Surveys with long introductions require scrolling back to the top to see all questions
Survey Manageme nt	PRB1293226	Missing assessment error message in log
Survey Manageme nt	PRB1296301	Problem with survey "Send Invitations" button when survey is assigned to the same user multiple times
Survey Manageme nt	PRB1296823	Date/Time datatype field is not populating the time correctly on Survey in Service Portal
Survey Manageme nt	PRB1301681	For non-public surveys, taking a survey after user's session has expired marks it as updated by "guest"
Survey Manageme nt	PRB1303784	Data type: Number in survey question is truncated even after selecting the scale as High
System Applications	PRB1244452	Issues with global search when table exists in multiple search groups
System Applications	PRB1250332	Scoped application installation error: Contains a record that incorrectly triggers collision detection
System Applications	PRB1276630	Icons for catalog items do not appear in new Global Search

Problem category	Number	Short description
Table Rotation/ Extension	PRB1306915	Gateway rotated table does not work with GlideRecord.update()
Tables and Dictionary	PRB1262819	Issue when creating a dictionary override for the field "update_actual_effort_from_time_card" on tsp2_project under Preferences
Tables and Dictionary	PRB1304509	Offrowing a column on a table with a name >= 22 characters orphans the records in the table
Tables and Dictionary	PRB1282124	Dictionary override cannot be removed after TPP
Tables and Dictionary	PRB654608	In the form designer, form section is deleted if it has no title
Tables and Dictionary	PRB1281099	TableChunkCopier does not escape sys_id in SQL queries, causing queries to fail
Tables and Dictionary	PRB1296460	Attribute override not working correctly on configuration item field
Tables and Dictionary	PRB1304461	List view text search breaks when using order by on a column from a partition of cmdb
Tables and Dictionary	PRB1311127	Similar elements with long names are not shortened properly during table hybridization, and cause failures
Templates	PRB1289629	Adding a caret symbol ^ to a template text field adds a new field
Templates	PRB1240660	When a template name includes the character """", it displays it as "/" in the template bar

Problem category	Number	Short description
Templates	PRB1311386	HR Response Templates button does not work with when embedded help is disabled
Test Manageme nt	PRB1305547	Able to assign tests to testers who are outside of the assignment group
Test Manageme nt	PRB1312381	When test plan is copied, test cases are showing that tests passed even though no tests were executed
Text Search	PRB830497	Words containing underscores are broken into separate words during indexing, causing issues when one of the words is a stop word
Text Search	PRB1006241	Issue exporting records to Excel if one or more keywords are used in condition builder
Text Search	PRB1290528	Generating text index optimizes text index shard using wrong criteria
Text Search	PRB1259528	Report type "Line" with [trend by][=] [Activity Due] and [Per] [=] [Date] fails if filtering by keywords
Text Search	PRB1272388	Slow query pattern found in TS Index Stats job "getQueries()" method
Text Search	PRB1278120	Knowledge category is not searchable in non-English environment
Text Search	PRB1289731	Search functionality: Adding Japanese words in Stop Words able (ts_stop) does not work the same as English words
Text Search	PRB1289977	Text search stop word function does not respect lexicons in Kingston

Problem category	Number	Short description
Text Search	PRB1295352	Text index event process job hangs when stop words have millions of related ts_word_roots records
Text Search	PRB1304714	Issues displaying knowledge articles created in English but published in Japanese
Time Card Management	PRB1290956	In the Worker Portal, the 'Add unassigned tasks to time sheet' link displays ASCII for some characters
Time Card Management	PRB1264146	Timecard/Timesheet approval does not work if user with role "timecard_approver" is delegated to be approver
Time Card Management	PRB1303776	In Time Sheet Portal, selecting a day using the calendar drop-down goes back in years
Time Card Management	PRB1291506	Handle Approval generates EcmaError when approver_list or approved_by field are null
Time Card Management	PRB1301660	Users are able to change the hours value even after submitting the timesheet on worker portal
Time Card Management	PRB1312529	TCP: Time Sheet Portal breaks on mobile layout/platform
Timeline Visualization	PRB1312092	In a Timeline Visualization query, the records are fetched but the "max items per lane warning" appears
Transaction and Session Management	PRB1194232	Null names for sys_status generate bad data

Problem category	Number	Short description
Transaction and Session Management	PRB1308111	Errors on instance logs
Transaction and Session Management	PRB1292429	Canceling a queued transaction causes error
Transaction and Session Management	PRB1307978	Lazy writer throws Unique Key violation on primary error on log and cancellation table
Transaction and Session Management	PRB1235830	HTTP session waiter count is not decremented if the message is dropped from the semaphore queue
Transaction and Session Management	PRB1304079	flushMessages() API not flushing in London
Transaction and Session Management	PRB1312167	Unsafe concurrent access to transaction attributes
UI Action	PRB1291878	"Approving" field reference is showing popup on hover after disabling "glide.ui.clickthrough.popup"
UI Action	PRB1305728	Read-only Glide list type fields are not updating with live forms
UI Action	PRB1298702	LIST UI Action: "Close" list choice UI action doesn't provide an alert

Problem category	Number	Short description
UI Components	PRB688111	If view rule is active, the pop-up displayed when hovering over a reference icon doesn't display top section
UI Components	PRB1150319	Unable to edit modules or impersonate user after elevating privileges to admin role
UI Components	PRB917412	UI16 left-hand navigation does not meet color contrast ratio requirements for WCAG AA normal text to meet Section 508 compliance
UI Components	PRB1155644	Knowledge, Search Execution: Search input field is without a label
UI Pages/ Macros	PRB1271528	Issue occurs when hovering over a reference icon in the GlideDialogWindow
UI Policy/ Client Script	PRB1297433	Mandatory 'List Collector' type fields are not working as expected on catalog pages
UI Policy/ Client Script	PRB1246810	Duration field set to read-only through UI policy or client script does not honor changes in values made through client scripts
UI Policy/ Client Script	PRB1302093	Inconsistent behavior g_form.setValue() between Istanbul and Kingston
UI Policy/ Client Script	PRB1304674	The client script GlideRecord API addQuery(String query) doesn't work
UI Policy/ Client Script	PRB1312108	Data policies are shown as UI policy in field watcher, and fail when the URL is clicked
Update Sets	PRB1313341	Update set previewing can encounter ConcurrentModificationException

Problem category	Number	Short description
Update Sets	PRB1298848	Previewer throws errors for missing sys_portal records even though they are included in the sys_portal_page update
Update Sets	PRB1292788	When committing an update set with form sections in both the global and a sub-domain, domain-separated form sections appear in the global domain
Update Sets	PRB1269032	Issue deleting a related list in a domain when a global related list has the same name
Update Sets	PRB1292051	Unable to delete default update set after deleting a custom scoped application
Update Sets	PRB1294302	Update set preview not detecting errors found on commit
Update Sets	PRB1312794	Unexpected results when publishing an application to update set with records from coalesced tables
Upgrade Engine Issues	PRB1260081	Upgrade monitor not showing progress, but upgrade data is recorded in the log
Upgrade Engine Issues	PRB1296679	Translated text (sys_translated_text) is not present when installing an application
Upgrade Engine Issues	PRB1278372	Issues encountered during upgrade if node shutdown + startup duration is approximately 5 minutes
Upgrade Engine Issues	PRB1289859	Activating plugin "Interactive Analysis" works correctly only on node that performed the plugin activation

Problem category	Number	Short description
Upgrade Engine Issues	PRB1304007	Upgrade issue when multiple views are named 'default'
Upgrade Engine Issues	PRB1304699	Instances with defined UI and Worker nodes can have an outage during upgrade
Upgrade Engine Issues	PRB1286804	Hide the <record_update> tag when resolving conflicts for skipped updates
Usage Analytics	PRB1295170	Auto turn off of stats definitions exceeding the threshold with 3 warnings is not working as expected
User Experience Engineering	PRB1291259	Security Warning(Session time-out message) is hardcoded in English and does not translate
VA-Publisher	PRB1309376	VaRecordCardRenderer crashes when passing it a non-existent field name
VA-Web Client	PRB1309900	Instance option to change color of Virtual Agent Service Portal widget does not work
Vendor Performance Management	PRB1270289	Vendor Performance plugin activation does not create default vendor types
Vendor Performance Management	PRB1276525	On the vendor scorecard view, if the banner text contains "<" it displays "\u003C"

Problem category	Number	Short description
Vendor Security Risk Assessment (VSRA)	PRB1293531	On Vendor Portal, the survey responses are truncated after "&" ampersand sign in String fields
Vendor Security Risk Assessment (VSRA)	PRB1292433	Vendor Risk Assessments show an incorrect number of unanswered questions
Vendor Security Risk Assessment (VSRA)	PRB1317930	Vendor Risk Assessment responses are not saved when the vendor risk manager tries to change the response (by clicking "view response") after the vendor contact submits the assessment
Vendor Security Risk Assessment (VSRA)	PRB1317196	Company (core_company) ACL conflict
Vendor Security Risk Assessment (VSRA)	PRB1295447	Vendor responses submitted by the vendor are not visible in Main UI
Vendor Security Risk Assessment (VSRA)	PRB1296655	On Vendor Portal, the assessment question responses are corrupted when foreign languages like (Russian/Chinese/Japanese) are used
Vendor Security Risk Assessment (VSRA)	PRB1298191	2017 SIG Lite questionnaire questions missing dependencies on parent questions causes the VDP as unanswered
Vendor Security Risk	PRB1314264	Change password functionality is not working on Vendor Service Portal (Vendor Management Service portal Plugin)

Problem category	Number	Short description
Assessment (VSRA)		
Virtual Agent Platform	PRB1312023	Virtual agent conversation builder fails to load if the language is set to Traditional Chinese
Visual Task Boards	PRB1235441	Marking users with @ inside a VTB comment is not working
Visual Task Boards	PRB934074	[VTB] A Guided board created from a Choice / String with choice value of --none-- creates a blank lane and the --none-- lane
Visual Task Boards	PRB925240	Data-driven boards don't update with tasks created from forms
Visual Task Boards	PRB830770	Trying to create a problem from an incident in a Visual Task board redirects you to the VTB and not the newly created problem
Visual Task Boards	PRB1258625	Attempting to create a VTB task using the mobile app (web and native apps) causes an error and gets stuck "Loading..."
Visual Task Boards	PRB1277238	VTB filters revert back to previous filter conditions after they are changed
Visual Task Boards	PRB1291071	Issue with VTB cards being duplicated when the board is loaded by an active user
Visual Task Boards	PRB1293411	Mail script "vtb_task_details" uses internal domain "@servicenow" rather than "@service-now"
Visual Task Boards	PRB1094240	Invalid Task ID message when an ESS user updates a task

Problem category	Number	Short description
Visual Task Boards	PRB1181332	[Visual Task Boards] When creating a VTB using a different language, the words 'Guided' and 'Freeform' are not translated
Visual Task Boards	PRB1240586	Default value on private task activity stream does not change to work notes
Visual Task Boards	PRB1246154	VTB: Creating a guided task board with a filter on [Task Type] [=] [Private Task] allows users to see private tasks created by other users
Visual Task Boards	PRB1249890	Visual Task Board searches are giving unexpected results when some fields are hidden from field ACLs
Visual Task Boards	PRB1253064	Refreshing a Visual Task Board reserves a ticket number for the table the VTB is on
Visual Task Boards	PRB1280283	Visual task 'add member' unable to find users using user_name (User Id)
Visual Task Boards	PRB1293267	Switching between languages causes issue with moving tasks to other lanes
Visual Task Boards	PRB1295156	Add Primary Assignee button on Visual Task Board (VTB) info tab is not working if 'glide.invalid_query.returns_no_rows' is true
Visual Task Boards	PRB1308901	Email address user IDs cause issues with Visual Task Boards
Vulnerability Response	PRB1295391	The sn_vul.group_commented event can take a long time to process delaying other events from being processed
Vulnerability Response	PRB1270527	Unable to "Defer" a vulnerability group if the date format is set as dd-MM-yyyy or MM/dd/yyyy

Problem category	Number	Short description
Vulnerability Response	PRB1275212	Relationships/related lists previously created using the Vulnerability Response plugin in an earlier release no longer exist
Vulnerability Response	PRB1269004	Vulnerability Group form throws a JavaScript error on the form load
Vulnerability Response	PRB1289019	The Vulnerability Analytics (com.snc.vulnerability.analytics) plugin contains invalid demo data
Vulnerability Response	PRB1278304	Processing of the sn_vul.group_state_change event runs slowly due to an inefficient query
Vulnerability Response	PRB1280288	Encoded information received from the NVD did not get decoded
Vulnerability Response	PRB1292082	Vulnerable item 'Closed' date and 'Closed by' fields are not updated after Kingston upgrade
Vulnerability Response	PRB1302623	Qualys Updating VIs created by Host detection instead of Ticket Integration
Vulnerability Response	PRB1276876	Open vulnerable items with the fixed substate are exhibiting abnormal behavior
Vulnerability Response	PRB1278487	Inconsistent VI Remediation Status and Remediation Target Date
Vulnerability Response	PRB1283096	Repeated Qualys Knowledge base import cause SQL unique constraint violation error in log
Vulnerability Response	PRB1285573	Bulk Edit UI action for vulnerable item freezes the browser window
Vulnerability Response	PRB1298199	When a large number of vulnerability group rules with a filter criteria are created, it slows down processing of vulnerable item inserts

Problem category	Number	Short description
Vulnerability Response	PRB1301972	Accessing the "Configure SAM NVD" module sends users to a read-only checkbox
Vulnerability Response	PRB1310802	Order of operations for evaluating a filter against a specific record matters and could give different results
Vulnerability Response	PRB1311057	"Last Opened" date is not being calculated correctly when date format is MM-dd-yyyy
Walk-Up Experience	PRB1296862	Walk-up Portal location landing page should lock out non walk-up users
Walk-Up Experience	PRB1310819	Walk-up portal pages don't have option to auto-refresh, causing confusion for end users
Walk-Up Experience	PRB1310513	Walk-Up Experience: "Online check-in experience" service portal widget appends 'SP' to contextual search results URL
Walk-Up Experience	PRB1312440	Multi-clicking "Create Incident" on Walk-up Experience IMS record creates multiple incidents
Walk-Up Experience	PRB1312774	Walk-up online checkin widget does not display schedules properly for locations with certain timezones
Web Services	PRB1271029	Requesting sys_user WSDL is causing the instance to run out of memory
Web Services	PRB1181036	Instance returning 200 OK and invalid payload for soap requests with locked sessions
Web Services	PRB1304455	Table REST API not able to populate choice value in CMDB
Web Services	PRB1253926	Log errors observed when REST API Explorer is accessed

Problem category	Number	Short description
Web Services	PRB1290329	Need advice on accessing WSDL without authentication for incoming WSDL requests
Web Services	PRB1290825	APIs not working correctly in setting "GlideDate" field when dateformat is "mm-dd-yyyy"
Web Services	PRB1298645	Attachment API - POST /now/attachment/file - Incorrect Response if parameters are missing
Web Services	PRB1302882	REST API Pagination does not properly handle escaped query parameters
Web Services	PRB1308490	Documentation: REST API roles doc needs clarification about OOB access
Workflow	PRB1241790	Multiple workflow timers fail with an error "Cannot find function getGlideDateTime in object"
Workflow	PRB1206122	Workflow is getting stuck due to scratchpad value not getting evaluated properly
Workflow	PRB1294717	Using "approval script" in "Approval - Group" activity does not set the approval state to 3 or active field to false after approval
Workflow	PRB1300163	SLAs created before the London upgrade do not pause their SLA percentage timer activities correctly after the upgrade
Workflow	PRB1259826	Mismatch with knowledge article workflow stages between the article and the approval records
Workflow	PRB1270188	Published workflows are editable when clicking the icon in the upper left corner of an activity (remove open record button)

Problem category	Number	Short description
Workflow	PRB1274517	WF - After upgrade, tables are missing in the Table drop-down when creating a workflow
Workflow	PRB1304881	NPE errors occur ' class not found: com.glide.glideobject.Workflow'
Workflow	PRB1247042	Doesn't use a correct call for notNil() method
Workflow	PRB1252315	Using an apostrophe in a workflow name causes issues when publishing a checked-out workflow version
Workflow	PRB1290229	List V3: Clicking 'New' UI action in wf_workflow opens new form record in wf_workflow, instead of wf_workflow_version
Workflow	PRB1316673	Approval created with empty approver name
Workflow	PRB1239988	Glide elements of type Glide Var that are not properly configured throw null pointer exception
Workflow	PRB1240979	Message not translated into German when rejecting a request
Workflow	PRB1259486	Change tasks created from Workflow have created_from field set to 'Manual' by default
Workflow	PRB1260596	Calling "getDisplayValue()" on any field that is of type "Workflow" may overwrite the values in the GlideRecord object
Workflow	PRB1262906	Incorrect calculation of catalog task duration
Workflow	PRB1263203	Stage icon display broken when showing stage field from scoped table via a Database View

Problem category	Number	Short description
Workflow	PRB1294521	Group approvals are not set back to "Requested" state after the rollback activity
Workflow	PRB1303416	Stages from the subflow are not consistent on RITM and List view
Workflow	PRB1314678	Issue displaying the correct stage for RITMs
Workflow	PRB1315166	The render_gadget_widgetWorkflowRSS no longer works due to deprecation and removal of the google feeds API
Problem category	Number	Short description
Lists	PRB1038749	Issue with checkboxes in Firefox
Lists	PRB1245995	Dot-walked columns are not displayed in list view if one ACL on one dot-walked column fails
Email	PRB1246760	Subscription notification logging references the wrong table
Discovery	PRB1262429	The Shazzam sensor should handle input record error messages differently
Performance Analytics Application	PRB1267072	Widget layout is incorrect when the instance is switched to a RTL language
Core Platform	PRB1271680	GlideAggregate groupBy on a reference field with a text indexed query does not return expected values for getValue / getDisplayValue
Persistence	PRB1273768	Decimal data type is glommed incorrectly to decimal with smaller max length/scale

Problem category	Number	Short description
Web Services	PRB1274303	Multiple stuck default semaphores
Human Resources	PRB1278942	Topic Detail and Topic Category should extend sys_metadata (Application file)
Application Portfolio Manageme nt (APM)	PRB1279135	Cannot create a dictionary override or flow formatter for the Business Application [cmdb_ci_business_app] table
Persistence	PRB1287636	Online alter causes replication lag
Persistence	PRB1292123	Delete Recovery Tool: Restoring Change Request/task record with associated workflow, breaks the related approvals, workflow
Resource Manageme nt	PRB1292736	On allocation workbench, when the date filter is set to 2019-Jan until 2019-Dec, all the tasks and resource plans in the grid are filtered accordingly, but the grid columns are being shown from 2018-Jan
Performanc e Analytics	PRB1292785	The Text Analytics widget should take into account 'minimum word occurrence'
Human Resources Service Manageme nt	PRB1294404	HR criteria is evaluated incorrectly in User Criteria Diagnostics and Preview Articles with blocks
Human Resources	PRB1294739	Scoped ACLs are active alongside global ACLs for global records
Vulnerability Response	PRB1295573	The job 'CWE Comprehensive 2000 Integration' fails occasionally with the error 'Encountered error running the integration. TypeError: Cannot read property "Weakness_Catalog" from null'

Problem category	Number	Short description
Reporting	PRB1296659	Filter does not apply on reports after switching dashboards and then tabs
Field Service Manageme nt	PRB1296751	Page count is incorrect on Team calendar when the same Agent is member of two of more work groups
Reporting	PRB1297025	Chart reports that group by or stack by on a catalog variable generate error in dashboards and homepages
Flow Designer	PRB1298746	Approval action is not firing approval events
Edge Encryption	PRB1299086	The download all attachment doesn't set static header for Edge
VA-Web Client	PRB1300543	Virtual Agent UI is broken in IE11
Service Catalog: Service Portal Widgets	PRB1302081	ATF: Unable to validate pricing using 'Validate Price and Recurring Price (SP)'
Service Mapping	PRB1303737	The MID Server script SSHTerminalCommand does not work
Dashboards and Home Pages	PRB1303766	IE11 - In the 'Share' panel, the message section doesn't fit the screen
Customer Service Manageme nt	PRB1304647	Case Slush Bucket on Contact Form: Unable to add the cases with the Add button from the Cases slush bucket, i.e. on the Contact form

Problem category	Number	Short description
Security	PRB1305052	Logic correction needed for 'Authentication > Remove Credentials From Welcome Page'
Vendor Security Risk Assessment (VSRA)	PRB1305373	Vendor assessment answers are not being saved on submission
Performance Analytics	PRB1305427	Unmatched element can return the wrong value (0) when shown in realtime
Forms and Fields	PRB1306425	Date picker is not displaying next to date field
Resource Management	PRB1306543	Issues with the allocation workbench under the Resource Management module
Service Catalog: Service Portal Widgets	PRB1307231	If the user cancels the order from order confirmation popup, the popup is getting closed, but the order item widget options are still shown as disabled
Event Management	PRB1307967	Binding by additional info - binding should not include empty fields
Agent Workspace	PRB1308206	When clicking the 'View Details' button after ordering an item, the user is taken to a page that displays 'No List Selected' and is no longer able to navigate in the UI
Service Catalog: Service Portal Widgets	PRB1308258	Widget level instance option 'Hide Delivery Time' is not honored in the Cart & Wishlisted view

Problem category	Number	Short description
Service Mapping	PRB1308657	The return value from classification causes the XML of the probe parameter 'cidata' to be corrupted, and the pattern throws an exception
Discovery	PRB1309154	When running a pattern using the new mechanism of running 2 patterns, one after the other we are getting error for the second pattern.
Discovery	PRB1310553	Discovery Status Cleanup runs when the Discovery plugin is not active, which causes errors
Cloud Management Application	PRB1310893	When deprovisioning an AWS stack for VM, the VM is deprovisioned in AWS, but the state isn't updated in the CMDB
Usage Analytics	PRB1311183	sys IDs are passed instead of plugin ID, causing issues with plugin installation
MID Server	PRB1311418	Detect PowerShell v6 logs a MID Server issue that PowerShell v6 is currently not supported
Service Mapping	PRB1311651	Pattern Discovery: Device History contains duplicate hosts in case of splitted payload multiple main CI's
Cloud Management Application	PRB1311977	Incorrect licensing data getting reported for Discovery-only customers
Knowledge Management	PRB1312085	Labels on $social_qa.do are not translated
Configuration	PRB1312321	CMDB Dashboard does not refresh the scores for new run when it is reloaded

Problem category	Number	Short description
Management Database (CMDB)		
Event Management	PRB1312649	Alert form - Enable Audit on worknotes field only and add activity stream to Alert layout (classic and workspace)
Application Navigator & Banner Frame	PRB1313608	Cannot create favorite to Studio since link contains "javascript:" and that is now being sanitized
Reporting	PRB1314527	On Multilevel pivot reports where the row and column groups are reference fields, the whole table hierarchies are displayed as the column name.
Service Catalog: Service Portal Widgets	PRB1314533	Varying price labels are missing for Multiple Choice and SelectBox type variables
Studio	PRB1314612	Cannot create favorite to Studio since link contains "javascript:" and that is now being sanitized
Discovery	PRB1314743	SNMP alternate port discovery is not working as expected
Flow Designer	PRB1314979	Flow Designer flows are triggering an hour earlier than the configured trigger time
Resource Management	PRB1315141	Behaviors of form UI action on the form and grid are different
Discovery	PRB1315398	The Shazzam port probe for winrm_ssl requires a shorter timeout

Problem category	Number	Short description
Service Portal	PRB1315416	Date field is not in system date format
Resource Management	PRB1315417	Cancelling a Resource Plan in the 'Confirmed' state does not remove the cost from Resource Allocated Cost (resource_allocated_cost)
Service Portal	PRB1315748	onSubmit client scripts are running multiple times in the Service Portal for sc_req_item (RITM) table
Cloud Management Application	PRB1315852	CMPV1 'sn_azure' Cloud Discovery does not populate vm_inst_id for Azure Virtual Machines, which leads to missing relationships between the CI's and their VM instances
Project Management	PRB1315902	PPM Project tasks duration rollup issue on Planning Console
Service Catalog: Service Portal Widgets	PRB1316090	Difference in instance option limit behavior in the Rrecent & Popular Item widget, as well as the SC Popular Item widget
Configuration Management Database (CMDB)	PRB1316377	On the NG-Relationship editor, the title for 'Relationship editor' has changed to 'Discard Changes'
Financial Management	PRB1316555	Insert and Save do not generate breakdowns for a Benefit Plan
Policy and Compliance	PRB1316685	Unable to save after the active field is unchecked or cleared in the Citation form

Problem category	Number	Short description
Project Manageme nt	PRB1316768	Planning Console - The getMessage() and unindent task actions do not auto-schedule the old parent when there are relation issues
Reporting	PRB1316853	New UI policy in London breaks a previous policy for ACLs
Forms and Fields	PRB1317213	Cannot upload picture/screenshot in the KB Article in wiki format ([[Image: file name.png]]) in London
Change Manageme nt	PRB1317320	Change Request Planned start/end time shows UTC values in the CAB Workbench CAB meeting > Calendar widget > Month View > Change request span pop-over window
Human Resources Service Manageme nt	PRB1317356	HR-generated documents can have images removed from the PDF
Knowledge Manageme nt	PRB1317417	In London, the kb_home UI page only shows items with no category
Service Portal	PRB1317642	During upgrade from London to Madrid, Knowledge Management widgets generate errors (NullPointerException NPE)
Import / Export	PRB1317657	After upgrading to London, JDBC probe jobs no longer accept passing a function to the external RDBMS. IE: TO_TIMESTAMP
Chat	PRB1317698	Console errors on Connect chat in Service Portal
Assessments	PRB1317885	Vendor Risk Tiering Questionnaire Template Designer issue with reference

Problem category	Number	Short description
Assessments	PRB1317892	Client error for correct answer - Likert scale data type
Security Access Control Lists	PRB1317991	Warning for ACL on sys_user delete: Expected an assignment or function call and instead saw an expression.
Customer Service	PRB1318027	On the sn_customerservice_case form, the German translation for the 'Additional comments' label (SICHTBAR FÜR KUNDEN) is repeated 2 times
List v2	PRB1318172	List V2: Dot-walked empty/null values have a hyperlink and redirects to a null record
Agent Workspace	PRB1318302	Unable to filter out or show matching of (empty) date time
Service Mapping	PRB1318308	Miselading error message when debugging pattern regarding payload size
Change Manageme nt Risk Assessment	PRB1318359	Risk Calculation appears to override Risk Assessment even though it has a lower risk value, when glide.ui.risk_calculate_rule property set to 'Business rule'
Usage Analytics	PRB1318461	Subscription Manage license erroroneously contains detail records that do not correspond to any existing contract item
Service Portal	PRB1318684	Hints for scripted menu items are not showing up in Service Portal after upgrading to London
Human Resources Service Manageme nt	PRB1318903	'Subject Person' is not set as requestor when the 'Create a parent case' feature is selected

Problem category	Number	Short description
Customer Service Management	PRB1318960	URL in Team Calendar which includes '%2B' (a plus sign) cannot be decoded successfully
Human Resources Service Management	PRB1318969	Disable code that disables COE's, services etc. based on UA&L entitlements
Service Catalog: Service Portal Widgets	PRB1318978	The Approvals widget on Service Portal does not show Total Cost when multiple items are ordered when looking at the RITM record
Service Catalog: Service Portal Widgets	PRB1318988	The auto_redirect option on the SC Catalog Item widget is not working when two-step checkout is disabled in the portal
Project Management	PRB1319216	Form loads the incorrect Status Report UI action for users who have 'After Form Loads' set for related list loading
Service Catalog	PRB1319248	Removing an entry from multi-row variable sets causes the screen to freeze when there is another multi-row variable set of lower order that's hidden
Service Catalog	PRB1319286	The reference qualifier on a List collector variable which is dependent on another reference variable doesn't work if the reference field is made read-only, even if it has a value in it

Problem category	Number	Short description
Discovery	PRB1319337	NetApp provider doesn't provide enough information when testing credentials
Resource Manageme nt	PRB1319400	On an upgraded instance from Istanbul (or prior) to Kingston (or later), Confirmed/ Allocated Hours on resource allocations and task on aggregates are not populated
NotifyNow	PRB1319425	Twilio/Notify time delay of 5 seconds or more when using the activity 'Say'
Customer Service Manageme nt	PRB1319432	Recipient list count - The recipient list dynamic condition is evaluated when the selected method is upload
Embedded Help	PRB1319589	When the EH trigger process the queue, large number of rows get selected from sys_embedded_help_queue table
Service Catalog: Service Portal Widgets	PRB1319630	'No Cart' option does not work for order guides on Service Portal
Service Catalog: Service Portal Widgets	PRB1319631	In London, the Catalog Content widget does not show items with the content type KB article
Software Asset Manageme nt Professional	PRB1319697	Subscription pull schedule job normalizes install for all subscription software, but it should only normalize for Microsoft subscription software

Problem category	Number	Short description
Password Reset Application	PRB1319719	When an account is locked and the user does a password reset, the password reset page hangs
Coaching Loops	PRB1319837	Coaching assessments are not generated when trainee field value is 'dot walk' field
Human Resources Service Management	PRB1319904	OOB business rules (Trigger Outbound Services) can create many unnecessary syslog entries, .even when HR Integration Outbound Services are set to 'Active = false'
Human Resources	PRB1319953	An error messages appears for some offboarding integration cases: 'Direct chat with HR must be requested trough HR Portal only!'
Application Portfolio Management (APM)	PRB1320009	APM_admin is unable to use APM Guided Setup
Resource Management	PRB1320170	Time cards submitted for non-tasks get recorded on operational resource plan dailies
Change Management Risk Assessment	PRB1320210	Change Risk Assessment questions that are not marked as mandatory and are left unanswered and then submitted by users return a value of: -1 (resulting in incorrect calculation of risk)
Usage Analytics	PRB1320249	Running the UA stream block downloader produces warnings in the logs
Project Portfolio	PRB1320478	The PPM Investment Portal widgets do not filter demands on teamspaces

Problem category	Number	Short description
Manageme nt		
Service Catalog	PRB1320717	The justification of catalog item descriptions is applied differently in IE11
Project Manageme nt	PRB1321139	Two 'dhtmlxgantt.css' files with same path (/ styles/dhtmlx/dhtmlxgantt.css) exist
Forms and Fields	PRB1322222	If a 'File Attachment' type field is made mandatory, it does not support attaching a file anymore

ODBC Driver patch release notes

The ODBC Driver is updated with each new family release, and problem fixes are included in driver patch updates.

Download the ODBC driver from the HI Knowledge Base. For installation and configuration information, refer to Download and install the ODBC driver.

ODBC Driver 1.0.14.01 release notes

The ODBC Driver 1.0.14.01 release contains fixes to these problems.

Fixed problem	Short description
Open Database Connectivity (ODBC) PRB1282816	When a ServiceNow ODBC user types incorrect user credentials, 4 login.failed events are created instead of 1

ODBC Driver 1.0.14 release notes

The ODBC Driver 1.0.14 release contains fixes to these problems.

Fixed problems	Short description	Description
Open Database Connectivity (ODBC) PRB1162624	A ODBC query to a 'string' with the value of a field name will translate to the incorrect 'same as' query, returning incorrect rows	When using ODBC to query to a 'string' that matches the value of a field name, it translates to an incorrect 'same as' query. The incorrect query can return the incorrect rows.
Open Database Connectivity (ODBC) PRB1267497	The JRE was removed from ODBC installers	
Open Database Connectivity (ODBC) PRB1278032	64-bit ODBC Driver fails to connect to instances hosted in FedRAMP datacenter due to TLSv1.2 requirements	FedRAMP data centers no longer allow for connections made with TLSv1.1 or lower. The 64-bit version of the 1.0.13 driver uses JDK 1.8.152, which has been known to have issues with TLS. As a result, the server rejects the connection when falling back to the next highest version. For symptoms, cause, and resolution information, see KB0563593 in the HI Knowledge Base.

- Install an ODBC driver patch
- ODBC driver installation requirements and supported software
- Download and install the ODBC driver

ODBC Driver 1.0.13 release notes

The ODBC Driver 1.0.13 release contains fixes to these problems.

Problem	Short description	Description
Open Database Connectivity (ODBC) PRB1110116	ODBC driver returns non-integer fields as NTEXT where varchar is expected	Users cannot use ODBC driver 1.0.11 correctly in combination withL: SQL Version: Microsoft SQL Server 2014 (SP2-CU2-GDR) (KB3194718) - 12.0.5532.0 (X64) Oct 5 2016 20:28:25 Copyright (c) Microsoft Corporation Enterprise Edition: Core-based Licensing (64-bit) on Windows NT 6.3 <X64> (Build 9600:) (Hypervisor) "SELECT INTO" queries cause the ODBC driver to convert fields to NTEXT where varchar is expected instead.

- ODBC driver installation requirements and supported software
- Setting ODBC properties
- Configure the ODBC driver for large data sets

ODBC Driver 1.0.12 release notes

ODBC driver product enhancements and updates in the 1.0.12 release.

Version 1.0.12 of the ODBC Driver uses Java 1.8. You may need to configure your Java path after installing this version. See KB0597981 for more information.

Problem	Short description	Steps to reproduce
PRB708941 KB0597404	Querying more than 4MB with ODBC driver creates temp files	See Known Error for steps to reproduce
PRB747962	ODBC driver outputting incorrect number of records when using LEFT JOIN ON SELECT * query	See Known Error for steps to reproduce

Problem	Short description	Steps to reproduce
KB0621993		

ODBC Driver 1.0.11 release notes

ODBC driver product enhancements and updates in the 1.0.11 release.

Version 1.0.11 of the ODBC Driver uses Java 1.8. You may need to configure your Java path after installing this version. See KB0597981 for more information.

Problem	Short description	Steps to reproduce
PRB711960 KB0597602	When querying a table that has a string field whose value exceeds 65535 kb, the following error occurs: [SN][ODBC ServiceNow driver][OpenAccess SDK SQL Engine]Disk cache error. Field length:93238 exceeds maximum limit of 65535	Refer to the listed Known Error KB article for details.
PRB691056 KB0597979	ODBC query on Display Value for a state does not return the entire Display Value	Refer to the listed Known Error KB article for details.
PRB716125 KB0598308	iSQL returns only 16383 bytes even if a field contains more data	Refer to the listed Known Error KB article for details.

ODBC Driver 1.0.10 release notes

ODBC driver product enhancements and updates in the 1.0.10 release.

New in the 1.0.10 release

Improvements to timer and duration fields

The display format for timer and duration fields has been improved. Queries on timer and duration fields now return the field value in the UTC timezone. You can query the field display value, as shown in the UI, by adding dv_ to the field name. The property LegacyDurationTimeZone has been added to preserve compatibility with legacy integrations.

Database schema and caching properties

The EnableDBSchema and ExtendedSchemaCache properties enable you to control how the ODBC driver queries and caches database schemas.

Fixed problems

Problem	Short description	Steps to reproduce
PRB634397 KB0551938	ODBC driver fails to get data or connect when invoking multiple or parallel connections.	Refer to the listed Known Error KB article for details.
PRB637895	ODBC select query does not return columns in the defined order.	1. Using the ODBC driver version 1.0.9, run a select query. 2. Note the returned column order is random.
PRB630646 KB0549682	ODBC driver caches schema between different connections.	Refer to the listed Known Error KB article for details.
PRB630233	The ODBC driver doesn't use the SOAP aggregate API for aggregate queries.	Refer to the listed Known Error KB article for details.

Problem	Short description	Steps to reproduce
KB0549578		
PRB629818 KB0549557	ODBC driver does not optimize select top N queries.	Refer to the listed Known Error KB article for details.

Upgrade to Madrid

The upgrade process moves your instance to a new ServiceNow release version. Understand the difference between upgrading and patching, release definitions, rollback and backup options, and how to test your non-production and production instance upgrades.

For an in-depth explanation of the upgrade process, refer to Upgrade your instance.

Before you begin the upgrade process, read the Madrid release notes and review the upgrade and migration tasks for your applications and features.

System upgrades can be significant projects. Each ServiceNow feature release includes major additions, and you should always consider the impact of new functionality on an instance. Upgrading implements enhancements to all features that are part of the base system or are already active, unless the feature is customized on your instance. For a list of all available plugins and whether they are active by default on the base system, see List of Madrid plugins.

Careful preparation and knowledge of the available software, tools, and resources can contribute to a successful upgrade. In addition to the materials provided by ServiceNow, it is important to understand how your ServiceNow instance is currently operating and the performance level of key business functionality. Set the expectation with IT and business users that time must be dedicated to preparing for, implementing, and testing ServiceNow upgrades.

If you have any issues during the upgrade process, contact ServiceNow Customer Support. ServiceNow Customer Support is available 24 hours a day, 7 days a week to assist you with any questions or issues.

For additional help with upgrades, ServiceNow also offers various Production Readiness Services. These services specifically address challenges with instance upgradability, manageability, scalability, and performance. The reviews are performed by a ServiceNow-certified professional consultant, who provide recommendations to align customer configurations with ServiceNow best practices. Contact your ServiceNow sales representative for more details.

Upgrade durations in Madrid

The performance of the upgrade engine is enhanced, resulting in significantly shorter duration times for family-to-family upgrades. A family-to-family upgrade occurs when an instance moves from its current release version to another version in a different family (for example, upgrading from Jakarta Patch 6 to Madrid). The upgrade process is optimized for both patching and family-to-family upgrades.

> Note: The performance improvement can be significant enough to cause concern that your upgrade may not have run properly. As always, test your upgrades, but do not assume that the upgrade was unsuccessful based just on the time it took to execute.

Supported upgrades

You can upgrade directly to the latest release family. If multiple software versions are involved in your upgrade, be sure to consult the release notes for each version between your current version and the target version. For more information about release terminology and availability phases, see the ServiceNow Release Cycle [KB0547244] article in the HI Knowledge Base.

Upgrades and the ServiceNow Store

The ServiceNow Store includes official applications that are developed and released by ServiceNow. Users can download, access, and configure ServiceNow Store apps on their instances.

Starting in the Madrid release, new versions for a ServiceNow Store app can be defined in patch and family releases. This includes the ability to define a minimum version and/or a hotfix for a version you already have installed. From Madrid onwards, if your instance has an installed app version below the defined minimum version, the app will be upgraded to the minimum required version. Similarly, if your instance has an installed app below the defined hotfix version, your app will be upgraded to the hotfix version.

For example, consider an application that defines these versions in a release: 1.7.1, 2.4.0, and 3.0.1. In this example, version 1.7.1 is the minimum version. Versions 2.4.0 and 3.0.1 are hotfix versions.

When an instance upgrades to the release version, the following behavior occurs:

Minimum version upgrades

Version installed before the upgrade	Expected version after the upgrade
1.0.0	1.7.1 - The version upgrades to the minimum version
1.3.2	1.7.1 - The version upgrades to the minimum version
1.7.1	1.7.1 - The version stays the same, because the instance was already on the minimum version
1.7.2	1.7.2 - The version stays the same, because the instance was already ahead of the minimum version

Hotfix version upgrades

Version installed before the upgrade	Expected version after the upgrade
1.8.0	1.8.0 - The version stays the same, because the instance was already ahead of the defined hotfix version
2.0.0	2.4.0 - The version upgrades to the defined hotfix version
2.6.0	2.6.0 - The version stays the same, because the instance was already ahead of the defined hotfix version
3.0.0	3.0.1 - The version upgrades to the defined hotfix version
3.0.5	3.0.5 - The version stays the same, because the instance was already ahead of the defined hotfix version

Version installed before the upgrade	Expected version after the upgrade
4.0.0	4.0.0 - The version stays the same, because there are no hotfix versions defined for 4.0.0+.

Upgrades vs. patches

ServiceNow organizes its releases into families. A family is a set of releases that are named after a major city, such as Madrid. Within a family, releases are further differentiated by patch and hot fix number. For example, the following releases are both part of the Jakarta family:

- Jakarta Patch 7
- Jakarta Patch 6 Hot Fix 1

Upgrading is the act of moving to a release that is in a different family than your current release. For example, a move from Jakarta Patch 7 to Kingston Patch 2 is an upgrade because Jakarta and Kingston are different families.

Patching is the act of moving to a release that is in the same family as your current release. For example, a move from Kingston Patch 1 to Kingston Patch 2, is a patch because both versions are part of the Kingston family.

In both cases, the target release is Kingston Patch 2. It is the difference between your current and target release family that determines whether you are upgrading or patching.

Features, patches, and hot fixes

Each release family contains features, patches, and hotfixes.

A feature provides a complete solution that customers can implement to add value to their organization. New features are generally only available as part of a feature release. Features are supported with patches and hot fixes.

Type	Scope
Feature	• Introduces new features

Type	Scope
	• Includes all available fixes to existing functionality • Is production-oriented; quality and stability are of the highest priority throughout the life cycle
Patch	• Supports existing functionality with a collection of problem fixes • Generally does not include new features
Hot Fix	• Supports existing functionality with a specific problem fix for a feature release • May or may not include any previous fixes for a given release • Does not include new features

For more information about release terminology and availability phases, see the ServiceNow Release Cycle [KB0547244] article in the HI Knowledge Base.

Rollbacks and backups

When you plan an upgrade, remember that ServiceNow does not provide a universal rollback option. Rollbacks are available for upgrades (for example, Madrid patch-to-patch and Madrid patch-to-hotfix). The rollback window is 10 days by default. You can customize this window by modifying the glide.rollback.expiration_days property. To request a rollback, contact ServiceNow Customer Support.

Avoid restoring a production instance from backup, when possible, due to downtime and data loss. When a problem cannot be solved using other methods, restoring a production instance from backup is a final option. ServiceNow can restore an instance to any point in time, regardless of when a backup is completed. ServiceNow provides customer support 24 hours a day, 7 days a week for assistance with critical post-upgrade issues.

Note: ServiceNow does not perform on-demand backups. Instances are automatically backed up daily during non-peak business hours on schedules defined by ServiceNow. The timing of existing backup schedules is not adjusted.

Testing throughout upgrades

Testing is an integral portion that occurs after each instance is upgraded. After you upgrade an instance, test and validate it.

This instance naming convention assumes that you have three ServiceNow instances. If you have three instances, upgrade your instances in this order:

1. Development
2. Test
3. Production

If you have more or less than three instances, or if you are using Team Development, these instance labels will be different. In general, upgrade your instances furthest from production towards your production instance.

Instance	Type of testing required
Development	• Conduct smoke tests.
Test	• Use the ServiceNow Automated Test Framework to assist you in testing your non-production instances. • In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests. • For extra testing coverage, you can also conduct user acceptance testing (UAT) on your non-production instances.

Instance	Type of testing required
Production	• Conduct UAT. Note: The Automated Test Framework is intended for use on non-production instances. On your production instance, conduct UAT only.

If you encounter any post-upgrade issues, document the issue's conditions, steps to reproduce the issue, and your customizations. Contact ServiceNow Customer Support to open an incident for each issue, and provide this information accordingly. ServiceNow Customer Support is available 24 hours a day, 7 days a week to assist you with any questions or issues.

- Upgrade your instance

  Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, read the release notes, create upgrade plans, and test your upgrade on non-production instances before upgrading your production instance.
- Upgrade and migration tasks by application or feature

  Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.
- Upgrade planning checklist (Madrid)

  Plan and track the activities related to your ServiceNow instance upgrade. To help ensure that you complete all the tasks for a successful upgrade, follow the step-by-step instructions in the upgrade planning checklist to track and plan the upgrade.

Upgrade your instance

Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, read the release notes, create upgrade plans, and test your upgrade on non-production instances before upgrading your production instance.

These topics contain in-depth explanations about upgrades. For a step-by-step reference of upgrade steps, refer to the Upgrade planning checklist (Madrid).

- Phase 1 - Read the release notes and plan your upgrade

  Before you begin the upgrade process, it is essential to read the release notes for your target version so you understand the required upgrade and migration tasks. This information helps you plan a safe and effective upgrade.

- Phase 2 - Prepare for the development instance upgrade

  For a better understanding of your production upgrade duration, request a full clone of your production instance (including large tables and attachments) onto a non-production instance. Confirm your current and target release versions, because you will later use this information when scheduling your upgrade in HI.

- Phase 3 - Verify your upgrade configurations and schedule the development instance upgrade in HI

  Check the configuration of the Upgrade scheduled job to view how often and when it runs. Review information about timing your upgrade in coordination with the Upgrade scheduled job. Then, schedule your upgrade in HI.

- Phase 4 - Upgrade and validate the development instance

  Track the progress of your upgrades with the Upgrade Monitor. For your first non-production instance upgrade (your development instance), use the Upgrade Monitor to process the skipped list of records that were not addressed in the upgrade. Then identify your update sets and perform functional testing.

- Phase 5 - If applicable: Upgrade and validate your other non-production instances, such as your test instance

  If you have any other non-production instances in addition to your development instance, such as a test instance, request to upgrade these instances. Request these upgrades after you have configured and refined your development instance. Immediately after the upgrade is complete, apply the post-upgrade changes made to your development instance, including activating optional plugins, installing and upgrading applications, and applying update sets.

- Phase 6 - Prepare to upgrade the production instance

After you have configured and refined your test environment to be a good representation of your production environment, prepare to upgrade your production instance.

- Phase 7 - Upgrade the production instance

  After you have upgraded your development, non-production, and test instances, upgrade your production instance last. Then validate that the upgrade was complete, apply update sets and fix scripts, and perform post-upgrade user acceptance testing (UAT).

- Troubleshooting and other upgrade resources

  Use this information to troubleshoot post-upgrade issues and learn more about other aspects of ServiceNow's upgrade process.

Phase 1 - Read the release notes and plan your upgrade

Before you begin the upgrade process, it is essential to read the release notes for your target version so you understand the required upgrade and migration tasks. This information helps you plan a safe and effective upgrade.

Before you begin

If multiple software versions are involved in your upgrade, be sure to consult the release notes for each version between your current version and the target version.

Procedure

1. Read the release notes for your target version. Review upgrade and migration tasks that you will need to complete before or after your upgrade.

   ServiceNow provides release notes for every release. The release notes offer valuable information about new functionality, notable changes, and fixes available in a particular version. Read the Madrid release notes to determine whether the upgrade contains functionality you need and fixes that resolve any issues affecting your instance. The release notes can also help you determine whether items you previously customized are being upgraded. For Madrid-specific upgrade considerations, see Upgrade and migration tasks by application or feature.For a downloadable, sortable version of Madrid fixed problems, see KB0721455.

2. Complete the preparation and planning tasks in Phase 2 of the Upgrade planning checklist (Madrid).

   The checklist contains a list of planning tasks that guide you through various aspects of upgrade preparation. You are guided through tasks such as scoping, gathering stakeholders, identifying features to disable and enable, and creating test plans to use throughout the upgrade. Follow these steps to ensure that all aspects of your organization are ready for the upgrade.

3. To better prepare for the upgrade, evaluate the level of customizations on your instances.

   For information on customization best practice guidelines, refer to the Customer Success Center's Define business case guidelines page.

Complexity score	Customization examples
Low	• Modification to form layout/design • Add fields and/or UI policies to forms • Build simple custom integration • Extend an existing table (such as incident) in scope with new fields only
Low-medium	• Extend an existing table (such as incident) in scope with some scripting • Extend an existing table (such as incident) as the basis for a different application, such as HR
Medium	Build a new scoped application
Medium-high	Build a new global application
High	• Change baseline business rules (such as modifying the SLA process)

Complexity score	Customization examples
	• Build a complex custom integration

4. Create a comprehensive test plan that includes test cases for all core instance functionality and integrations, including any customizations you may have.

   To efficiently test and evaluate system functionality, create a set of detailed test scripts for your testing team to use. You will use this test plan throughout each instance upgrade.

Instance	Type of testing required
Development	• Conduct smoke tests.
Test	• Use the ServiceNow Automated Test Framework to assist you in testing your non-production instances. • In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests. • For extra testing coverage, you can also conduct user acceptance testing (UAT) on your non-production instances.
Production	• Conduct UAT. Note: The Automated Test Framework is intended for use on non-production instances. On your production instance, conduct UAT only.

Next Topic

• Phase 2 - Prepare for the development instance upgrade

Phase 2 - Prepare for the development instance upgrade

For a better understanding of your production upgrade duration, request a full clone of your production instance (including large tables and attachments) onto a non-production instance. Confirm your current and target release versions, because you will later use this information when scheduling your upgrade in HI.

1. On your production instance, create a system clone and select your development instance as the Target instance.
   The clone provides you with an exact copy of production. Performing an upgrade on your clone allows you to simulate an upgrade on your production configuration in a non-production environment. Refer to System clone for details.

   > Important: For effective upgrade testing, use this clone to test on a system that reflects the production instance as closely as possible. If your non-production and production instances are the same size, include the production audit log and the attachment data on your production clone. To ensure that all production data is included with the clone, make sure that you clear all the Exclude check boxes on the Request Clone form. On your non-production instance, replicate typical user behaviors that occur on your production instance to enhance an estimate of your upgrade duration.

2. Set expectations for performance during upgrades.

   During an upgrade, your performance may be impacted because your nodes initiate the distribution upgrade. All nodes are restarted during an upgrade, but your multi-node instances are available during an upgrade because ServiceNow instances operate on a multi-node system. This multi-node system staggers node distribution upgrades, ensuring that there is at least one active pair of nodes for multi-node instances during an upgrade.

   To help you set accurate expectations for performance during upgrades, be aware of the differences between the nodes on your non-production and production instances. Instances with one node experience a short period of downtime during the upgrade, but multi-node instances do not have UI downtime. For details on your nodes and their status, see the Upgrade Progress screen.

Previous Topic

- Phase 1 - Read the release notes and plan your upgrade

Next Topic

- Phase 3 - Verify your upgrade configurations and schedule the development instance upgrade in HI

Phase 3 - Verify your upgrade configurations and schedule the development instance upgrade in HI

Check the configuration of the Upgrade scheduled job to view how often and when it runs. Review information about timing your upgrade in coordination with the Upgrade scheduled job. Then, schedule your upgrade in HI.

Before you begin

You must check the configuration of the Upgrade and Check Upgrade Script sys_triggers, which are essential to making sure your instance upgrades to the correct target version.

sys_trigger	Function
Upgrade	• Queries HI to ask whether an upgrade is going to happen in a given time interval, which is determined by the configuration for the Upgrade scheduled job. • Asks whether the instance should be running a different version. If so, the distribution for that version is downloaded, and your instance upgrades to the target version.
Check Upgrade Script	• Runs after the distribution has been upgraded. • Performs the database upgrade.

About this task

Your upgrades are orchestrated out of your instance, not HI.

HI keeps records of what version you should be running, and your instance periodically queries HI to check its assigned version. When you designate a time for your upgrade, your instance begins the upgrade at that time. For example:

Action	Result
You schedule an upgrade to Madrid Patch 8 to take place on June 10 at 3:00pm.	HI changes its records to reflect that you should be on Madrid Patch 8 on June 10 at 3:00pm.
HI waits to get pinged by your instance after the scheduled time on June 10.	Your instance continues to operate on its current release version, and it periodically pings HI.
After the scheduled time on June 10, HI receives a ping from your instance.	HI tells your instance that it should be on Madrid Patch 8.
Your instance receives HI's notification that it should be running a different version.	Your instance starts the upgrade.

Procedure

1. Check the configuration of the Upgrade scheduled job to view how often and when it runs.
    a. Navigate to System Scheduler > Scheduled Jobs > Scheduled Jobs.
    b. In the list, find the Upgrade scheduled job.
    c. View the Next action column to determine when the job next runs.
2. Verify that the Upgrade sys_trigger is set properly for upgrading.
    a. Navigate to System Scheduler > Scheduled Jobs > Scheduled Jobs.
    b. Find and click the Upgrade scheduled job.
    c. Make sure that the Trigger type is set to Interval.
    d. Make sure that the System ID is set to None.
3. Verify that the Check Upgrade Script sys_trigger is set properly for upgrading.
    a. Navigate to System Scheduler > Scheduled Jobs > Scheduled Jobs.

b. Find and click the Check Upgrade Script scheduled job.

c. Make sure that the Trigger type is set to Run at System Startup.

4. Schedule the upgrade in HI.

a. Log in to HI.

b. Click Instances in the left navigation menu.

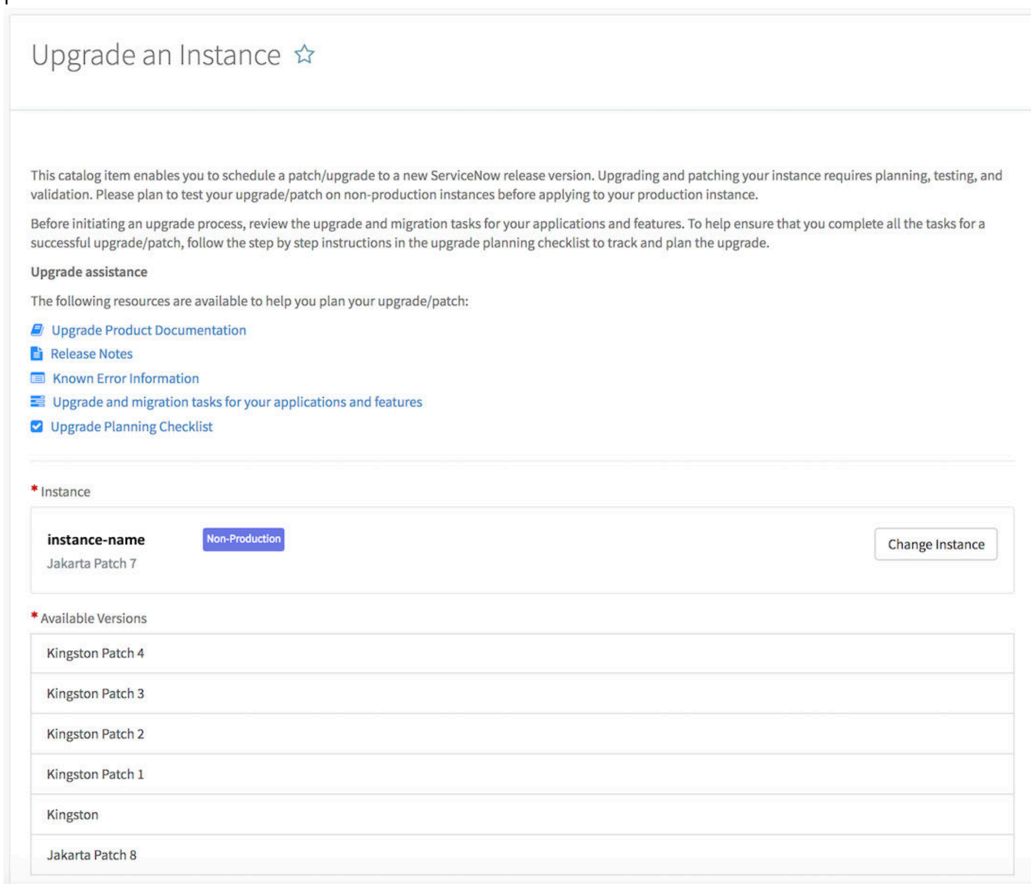
c. Select Manage Instances.

d. [Partners only] From the user menu, use the Switch Company feature to select a company.

e. Select the instance that you want to upgrade or patch.

f. In the Actions menu, click Upgrade Instance.
The Upgrade an Instance Service Catalog item opens up. It is prepopulated with the instance name and available versions to which you can upgrade or

patch the instance.



g. To specify a date and time for the upgrade or patch, click the calendar icon next to the Start Date and Time field.

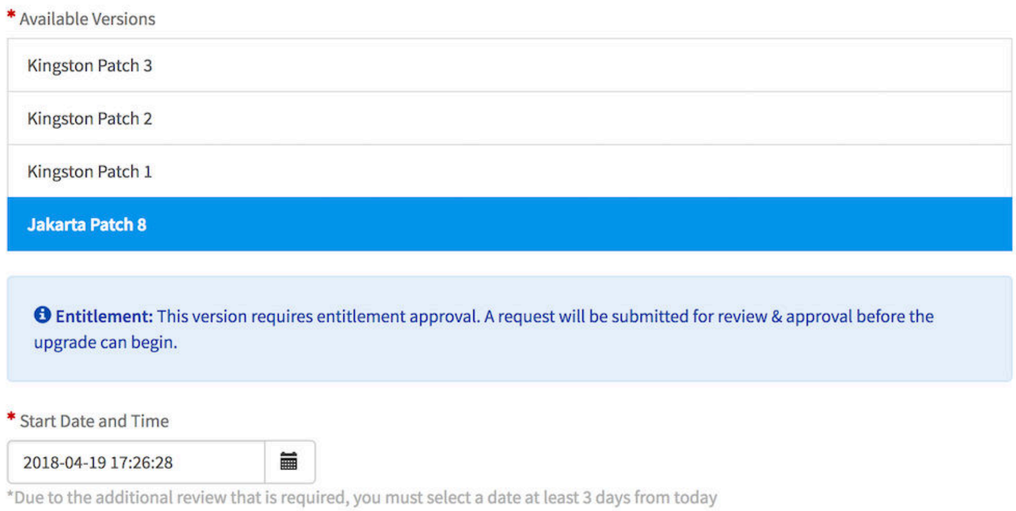
h. Click the clock icon to select the time for the upgrade or patch.

    Note: Setting the time for an upgrade or patch is important. Set the upgrade or patch to start 10–15 minutes before the Upgrade scheduled job runs. This setting allows enough time for the upgrade or patch request to update HI's records about which release version your instance should be on before the Upgrade scheduled job runs.

i. Click Submit.
   A confirmation message appears. If you do not need an entitlement, a change request is created.

5. If applicable, request a version entitlement.

    a. In the Actions column, click Schedule.
    If the version does require an entitlement, this screen appears:

    b. Click the calendar icon and specify a date and time at least three days in the future.

    ServiceNow entitlement managers respond to your entitlement request within three days.

    > Note: Setting the time for an upgrade or patch is important. Set the upgrade or patch to start 10–15 minutes before the Upgrade scheduled job runs. This setting allows enough time for the upgrade or patch request to update HI's records about which release version your instance should be on before the Upgrade scheduled job runs.

    c. Click Schedule.
    A confirmation message appears. If you need an entitlement, the entitlement request number is included. Click the entitlement request number to view the request.

    d. If you have any questions about your entitlement, comment on your entitlement request after you have submitted it.

Previous Topic

- Phase 2 - Prepare for the development instance upgrade

Next Topic

- Phase 4 - Upgrade and validate the development instance

Phase 4 - Upgrade and validate the development instance

Track the progress of your upgrades with the Upgrade Monitor. For your first non-production instance upgrade (your development instance), use the Upgrade Monitor to process the skipped list of records that were not addressed in the upgrade. Then identify your update sets and perform functional testing.

About this task

The Upgrade Monitor helps you upgrade an individual instance. You can monitor the progress of an upgrade and resolve conflicts between the upgrade and customizations.

Procedure

1. Using the Upgrade Monitor, monitor the upgrade to your instance and validate that the upgrade to your development instance is complete.
2. After the upgrade for your development instance is complete, process the skipped records list in the Upgrade Monitor.

   As you are processing the skipped list, you may merge and revert records, resolve conflicts for an individual record, and make additional customizations. These changes go into the latest version, which goes into your current update set.
3. Identify your update sets.
   You need these update sets for your subsequent non-production instances. If there are issues that must be addressed after the upgrade, make the appropriate changes and they will go into your current update set. Collect the update sets that:
   - Were created while reviewing the skipped updates list.
   - Were created while changing customizations to work with the latest release.

- Must go live immediately after your next upgrade.

Gathering these update sets before your upgrade expedites the process of exporting, importing, and committing them onto your other instances. After the correct update sets are identified, follow the standard process for moving and applying those update sets. Refer to System update sets for details.

4. Before and after upgrading, conduct smoke tests on your development instance. Use your comprehensive test plan to perform functional testing.

   After upgrading, track any defects or deviations from the pre-upgrade testing results. Defect tracking can help identify root causes and create fixes. When a fix is identified, capture the fix in a single update set. The resulting update sets hold the cumulative fixes that should be applied to the production instance.

   To help automate your testing and validation on non-production instances, use the Automated Test Framework. In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests.

Previous Topic

- Phase 3 - Verify your upgrade configurations and schedule the development instance upgrade in HI

Next Topic

- Phase 5 - If applicable: Upgrade and validate your other non-production instances, such as your test instance

Phase 5 - If applicable: Upgrade and validate your other non-production instances, such as your test instance

If you have any other non-production instances in addition to your development instance, such as a test instance, request to upgrade these instances. Request these upgrades after you have configured and refined your development instance. Immediately after the upgrade is complete, apply the post-upgrade changes made to your development instance, including activating optional plugins, installing and upgrading applications, and applying update sets.

About this task

This instance naming convention assumes that you have three ServiceNow instances. If you have three instances, upgrade your instances in this order:

1. Development
2. Test
3. Production

If you have more or less than three instances, or if you are using Team Development, these instance labels will be different. In general, upgrade your instances furthest from production towards your production instance.

After you have applied your development update sets to your test instance, perform the following tasks on your test instance (and other non-production instances, if applicable).

Procedure

1. Create a system clone down from your production instance.
2. Schedule the non-production upgrade in HI and verify your upgrade configurations.
3. Validate that the upgrade to your non-production instance is complete.
4. Install any optional plugins that were installed on your development instance.
5. Install any custom applications and post-upgrade fix scripts that you need.
6. Install update sets.
   Use these update sets to move your initial changes into your subsequent non-production instances.
7. Perform functional testing and monitor the performance of your instance.
   Reproduce the typical user activities that occur on your production instance. The Automated Test Framework can greatly assist you in testing your non-production instances. In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests. For extra testing coverage, you can also conduct user acceptance testing (UAT).

Previous Topic

- Phase 4 - Upgrade and validate the development instance

Next Topic

- Phase 6 - Prepare to upgrade the production instance

Phase 6 - Prepare to upgrade the production instance

After you have configured and refined your test environment to be a good representation of your production environment, prepare to upgrade your production instance.

Before you begin

To ensure that all stakeholders in your company are prepared for the final production upgrade, complete the administrative planning tasks in Phase 6 of the Upgrade planning checklist (Madrid). When upgrading a production instance:

- Obtain confirmation from IT and management that all non-production instance defects have been fixed, validated, and included in an update set.
- Use the change management process established by your organization to track the upgrade.
- Communicate effectively with your user community regarding changes, new features, and process updates resulting from the upgrade.
- Negotiate a suitable upgrade time for all users of the ServiceNow system.

  For example, schedule the upgrade after hours, to minimize impact to your users. Remember to schedule the upgrade to occur 15–20 minutes before the Upgrade scheduled job interval.
- Allow time in your change window to run all test cases and validate that all integrations, key business functionality, and system performance are acceptable. Add a time buffer for responding to errors without breaching the change window.

Procedure

1. Profile the performance of your instance before upgrading.

Pre-upgrade instance validation can provide a reliable benchmark of the current operating environment and alert you to any issues that may appear after the upgrade. For example, it sometimes appears that specific functionality is broken by an upgrade. Analysis might show that the functionality did not work properly in the production instance, even before the upgrade.

Before performing the upgrade, analyze the current operating environment. Specifically, review:

- Key functionality
- Integrations
- Instance performance

2. Use the ServiceNow Performance homepage to document the performance of your instance before the upgrade.
   You will later compare and contrast this information during your post-upgrade validation and testing. Benchmarks will be different for each of your instances.
   To access the ServiceNow Performance homepage:

   a. Log in to your instance.

   b. From the list in the top left of the instance homepage, select ServiceNow Performance.

3. On your clone, perform functional testing and monitor the performance of your instance.
   Replicate typical user behaviors that occur on your production instance. Assign a consistent core team of power users and key stakeholders to validate important functionality in the ServiceNow instance before and after upgrades.

Previous Topic

- Phase 5 - If applicable: Upgrade and validate your other non-production instances, such as your test instance

Next Topic

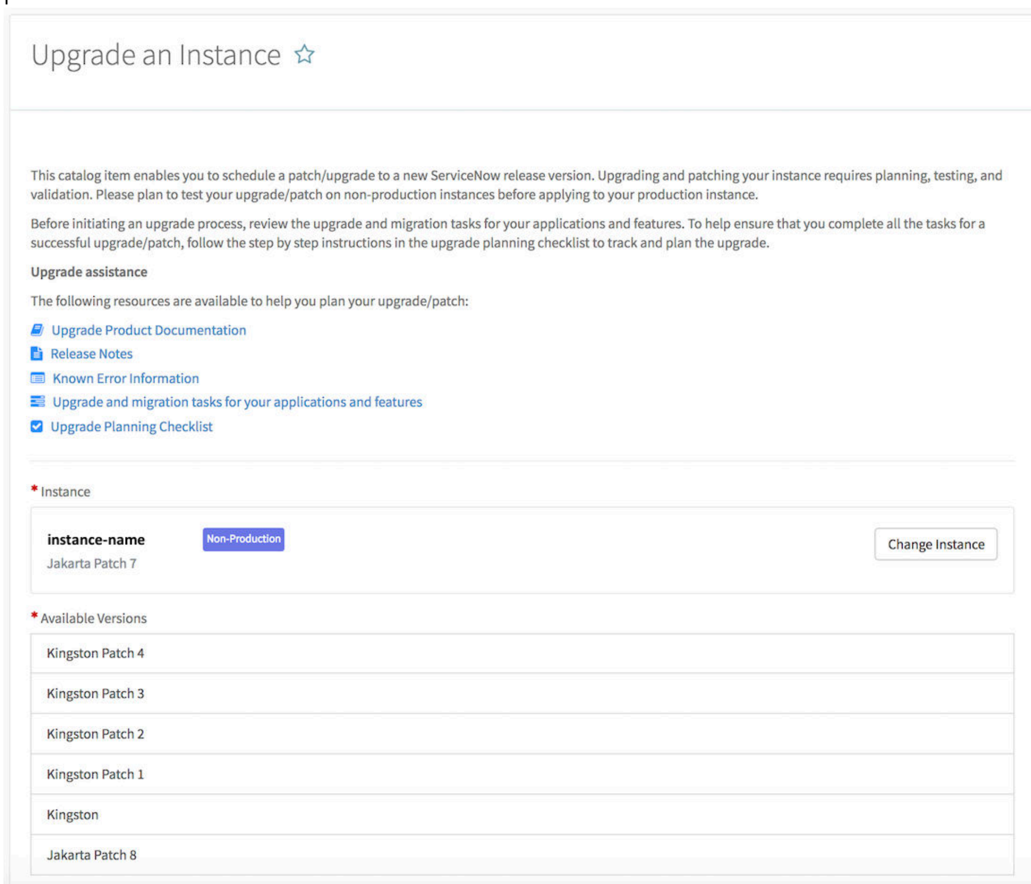
- Phase 7 - Upgrade the production instance

Phase 7 - Upgrade the production instance

After you have upgraded your development, non-production, and test instances, upgrade your production instance last. Then validate that the upgrade was complete, apply update sets and fix scripts, and perform post-upgrade user acceptance testing (UAT).

1. Schedule the upgrade in HI.
    a. Log in to HI.
    b. Click Instances in the left navigation menu.
    c. Select Manage Instances.
    d. [Partners only] From the user menu, use the Switch Company feature to select a company.
    e. Select the instance that you want to upgrade or patch.
    f. In the Actions menu, click Upgrade Instance.
    The Upgrade an Instance Service Catalog item opens up. It is prepopulated with the instance name and available versions to which you can upgrade or

patch the instance.



g. To specify a date and time for the upgrade or patch, click the calendar icon next to the Start Date and Time field.

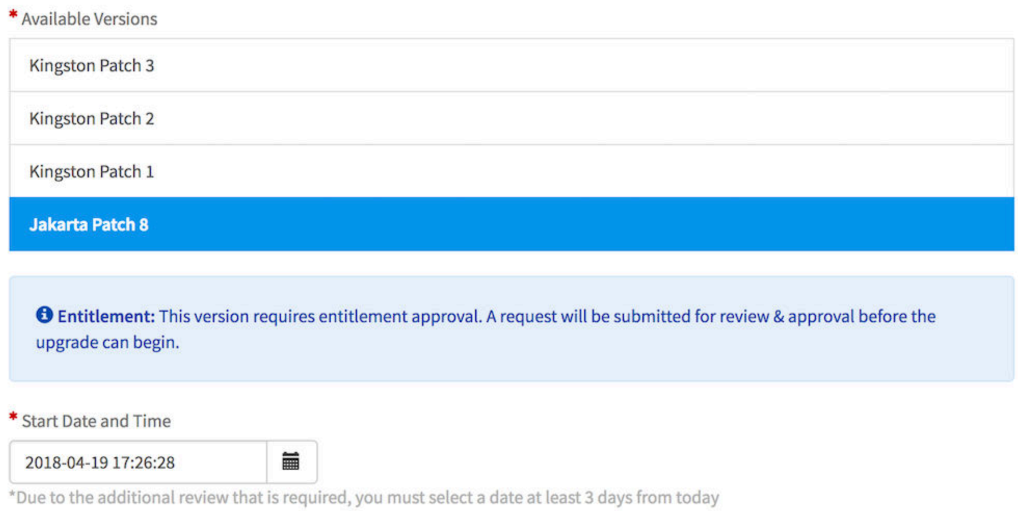
h. Click the clock icon to select the time for the upgrade or patch.

   Note: Setting the time for an upgrade or patch is important. Set the upgrade or patch to start 10–15 minutes before the Upgrade scheduled job runs. This setting allows enough time for the upgrade or patch request to update HI's records about which release version your instance should be on before the Upgrade scheduled job runs.

i. Click Submit.
   A confirmation message appears. If you do not need an entitlement, a change request is created.

2. If applicable, request a version entitlement.

    a. In the Actions column, click Schedule.
    If the version does require an entitlement, this screen appears:



    b. Click the calendar icon and specify a date and time at least three days in the future.

    ServiceNow entitlement managers respond to your entitlement request within three days.

    > Note: Setting the time for an upgrade or patch is important. Set the upgrade or patch to start 10–15 minutes before the Upgrade scheduled job runs. This setting allows enough time for the upgrade or patch request to update HI's records about which release version your instance should be on before the Upgrade scheduled job runs.

    c. Click Schedule.
    A confirmation message appears. If you need an entitlement, the entitlement request number is included. Click the entitlement request number to view the request.

    d. If you have any questions about your entitlement, comment on your entitlement request after you have submitted it.

3. Monitor the upgrade to your instance and validate that the upgrade to your production instance is complete.
   There are several methods of verifying that your upgrade is complete:
   - Navigate to the System Diagnostics > Upgrade Monitor.
   - Navigate to System Diagnostics > Upgrade Log and locate the Notifying HI that upgrade has been completed message.
   - Navigate to System Definition > System Upgrades. Information about all system upgrades is listed.
   - Navigate to System Diagnostics > Upgrade History and search for the most recent upgrade.
4. Apply any update sets and post-upgrade fix scripts that you have.
5. Validate and test your instance by conducting user acceptance testing (UAT).

Previous Topic

- Phase 6 - Prepare to upgrade the production instance

Next Topic

- Troubleshooting and other upgrade resources

Troubleshooting and other upgrade resources

Use this information to troubleshoot post-upgrade issues and learn more about other aspects of ServiceNow's upgrade process.

Evaluate log data

Performance and operating information is available in the system logs, which offer an excellent source of information for evaluating the inner workings of a ServiceNow instance. Use this information to help resolve as many errors as possible. To access the log data, navigate to System Logs > System Log > Errors.

> Note: Not all errors in the error log are results of your upgrade. Error messages are often present in pre-upgrade instances, and many of these messages do not affect users or performance.

Other resources

- Quarterly Patching Program - Customer FAQ

Previous Topic

- Phase 7 - Upgrade the production instance

Upgrade and migration tasks by application or feature

Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.

> Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Application or feature	Details
Advanced Work Assignment	If you are using Connect Support and want to move to Advanced Work Assignment and Agent Chat, see Migrate from Connect Support to AWA and Agent Chat.
Agent Intelligence	These ML Solution Definition templates are deprecated in the Madrid release and are replaced by a Classification Template: • Assignment Template • Category Template • Priority Template This new template prompts you to choose specific record fields that you can use to build a classification solution. If you upgrade to the Madrid release and you have existing solutions that use one of these deprecated templates, you must update and retrain the solutions to use the new Classification

Application or feature	Details
	Template. For more information on how to update these solutions in Madrid, see Create and train a classification solution.
Automated Test Framework	Copy and customize ServiceNow-provided quick start tests to validate that your instance still works after you make any configuration changes such as apply an upgrade or develop an application. Quick start tests are disabled and read-only test templates. By default, they only produce a pass result when you run them with the default demo data that is provided with the application or feature plugin. To make quick start tests produce a pass result when you run them with your instance-specific data, copy and configure them to use your instance data. See Available quick start tests by application or feature. The Run Server Side Script test step supports version 3.1 of the Jasmine testing framework. You can upgrade individual test steps from Jasmine version 1.3 to Jasmine version 3.1. See Run Server Side Script.
Change management	After you upgrade, you can: • Use the new com.snc.change_management.enforce_data_requirements property that provides additional controls along with the existing UI policy and client scripts. When true, it ensures that any updates made from a change request form, such as Workflow, REST/SOAP, JavaScript, or GlideRecord updates adhere to the same mandatory data requirements. This property is installed with Change Management - Core and is set to False by default for upgrade customers. Change the property value to True to use this feature. • Activate the Change Management - Approval Policy plugin so that you can use the new change approval policies. Configuration details are described in Change approval policy.

Application or feature	Details
Cloud Management	• If you are on Jakarta and above, an upgrade from any version of Cloud Management platform version 2 (CMPv2) is supported. • Catalog items created based on cloud-native templates in releases prior to Madrid on CMPv2, will be treated as blueprint-based catalog items, which means that the underlying template cannot be modified.
Configuration Management Database (CMDB)	Upgraded instances include the new cmdb_read role. However, the system does not enforce the requirement to use cmdb_read when an application reads data from the cmdb_ci table hierarchy. For information about enforcing the usage of cmdb_read after an upgrade and other related issues, see the New role to read data from CMDB [KB0694559] article in the HI Knowledge Base. The CMDB Workspace plugin (com.cmdb-workspace) is not activated in an upgraded instance. Activate CMDB Workspace to get the functionality of CMDB Agent Workspace.
Customer Service Management	Create field-level ACL rules for some of the fields on the Contact (customer_contact) table. For details, see KB0724239.
Edge Encryption	Upon an upgrade, the newly installed proxy has the same folder name as the previous proxy folder name, and the previous proxy folder is renamed. For example, the previous proxy folder is renamed from EdgeProxy_16001 to backup.dist-upgrade_20181204-144650461, and the new proxy folder is named EdgeProxy_16001.
Event Management	The upgrade process moves your instance to a new ServiceNow release version. Upgrading and patching your instance requires

Application or feature	Details
	planning, testing, and validation. To ensure a safe and effective upgrade, create upgrade plans and test your upgrade on non-production instances before upgrading your production instance.
Field Service Management	When you upgrade from a previous release, six event type schedule entries are available by default. You can choose to activate these event type configurations to create schedule entries. You must deactivate any existing Events configuration that overlaps with the newly created schedule entries. For more information on configuring event types, see Configure the agent calendar. You can optimize the agent task routes for the current date. However, if the SMTaskRouting script was modified in an earlier release, the agent route is optimized, but it does not take the agent schedule and agent time off into consideration. For more information on optimizing task routes, see Route optimization.
Flow Designer	• Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow. • Flows using the Always option for Created or Updated or Updated trigger types in previous releases use the Only if not currently running option. Use the For each unique change option to trigger a flow for every unique change, even if the flow is running.

Application or feature	Details
HR Service Delivery	Note: When upgrading from the Istanbul release, HR document templates have a new field. The Document type field helps to filter a list of document types so that HR Criteria can apply the necessary document based on the conditions of an employee. HR criteria works with this field to further narrow the list of document templates you want available for an HR case. Because Istanbul did not have this field, you must create new or select an existing document type for your document templates. See Document Types.
Knowledge Management	The Knowledge Management Core plugin (com.glideapp.knowledge) is active by default for new or upgrade customers. The Knowledge Management with KCS plugin (com.glideapp.knowledge2) is planned for deprecation.
MID Server	If an unsupported version of the Java Runtime Environment (JRE) is running on a MID Server when the MID Server is upgraded, the upgrade process replaces that JRE with the OpenJDK that is bundled with the MID Server installer. If a supported JRE is running on the MID Server host, the upgraded MID Server uses that Java version. MID Server hosts for instances upgraded from London do not require connection to the download site at install.service-now.com. The auto-upgrade process for MID Servers in Madrid is handled through the instance. However, upgrades from Kingston or earlier require that each MID Server host machine have access to the download site. For additional details about how MID Server upgrades are managed and where to look for errors, see MID Server upgrade. For additional information about MID Server upgrades, see:

Application or feature	Details
	• MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade. • Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

Notifications	This release introduces a new Email Client Configuration feature and a Connection Security option on the Email Account form for choosing the secure connection for your email server. These features are enabled in new and upgraded instances. When you upgrade to this release, the following items are migrated if you previously set them in your instance:
	• The secure connection mode that you selected for your email server in the Email Account form (Enable TLS and Enable SSL fields).
	• The email client property settings for controlling:
	  ◦ Email address autocomplete (glide.ui.email_client.autocomplete.group)
	  ◦ From and Reply To email addresses displayed in the email client (glide.ui.email_client.from and glide.ui.email_client.reply_to)
	  ◦ Email address recipient qualifiers (glide.ui.email_client.email_adresss.disambiguator and glide.ui.email_client.email_address.disambiguator_search)
	The email client property settings are preserved in a default email client configuration created during upgrade. You can view the default configuration in the new Email Client Configuration [sys_email_client_configuration] table.
	These email client properties are also deprecated in this release because these features can be set using email client configurations.

Application or feature	Details
Notify	The legacy Notify-Twilio driver (com.snc.notify.twilio) plugin is now being replaced by a Notify-Twilio Direct driver (com.snc.notify.twilio_direct). A Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided. The Notify core plugin now provides JS Telephony Driver support that enables you to code your own integrations in JavaScript by using the platform capability of JS Extension Point. In prior releases, the Notify-Twilio Driver (com.snc.notify.twilio) enabled voice and SMS services provided by Twilio. This driver has been replaced by the Notify-Twilio Direct Driver (com.snc.notify.twilio_direct). Both the drivers work simultaneously provided they are configured with two separate accounts. The migration to the new driver has the following impact. 1. Notify participant records will remain inactive until a participant joins a conference. Previously, they were set to active by default. 2. If you are using the previous driver, the participant record is activated after a minor delay. Note: New customers will have access only to the new Notify-Twilio Direct driver plugin.
Operational Intelligence	• In Madrid, user-specified width override values are replaced by new advanced settings that are used internally to calculate width values. Width override values are preserved through an upgrade to Madrid and are being used internally. However, they do not appear in the UI and you cannot modify them. When you use the Bounds Settings wizard in an upgraded instance and you select a metric class that has a width override value, a notification appears. To use the new advanced settings in the Bounds Settings wizard, accept the

Application or feature	Details
	notification to delete the width override values from an earlier release. For more information about the Bounds Settings wizard, see Custom bounds settings. • During the upgrade to Madrid, the Apache Ignite software that runs on Operational Intelligence MID Servers in MID Server distributed clusters is upgraded to version 2.5.3. After you upgrade all the MID Servers in the MID Server distributed cluster to Madrid, restart these Operational Intelligence MID Servers to complete the Apache Ignite upgrade. You might have some data loss during the time that the MID Servers upgrade starts until the MID Servers are restarted. To minimize this data loss, before you start the upgrade to Madrid, disable the metric connectors. After the upgrade completes, set the max_fetch_interval_min parameter to how long the connectors were down and then enable the connectors so that the missing data is pulled.
Project Portfolio Management	Two new dashboards have been added with the new Performance Analytics – Content Pack – Project Portfolio Suite with Financials (com.snc.pa.pmo_dashboards) plugin. If you are upgrading and you activate the new plugin, two new navigation links are available in PPM: • Portfolio dashboard • Program dashboard The following pre-Madrid navigation links are still available after upgrading. Review the existing and the new dashboards and deactivate the older ones if required. • Portfolio manager dashboard • Program manager dashboard • PMO dashboard

Application or feature	Details
Security Incident Response	If you are upgrading directly from Jakarta or Kingston to this release (skipping the London release), navigate to System Definition > Fix Scripts, and run the Update integrations to multi domain fix script to allow certain integrations to have multiple configurations defined. For example, if you have multiple Splunk instances, you can create connections and queries that run sighting searches across multiple Splunk instances. After the fix script has run, return to System Definition > Fix Scripts and deactivate the fix script. It is important that the script is not allowed to run more than one time.
Service Catalog	Before upgrading, you should be aware of changes that were made to the underlying Service Catalog data model. These changes affect the way that you implement multiple service catalogs. For details, see Upgrade to multiple service catalogs. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts.
Software Asset Management	Warning: You must revert customizations after installing Software Asset Management for the first time, or upgrading from Software Asset Management Foundation plugin, for all features to function as intended. The Revert Customizations module in Software Asset Management administration reverts customizations of files related to Software Asset Management to base configuration that were skipped during the installation or upgrade process. For more information, see Revert Software Asset Management customizations. Warning: If you upgrade to the Software Asset Management (com.snc.samp) plugin from the Software Asset Management plugin (com.snc.software_asset_management), you cannot revert to the Software Asset Management plugin (com.snc.software_asset_management).

Application or feature	Details
Subscription Management	A fix job runs during the upgrade and creates an inventory of all global and scoped custom tables that currently exist in your production instance. A scheduled job runs after the completion of the upgrade and creates an inventory of the number of custom tables that each user can access.
UI	When you upgrade to this release, your instance is updated with the new ServiceNow branding. Any customizations you have made to the system theme are not updated. You can revert to the previous theme by changing the system defaults in the Basic Configuration UI16 module. For more information on switching the system defaults, see Configure logo, colors, and system defaults for UI16. UI15 is not affected by these changes, with the exception of the icon that appears on the browser tab. You can update the icon by changing the value for the glide.product.icon system property.

Virtual Agent	• Migrating Virtual Agent topics: Conversation topics created in the London release are fully supported in this release and are not changed during upgrade. After upgrade, you can update your topics, for example, to use new features such as the no-code controls available in Virtual Agent Designer.
	• Using Slack Enterprise Grid after upgrading:
	  ◦ If you have Slack Enterprise Grid workspaces, your end users can move between those workspaces and use the Virtual Agent bot from any workspace.
	  ◦ Your end users must relink their ServiceNow accounts to the Virtual Agent messaging integration for Slack.

Application or feature	Details
	• If you upgrade to Slack Enterprise Grid after upgrading to this release, an upgrade script runs automatically to complete the upgrade for the Slack messaging integration.
Vulnerability Response	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have a large number of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Response activities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see the Kingston Vulnerability Response release notes. If you are upgrading from Kingston, existing CI Identifier Rules are disabled by default, but not removed. These rules appear in Security Operations > CMDB > CI Lookup Rules. To reenable, open a rule and enter values for the Source and Source field fields, select the Active check box, and click Submit. To reduce upgrade time, if you have the Qualys product or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you add custom tables that rely on inherited ACLs, you must recreate the ACLs in that custom table. If you add custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs

Application or feature	Details
	after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. If you upgraded from a previous version of Vulnerability Response, your original Overview page is stored in the Overview (Legacy) module in the left navigation pane. If you created a customized homepage overview, the overview is overwritten by the new reports dashboard. To access your customized homepage, Create a new module for your customized homepage and add it to the Vulnerability Response application. If you are upgrading from a previous version, you can begin using the Vulnerability Response new features immediately. All updates to Vulnerability Response are only available in the ServiceNow Store. If you have previously installed Vulnerability Response and want an update from the ServiceNow Store, you do not need to activate the Dependencies (com.snc.vul_dep) plugin prior to installing the Vulnerability Response update.
Walk-up Experience	Before upgrading, be aware that the following feature changes can affect your customizations: • Your online check-in, as well as the onsite queue and onsite check-in interfaces are updated to reflect the new data model and features. • Reports using Queue for grouping should use Location due to a change in the Interaction [interaction] table. Filtering is done based on Channel instead of Type. • Notifications may no longer trigger due to State changes in interactions, such as the On Hold state. Reevaluate your custom notification conditions.

Application or feature	Details
	• Business rules and other logic running on fields that are deprecated, for example, Queue on the Interactions form.

Upgrade planning checklist (Madrid)

Plan and track the activities related to your ServiceNow instance upgrade. To help ensure that you complete all the tasks for a successful upgrade, follow the step-by-step instructions in the upgrade planning checklist to track and plan the upgrade.

This topic contains step-by-step upgrade instructions. To download a PDF version of this checklist, click here. For in-depth explanations about upgrades, refer to Upgrade your instance.

Some optional steps may not be appropriate depending on the number of instances, customizations, and so forth. Mark the ones you do not need in the N/A column.

> Note: The process for completing steps for self-hosted customers may vary (for example, requesting an instance clone or upgrades). These differences must be considered during planning.

Customer name:	
Product instance name:	https://[instancename].service-now.com
Other instance names	https://[instancename].service-now.com https://[instancename].service-now.com

	Description	Yes	No	N/A
Phase 1 - Read the release notes and plan your upgrade				
1	Review the Madrid release notes for the target ServiceNow feature release and patch, in addition to product and release documentation.	❑	❑	❑

	Description	Yes	No	N/A
	For Madrid-specific upgrade considerations, see Upgrade and migration tasks by application or feature.			
Phase 2 - Complete these planning tasks.				
2	Confirm which ServiceNow instances are in-scope for upgrade.			
3	Confirm the instance hosting model. For example, ServiceNow cloud, on-premise, or off-premise.	❑	❑	❑
4	Based on the Madrid release notes and other release materials, determine new functionality or notable changes that need to be validated after the upgrade.	❑	❑	❑
5	Confirm plans to enable or disable features introduced in the new product release.	❑	❑	❑
6	Review the Browser support to determine browser prerequisites. For example, versions and types supported, and additional requirements for new UI versions. Compare these supported browsers to your corporate standard and identify any gaps.	❑	❑	❑

	Description	Yes	No	N/A
7	Create a project plan for cloning, upgrading, and testing.	❑	❑	❑
8	Identify the core team of testers, power users, and key stakeholders required to validate functionality in the ServiceNow instances before and after the upgrade.	❑	❑	❑
9	Confirm whether there are any change freeze windows impacting the timing for environment clones or upgrades. For example, end quarter.	❑	❑	❑
10	Confirm which of the following situations applies to your ServiceNow non-production instances: 1. Development and testing can be frozen until the production upgrade is completed. 2. Continued development (and testing) activities need to continue in a non-production instance while upgrade, remediation, and testing activities are performed in parallel on another instance. 3. Once the final upgrade to your production instance is complete, the cloning of your final production instance to your non-production instance will wait until after the production upgrade is complete.			

	Description	Yes	No	N/A
11	Confirm the availability of other systems required for integration testing (key resources and environments).	❑	❑	❑
12	Confirm whether there are any restrictions in which ServiceNow instances can be used for integration testing. For example, an interfacing system is only set up to access a specific ServiceNow test instance.	❑	❑	❑
13	Confirm the testing scope and approach.	❑	❑	❑
14	Create a comprehensive test plan including test cases for all core instance functionality and integrations.	❑	❑	❑
15	Confirm the method for tracking any defects identified during testing.	❑	❑	❑
16	Create a high-level implementation plan that covers: • the sequence and timing to upgrade non-production and production instances • the instances to be cloned • the instance to be used for integration testing.	❑	❑	❑

	Description	Yes	No	N/A
17	Confirm whether there are any change freeze windows impacting the timing for environment clones or upgrades. For example, end quarter. Responsible: ServiceNow or Customer	❑	❑	❑
18	Determine whether existing internal training materials, Knowledge Base articles in the customer instance, or other supporting documentation must be updated to align with the upgraded version. For example, changes in functionality or user interface.	❑	❑	❑
19	Optional: Schedule the ServiceNow Configuration Review, which provides recommendations to align the customer configurations with ServiceNow best practices. Note: There may be a service charge and require professional services engagement.	❑	❑	❑
20	On your production instance, create a system clone and select your development instance as the Target instance. Notify impacted users and internal stakeholders of the scheduled date/time for cloning (from production) and upgrade of the non-production instance.	❑	❑	❑

	Description	Yes	No	N/A
	Note: It is important to test on a system that reflects the production instance as closely as possible. If your non-production and production instances are the same size, include the production audit log and the attachment data, and ensure that you have deselected the exclude options.			
Phase 3 - Verify your upgrade configurations and schedule the development instance upgrade in HI				
21	Check the configuration of the Upgrade scheduled job to view how often and when it runs.	❑	❑	❑
22	Verify that the Upgrade sys_trigger is set properly for upgrading.	❑	❑	❑
23	Verify that the Check Upgrade Script sys_trigger is set properly for upgrading.	❑	❑	❑
24	Schedule the upgrade in HI.	❑	❑	❑
25	If applicable, request a version entitlement.	❑	❑	❑
Phase 4 - Upgrade and validate the development instance				
26	Using the Upgrade Monitor, monitor the upgrade to your instance and validate that	❑	❑	❑

	Description	Yes	No	N/A
	the upgrade to your development instance is complete.			
27	After the upgrade for your development instance is complete, process the skipped records list in the Upgrade Monitor.	❑	❑	❑
28	Identify your update sets.	❑	❑	❑
29	Before and after upgrading, conduct smoke tests on your development instance. Use your comprehensive test plan to perform functional testing.	❑	❑	❑
Phase 5 - If applicable: Upgrade and validate your other non-production instances, such as your test instance				
30	On your production instance, create a system clone and select your development instance as the Target instance.	❑	❑	❑
31	Schedule the non-production upgrade in HI and verify your upgrade configurations.	❑	❑	❑
32	Validate that the upgrade to your non-production instance is complete.	❑	❑	❑

	Description	Yes	No	N/A
33	Install any optional plugins that were installed on your development instance.	❑	❑	❑
34	Install any custom applications and post-upgrade fix scripts that you need.	❑	❑	❑
35	Install update sets.	❑	❑	❑
36	Perform functional testing and monitor the performance of your instance.	❑	❑	❑
Phase 6 - Prepare to upgrade the production instance				
37	Confirm sign-off from IT and Business stakeholders that all non-production instance defects have been fixed and validated in update sets. Responsible: Customer	❑	❑	❑
38	Confirm the core team of key stakeholders required to validate functionality in the ServiceNow instance after the production upgrade. Responsible: Customer	❑	❑	❑
39	Confirm coverage for Day 1 support post-upgrade.	❑	❑	❑

	Description	Yes	No	N/A
	Responsible: Customer			
40	Create a Production Upgrade Implementation Plan that includes all upgrade steps, roles and responsibilities, communication plans, key contacts, support coverage for Day 1, and so forth. Responsible: Customer	❑	❑	❑
41	Schedule a walkthrough and sign-off of the Implementation Plan with key stakeholders and the core team. Responsible: Customer	❑	❑	❑
42	Submit and obtain approvals for change records as required by the organization change process. Responsible: Customer	❑	❑	❑
43	Send a communication to key stakeholders and end users with details for the production upgrade outage, new features, and so forth. Responsible: Customer	❑	❑	❑
44	Profile the performance of your instance before upgrading.	❑	❑	❑
45	Use the ServiceNow Performance homepage to document the performance of your instance before the upgrade.	❑	❑	❑

	Description	Yes	No	N/A
46	On your clone, perform functional testing and monitor the performance of your instance.	❑	❑	❑
Phase 7 - Upgrade the production instance				
47	Schedule the upgrade in HI.	❑	❑	❑
48	If applicable, request a version entitlement.	❑	❑	❑
49	Monitor the upgrade to your instance and validate that the upgrade to your production instance is complete.	❑	❑	❑
50	Apply any update sets and post-upgrade fix scripts that you have.	❑	❑	❑
51	Validate and test your instance by conducting user acceptance testing (UAT). Verify with all key stakeholders that the system is performing properly after production upgrade, and key functionality is available.	❑	❑	❑

Upgrade to Madrid from Jakarta

When you upgrade from the Jakarta release to the Madrid release, understand the fixes in each release version, notable changes for the user interface, browser support, plugin updates, and each feature's upgrade and migration tasks if applicable.

- Release notes for upgrade from Jakarta to Madrid

  Before you upgrade from Jakarta to Madrid, read the release notes for information about new features, notable changes, and fixes to existing functionality.
- Madrid user interface

  List v3 is no longer available for new deployments. If you are already using List v3, you can continue to do so. There are several aspects of list administration that are specific to List v3.
- Notable changes for upgrades from Jakarta to Madrid

  Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.
- Changes to plugins

  This table lists new plugins in the Madrid release and existing plugins that were deprecated, renamed, or changed in some way.
- Browser support in Madrid

  Browser support varies for each version of the user interface (UI). Most major browsers are supported.

Release notes for upgrade from Jakarta to Madrid

Before you upgrade from Jakarta to Madrid, read the release notes for information about new features, notable changes, and fixes to existing functionality.

New features and changes in Jakarta, Kingston, London, and Madrid

Each release family contains new functionality. Read to the release notes for details on the new features and changes in Jakarta, Kingston, London, Madrid.

- Jakarta release notes
- Kingston release notes
- London release notes
- Madrid release notes

Patch and hot fix release notes

Patches and hot fixes contain security fixes as well as fixes for products and applications. These fixes are listed in each family's Available Versions.

- Available versions (Jakarta)
- Available versions (Kingston)
- Available versions (London)
- Available versions (Madrid)

Patch release notes are organized into three sections.

Release notes section	Type of information
Security-related fixes	Contains a KB article with details on the patch's fixed security bugs
Notable fixes	Lists important fixed PRBs in the patch Important: Examine the notable fixes in each patch and consider adding them to your upgrade testing plans. For information on how to test different instances during upgrades, refer to Upgrade to Madrid .
All other fixes	Lists all other fixed PRBs in the patch

Refer to the Known Error Portal to quickly locate Known Error articles related to the various releases.

Upgrade instructions

After you have reviewed the release notes and patch information to understand all the changes that will be implemented in Madrid, you can start upgrading your instance. For an overview of the upgrade process, release definitions, and upgrade testing, refer to Upgrade to Madrid .

For a step-by-step guide through the upgrade process, refer to Upgrade your instance and the Upgrade planning checklist (Madrid).

Testing throughout upgrades

To help automate your testing and validation on non-production instances, use the Automated Test Framework. In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests.

Madrid user interface

List v3 is no longer available for new deployments. If you are already using List v3, you can continue to do so. There are several aspects of list administration that are specific to List v3.

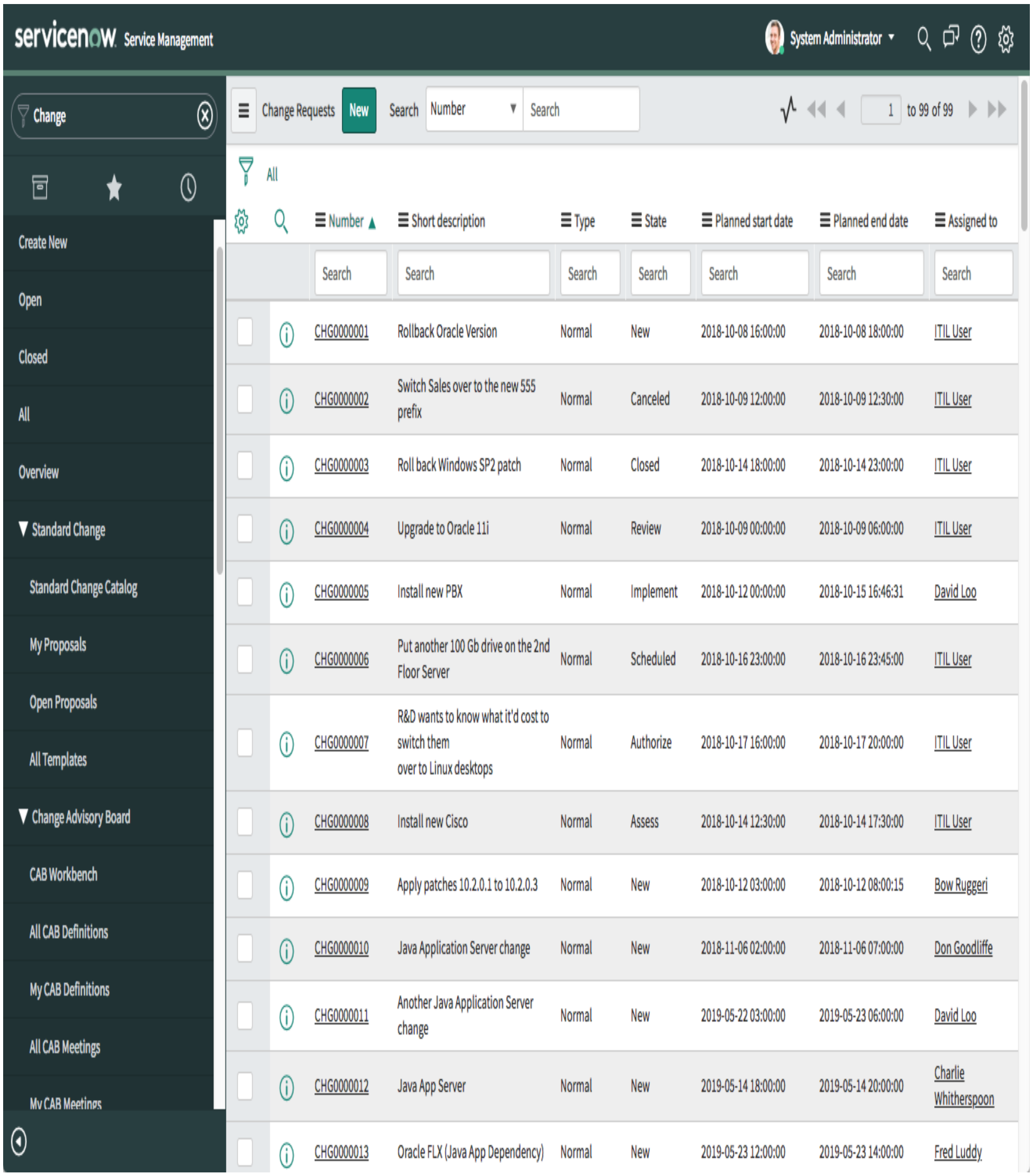
UI16

The UI16 interface provides an updated look and usability improvements.

Notable features include real-time form updates, user presence, a redesigned application navigator with tabs for favorites and history, and enhanced activity streams. UI16 is the default user interface for new instances. For upgraded instances, an administrator must activate UI16.

Watch the five-minute video User Interface | Overview to learn about the elements of the UI16 user interface.

UI16 user interface



UI16 components

Component	Description
Banner frame	Runs across the top of every page and contains a logo and the following information, controls, and tools. • User menu provides options to access your profile and preferences. Administrators can impersonate users and elevate their security role. • Connect sidebar icon (): Lets you begin or continue conversations. This icon is available if Connect is enabled. • Global text search icon (): Finds records from multiple tables. • Help icon (): Opens the help panel with embedded help, where available. If there is no embedded help, it offers help search options. • Gear icon (): Opens the System settings for the user interface (UI) .
Application navigator	Also called the left-navigation bar. Provides links to all applications and modules. See Application navigator .
Content frame	Displays information such as lists, forms, homepages, and wizards.
The Edge	The Edge is removed in UI16. The collapsed view of the UI16 application navigator is similar to the Edge.

List v3 in Madrid

List v2 is the default version of lists and is supported in all versions of the UI. Even when List v3 is activated, some UI16 lists may display in List v2. For details, see List v3 compatibility.

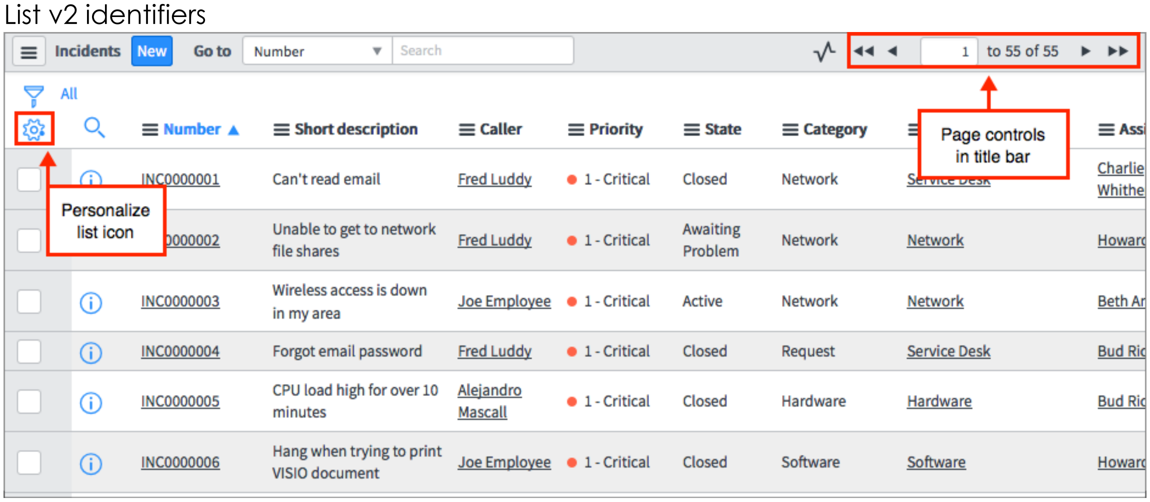
For details on how to activate and administer List v3, refer to List v3 administration.

Visual differences between List v2 and List v3

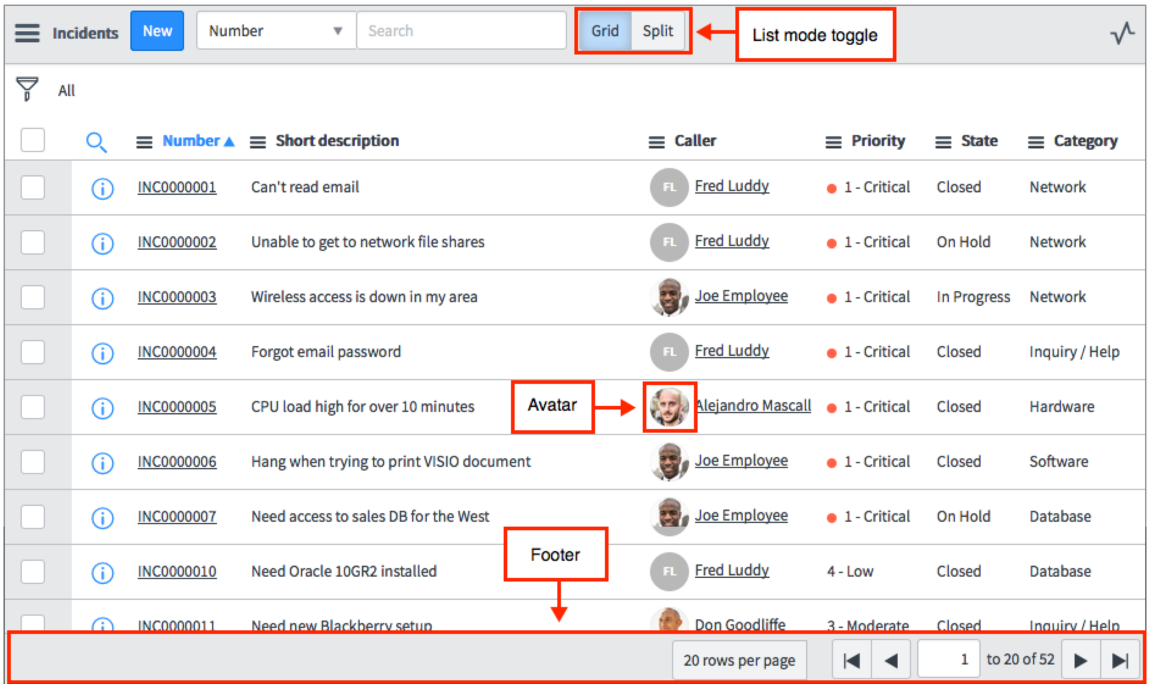
If you are unsure whether a list is v2 or v3, look for the following identifiers.

- The personalize list gear icon appears in the upper left corner of v2 lists. The personalize list option is located in the List title menus.
- Page controls appear in the list title bar of v2 lists.
- The list mode toggle appears in the list title bar of v3 lists. You can switch between the standard list mode, called Grid mode, and a Split list and form mode.
- Avatars appear by user names in v3 lists.
- Page controls appear in a footer at the bottom of the page for v3 lists.
- The response time indicator does not appear on the bottom, right of v3 lists. You can create a property to display the response time in milliseconds (ms) on the lower left in the List v3 footer.

List v2 identifiers



List v3 identifiers



For more information on the differences between List v2 and v3, see the comparison of List v2 and List v3.

Notable changes for upgrades from Jakarta to Madrid

Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.

Notable changes to applications and features

> Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Application or feature	Details
Advanced Work Assignment	If you are using Connect Support and want to move to Advanced Work Assignment and Agent Chat, see Migrate from Connect Support to AWA and Agent Chat.
Agent Intelligence	These ML Solution Definition templates are deprecated in the Madrid release and are replaced by a Classification Template: • Assignment Template • Category Template • Priority Template This new template prompts you to choose specific record fields that you can use to build a classification solution. If you upgrade to the Madrid release and you have existing solutions that use one of these deprecated templates, you must update and retrain the solutions to use the new Classification Template. For more information on how to update these solutions in Madrid, see Create and train a classification solution.
Application Portfolio Management	Application Portfolio Management integrates with Service Mapping differently from what it was. The application Instances tab has been removed and the application instances [apm_app_instance] table is no longer used to store application instances data. The application instances table is replaced with the Business Services [cmdb_ci_service] table (if Service Mapping is not installed) or the Discovered Business Service [cmdb_ci_discovered_service] table (if Service Mapping product is installed). Any data in the application instances table for service mapping integration must be migrated to the business service table. If you are upgrading to the Madrid release, then contact ServiceNow personnel for help with migrating the data.

Application or feature	Details
Asset Management	If you have the ITSM Software Asset Management feature enabled using the existing Software Asset Management (com.snc.software_asset_management) plugin on a release prior to Madrid, you can continue to use the Software Asset Management plugin. To migrate from the Software Asset Management (com.snc.software_asset_management) plugin to the Software Asset Management Foundation (com.snc.sams) plugin, consult your service manager. Warning: If you upgrade to Software Asset Management Foundation plugin (com.snc.sams) from Software Asset Management plugin (com.snc.software_asset_management), you cannot revert back to Software Asset Management plugin (com.snc.software_asset_management).
Automated Test Framework	Copy and customize ServiceNow-provided quick start tests to validate that your instance still works after you make any configuration changes such as apply an upgrade or develop an application. Quick start tests are disabled and read-only test templates. By default, they only produce a pass result when you run them with the default demo data that is provided with the application or feature plugin. To make quick start tests produce a pass result when you run them with your instance-specific data, copy and configure them to use your instance data. See Available quick start tests by application or feature. The Run Server Side Script test step supports version 3.1 of the Jasmine testing framework. You can upgrade individual test steps from Jasmine version 1.3 to Jasmine version 3.1. See Run Server Side Script. By default, the system property to run automated tests is disabled to prevent you from running them on a production system. Only run tests on development, test, and other non-

Application or feature	Details
	production instances. See Enable or disable executing Automated Test Framework tests.
Calendars and schedules	Starting with the Madrid release, the Fiscal calendar is a platform feature and is no longer dependent on Financial Management.
Change management	After you upgrade, you can: • Use the new com.snc.change_management.enforce_data_requirements property that provides additional controls along with the existing UI policy and client scripts. When true, it ensures that any updates made from a change request form, such as Workflow, REST/SOAP, JavaScript, or GlideRecord updates adhere to the same mandatory data requirements. This property is installed with Change Management - Core and is set to False by default for upgrade customers. Change the property value to True to use this feature. • Activate the Change Management - Approval Policy plugin so that you can use the new change approval policies. Configuration details are described in Change approval policy.
Cloud Management	• If you are on Jakarta and above, an upgrade from any version of Cloud Management platform version 2 (CMPv2) is supported. • Catalog items created based on cloud-native templates in releases prior to Madrid on CMPv2, will be treated as blueprint-based catalog items, which means that the underlying template cannot be modified. If you are upgrading, to the current release, from a release prior to Jakarta with the cloud plugins (com.snc.azure, com.snc.aws, and orchestration.vmware) activated on your instance and you decide to activate the Cloud Management plugin (com.snc.cloud.mgmt), then the cloud plugins activated prior to Jakarta may not work correctly. Do not use the cloud plugins (com.snc.azure, com.snc.aws, and orchestration.vmware)

Application or feature	Details
	because they are deprecated. You must migrate all configurations, discovery schedules, and catalog items to the post-Jakarta Cloud Management plugin (com.snc.cloud.mgmt).
Configuration Management Database (CMDB)	Upgraded instances include the new cmdb_read role. However, the system does not enforce the requirement to use cmdb_read when an application reads data from the cmdb_ci table hierarchy. For information about enforcing the usage of cmdb_read after an upgrade and other related issues, see the New role to read data from CMDB [KB0694559] article in the HI Knowledge Base. The CMDB Workspace plugin (com.cmdb-workspace) is not activated in an upgraded instance. Activate CMDB Workspace to get the functionality of CMDB Agent Workspace.
Connect	If you are currently using the legacy chat feature to provide help desk support, close any open help desk chats before activating Connect Support. Legacy chat and Connect Support cannot be used concurrently. When you activate Connect Support, the system automatically sets the state of all Chat Queue Entry [chat_queue_entry] records to Closed Complete. This ends any open help desk chats.
Credentials	Upgrading Connection information: The JDBC connection [jdbc_connection] and JMS connection [orch_jms_ds] tables extend from the Connection [sys_connection] table. They move from the Orchestration run time plugin (com.snc.runbook_automation.runtime) to the Centralized Connection and Credential plugin (com.snc.core.automation.connection_credential). The upgrade process obtains JDBC and JMS connection information and creates corresponding connection aliases and assigns the alias to its corresponding connection. Upgrading Credential tagging: The upgrade process migrates credential tags to credential aliases. All credential tags in the Credentials table have a corresponding credential alias, comprised of:

Application or feature	Details
	• Name: alias name • Scope: global • ID: alias name The credential tag field type changes from string to GlideList in the Credential table and the credential alias field refers to the created alias records.
Customer Service Management	Before you upgrade, read the information in KB0640006. Upgrading to Kingston from any previous release also requires an upgrade to OpenFrame version 1.0.2. Data migration: To use the new dashboards for existing case records, you must perform a one-time data migration. The procedure populates the new Case Report table. Perform the procedure during off-hours. The process can take several hours, depending on data volume. Note: The Case Report table includes three new calculated metrics: Agent Reassignment Count, First Contact Resolution, and Reopen Count, as described in Customer Service Manager dashboard. To add the Case Report column to the Cases list, navigate to Customer Service > Cases Customer ServiceCases and add the Case Report field. 1. Navigate to System Definition > Schedule Job. 2. Open the CaseDataMigrationForCaseReports record and click Execute Now. 3. When the process finishes, the instance generates a record in the syslog table with the Message column populated with the text "`Case column migration completed`".
Dashboards	Review Dashboards upgrade information for information about responsive canvas and dashboard versions of homepages . Responsive dashboards are enabled by default on new

Application or feature	Details
	instances. On upgrading instances, responsive canvas must be enabled by an administrator.
Discovery	Discovery identifiers were replaced in the Geneva release, but some systems that were upgraded from pre-Geneva versions to Jakarta might still be using legacy identifiers. A system property allows these customers to switch to the CMDB identifiers. It is important to note that if Service Mapping is active on your instance, the CMDB identifiers are always used, regardless of how this property is configured.

Edge Encryption	Upon an upgrade, the newly installed proxy has the same folder name as the previous proxy folder name, and the previous proxy folder is renamed. For example, the previous proxy folder is renamed from EdgeProxy_16001 to backup.dist-upgrade_20181204-144650461, and the new proxy folder is named EdgeProxy_16001.
	
	• Java is no longer included in the Edge Encryption proxy server distribution. The host machine installing or running the Edge Encryption proxy server must maintain a supported version of Java:
	  • Java 8 update 121 (8u121)
	  • Java 8 update 141 (8u141) and later
	Note: Java 8 update 131 (8u131) is not supported. Before installing the Edge Encryption proxy server, check that the $JAVA_HOME variable is pointing to a supported version of Java for each user that runs the proxy server. For example, if installing the proxy server as a local administrator on Windows, check that the $JAVA_HOME variable is pointing to the correct version of Java system-wide. If installing on Linux, check that each user that will run the proxy server has this variable correctly defined. If a supported version of Java is not found, the proxy server will not run.
	
	• If using AES 256-bit encryption, copy the Java Cryptography Extension (JCE) jurisdiction policy files into the system Java

<table>
<tr><th>Application or feature</th><th>Details</th></tr>
<tr><td></td><td>home directory of each Edge Encryption proxy server host. Add these files to the <Java-home-directory>/jre/lib/security folder before performing a scheduled or manual upgrade. To install the 256-bit encryption policy files, see Optionally enable AES 256-bit encryption.
When you upgrade from previous releases, you may encounter an issue during Edge Encryption proxy server upgrades because the proxy has not yet been upgraded to handle newly introduced request and response codes. During the proxy upgrade, a message like the following may appear in the proxy logs:<pre>Error:
2018-05-25 09:48:44,758 WARN Unexpected response code 555 from the ServiceNow instance "10.11.87.4:16001". Will try again in 5 seconds.
2018-05-25 09:48:44,784 ERROR Update stats received error code : 555 : ServiceNow instance is currently being upgraded
2018-05-25 09:48:49,862 WARN Unexpected response code 555 from the ServiceNow instance "10.11.87.4:16001". Will try again in 5 seconds.</pre>The solution is to restart the proxy and then retry the proxy upgrade.</td></tr>
<tr><td>Event Management</td><td>The upgrade process moves your instance to a new ServiceNow release version. Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, create upgrade plans and test your upgrade on non-production instances before upgrading your production instance.</td></tr>
<tr><td>Event Management and Service Analytics</td><td>During an upgrade to the Jakarta release, a script converts and moves Event Management rules and events for the release. Even though this script runs automatically, there are configuration tasks you must complete after the upgrade.</td></tr>
</table>

Application or feature	Details
Field Service Management	When you upgrade from a previous release, six event type schedule entries are available by default. You can choose to activate these event type configurations to create schedule entries. You must deactivate any existing Events configuration that overlaps with the newly created schedule entries. For more information on configuring event types, see Configure the agent calendar. You can optimize the agent task routes for the current date. However, if the SMTaskRouting script was modified in an earlier release, the agent route is optimized, but it does not take the agent schedule and agent time off into consideration. For more information on optimizing task routes, see Route optimization. The upgrade instructions do not apply to Project Portfolio Planning (Portfolio Budget Model) as it is automatically upgraded as part of the Madrid upgrade. Financial Management is no longer dependent on its use of IT DataMart. The DataMart Definitions have been upgraded to Financial Management Segments in Istanbul. New segments required for cost model or budget model must henceforth be created in Financial Management Segments.
Flow Designer	• Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow. • Flows using the Always option for Created or Updated or Updated trigger types in previous releases use the Only if not currently running option. Use the For each unique change option to trigger a flow for every unique change, even if the flow is running.

Application or feature	Details
GRC: Policy and Compliance Management	The GRC: UCF Import (com.snc.ucf_import_add_on) plugin was deprecated and replaced by the new GRC: Compliance UCF (com.sn_comp_ucf) plugin. Note: If your GRC entitlement date is before December 1, 2016, you are entitled to a free UCF CCH account for the period of December 1, 2016 through November 30, 2018. For customers on Helsinki (Patch 7 and above), or Istanbul and whose effective GRC entitlement date start on Dec 1, 2016 or after, you need to sign up for a UCF CCH account and customize your basic subscription to include API Access. For more information about establishing a UCF CCH account, see Unified Compliance.
Guided Setup	The new plugin that provides a new, process-centric version of guided setup is introduced in this release. The ITSM Guided Setup plugin (com.snc.guided_setup_metadata.itsm) is active by default for new customers. Upgrading customers can activate the plugin to view the new version of guided setup. One or both versions appear as modules in the navigation pane or as links on the System Administration homepage. They appear as ITSM Guided Setup or ITSM Guided Setup (Old). ITSM Guided Setup (Old) takes you to the guided setup created in the Helsinki and Istanbul releases. The administrator can hide the version that you do not want to use. Note: The plugin name, ITSM Guided Setup, is the same for both old and new versions, but the plugin ID is different.
Guided Tour Designer	The Guided Tour Designer was first introduced in the Jakarta release with support for guided tours on the standard platform UI. For new instances created in Jakarta and beyond, guided tours are active by default. For instances originating from pre-Jakarta, guided tours are inactive by default. See Activate guided tours to enable the feature on your instance.

Application or feature	Details
	With the Madrid release, you can also enable guided tours to run on Service Portal pages. When you upgrade your instance to Madrid, the following results occur. • For instances that are new in Madrid, the Guided Tours for Service Portal feature is active by default. • For pre-Madrid instances that you upgrade to Madrid, the Guided Tours for Service Portal feature is inactive by default. • To run guided tours on Service Portal pages, ensure the com.glide.guided_tours.enable and glide.sp.guided_tours.enable properties are both set to True. See Activate guided tours to enable the feature on your instance.
HR Service Delivery	Note: When upgrading from the Istanbul release, HR document templates have a new field. The Document type field helps to filter a list of document types so that HR Criteria can apply the necessary document based on the conditions of an employee. HR criteria works with this field to further narrow the list of document templates you want available for an HR case. Because Istanbul did not have this field, you must create new or select an existing document type for your document templates. See Document Types.
Knowledge Management	The Knowledge Management Core plugin (com.glideapp.knowledge) is active by default for new or upgrade customers. The Knowledge Management with KCS plugin (com.glideapp.knowledge2) is planned for deprecation. Some of the key differences between Legacy Knowledge and Knowledge v3 are: • Multiple knowledge bases (instead of one knowledge base)

Application or feature	Details
	• Separate customizable workflows available for each knowledge base (instead of a single lifecycle shared by all articles) • Category structure that supports any number of levels (instead of a two-level organizational structure using Topic and Category) • Permissions defined per knowledge base and article, using user criteria (instead of per article, using roles and ACLs) For additional upgrade considerations, see the links under Migrate .
MetricBase	Legacy triggers are available only to upgraded instances. New activations of the MetricBase application do not include legacy triggers.
MID Server	If an unsupported version of the Java Runtime Environment (JRE) is running on a MID Server when the MID Server is upgraded, the upgrade process replaces that JRE with the OpenJDK that is bundled with the MID Server installer. If a supported JRE is running on the MID Server host, the upgraded MID Server uses that Java version. MID Server hosts for instances upgraded from London do not require connection to the download site at install.service-now.com. The auto-upgrade process for MID Servers in Madrid is handled through the instance. However, upgrades from Kingston or earlier require that each MID Server host machine have access to the download site. For additional details about how MID Server upgrades are managed and where to look for errors, see MID Server upgrade. For additional information about MID Server upgrades, see: • MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade.

Application or feature	Details

	• Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.
	• There is a new process for accessing the install.service-now.com download site for MID Server upgrades. New ServiceNow® instances handle all traffic from the download site, which eliminates the need for MID Server host machines to connect with install.service-now.com. However, instances upgraded to the London release require their MID Servers to send their initial upgrade requests through install.service-now.com. After the first upgrade, MID Servers can send subsequent auto-upgrade requests directly to the instance, when the mid.download.through.instance system property is set to true. For details, see MID Server upgrade MID Server upgrade.
	• The change to the Java Runtime Environment (JRE) installation procedure for new MID Servers does not affect upgrades of existing MID Servers. These MID Servers receive the supported JRE version when they upgrade.
	• For additional information about MID Server upgrades, see:
	  ◦ MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade.
	  ◦ Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

Notifications	This release introduces a new Email Client Configuration feature and a Connection Security option on the Email Account form for choosing the secure connection for your email server. These features are enabled in new and upgraded instances. When you upgrade to this release, the following items are migrated if you previously set them in your instance: • The secure connection mode that you selected for your email server in the Email Account form (Enable TLS and Enable SSL fields). • The email client property settings for controlling:

Application or feature	Details
	• Email address autocomplete (glide.ui.email_client.autocomplete.group) • From and Reply To email addresses displayed in the email client (glide.ui.email_client.from and glide.ui.email_client.reply_to) • Email address recipient qualifiers (glide.ui.email_client.email_adresss.disambiguator and glide.ui.email_client.email_address.disambiguator_search) The email client property settings are preserved in a default email client configuration created during upgrade. You can view the default configuration in the new Email Client Configuration [sys_email_client_configuration] table. These email client properties are also deprecated in this release because these features can be set using email client configurations. If you want to enable randomized watermarks in email notifications for upgraded instances, activate the Random Watermark Support plugin (com.glide.email.random_watermark). This plugin includes system properties for managing a watermark transition period, during which the system recognizes both randomized watermarks and non-randomized watermarks in emails created before upgrading. For details, see Notifications upgrade information.
Notify	The legacy Notify-Twilio driver (com.snc.notify.twilio) plugin is now being replaced by a Notify-Twilio Direct driver (com.snc.notify.twilio_direct). A Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided. The Notify core plugin now provides JS Telephony Driver support that enables you to code your own integrations in JavaScript by using the platform capability of JS Extension Point.

Application or feature	Details
	In prior releases, the Notify-Twilio Driver (com.snc.notify.twilio) enabled voice and SMS services provided by Twilio. This driver has been replaced by the Notify-Twilio Direct Driver (com.snc.notify.twilio_direct). Both the drivers work simultaneously provided they are configured with two separate accounts. The migration to the new driver has the following impact. 1. Notify participant records will remain inactive until a participant joins a conference. Previously, they were set to active by default. 2. If you are using the previous driver, the participant record is activated after a minor delay. Note: New customers will have access only to the new Notify-Twilio Direct driver plugin. If the Legacy Notify plugin (com.snc.notifynow) is activated on the instance: • The Legacy Notify plugin and the Notify plugin (com.snc.notify) can coexist and work independently because they use different tables, properties, and API namespaces. You must also use two different Twilio accounts for both plugins to work. • The Legacy Notify plugin and the Notify plugin (com.snc.notify) can be simultaneously instantiated on the same instance. However, the applications must be configured with different Twilio accounts or sub-accounts. • Notify account setup can be configured for a single number within an account (Legacy Notify) or for multiple numbers (Notify). • Conference call flow is hard-coded in Legacy Notify. Notify uses a workflow-driven conference call approach. • Legacy Notify and Notify use independent properties and schemas.

Application or feature	Details
	• Legacy Notify modules are moved to the Notify menu in the application navigator. • Notify includes the notifynow_admin user role. • Updates the Category field for all workflow activity to display Legacy Notify rather thanNotifyNow. If the Incident Alert Management plugin (com.snc.iam) is activated on the instance: • And Notify is activated for the first time, the appropriate scripts are installed for Notify integration. • And Legacy Notify has been previously configured with Incident Alert Management and the Notify plugin is activated, Incident Alert Management continues to use Legacy Notify properties. • To switch to the Notify plugin, configure the Twilio account and upgrade the Incident Alert Management plugin. If the On-Call Scheduling plugin (com.snc.on_call_rotation) is activated on the instance, the appropriate files related to On-Call Scheduling and Notify are installed.
On-Call Scheduling	Upgrading from previous versions is automatic, and all events are recorded in the upgrade logs (System Diagnostics > Upgrade History). • The existing On-Call plugin has been changed. When you upgrade, the plugin changes are applied automatically (this action is not optional). • The group device functionality is deprecated in favor of a Catch All person. • On-call Scheduling replaces the existing business rules for escalations with escalations based on Graphical Workflow.

Application or feature	Details
	• The workflow uses Notification Activities, so it sends emails and not SMS messages. It must be modified to use Create Events activities to send SMS messages. See Upgrade to on-call scheduling for links to other changes that you should be aware of as you transition to on-call scheduling.
Operational Intelligence	• In Madrid, user-specified width override values are replaced by new advanced settings that are used internally to calculate width values. Width override values are preserved through an upgrade to Madrid and are being used internally. However, they do not appear in the UI and you cannot modify them. When you use the Bounds Settings wizard in an upgraded instance and you select a metric class that has a width override value, a notification appears. To use the new advanced settings in the Bounds Settings wizard, accept the notification to delete the width override values from an earlier release. For more information about the Bounds Settings wizard, see Custom bounds settings. • During the upgrade to Madrid, the Apache Ignite software that runs on Operational Intelligence MID Servers in MID Server distributed clusters is upgraded to version 2.5.3. After you upgrade all the MID Servers in the MID Server distributed cluster to Madrid, restart these Operational Intelligence MID Servers to complete the Apache Ignite upgrade. You might have some data loss during the time that the MID Servers upgrade starts until the MID Servers are restarted. To minimize this data loss, before you start the upgrade to Madrid, disable the metric connectors. After the upgrade completes, set the max_fetch_interval_min parameter to how long the connectors were down and then enable the connectors so that the missing data is pulled. After upgrading to Madrid, the default Event Management binding workflow which binds nodes to host CIs, is disabled for

Application or feature	Details
	metric events. If you relied on this binding before the upgrade, then to allow host binding for metric events after upgrade, explicitly create a host binding event rule as described in Create an event rule to map metrics to host CIs.
Password Reset	Platform feature – upgraded by default. Note: The Password Reset application is not available during upgrade.
Project Portfolio Management	Two new dashboards have been added with the new Performance Analytics – Content Pack – Project Portfolio Suite with Financials (com.snc.pa.pmo_dashboards) plugin. If you are upgrading and you activate the new plugin, two new navigation links are available in PPM: • Portfolio dashboard • Program dashboard The following pre-Madrid navigation links are still available after upgrading. Review the existing and the new dashboards and deactivate the older ones if required. • Portfolio manager dashboard • Program manager dashboard • PMO dashboard • Planning Console: If you are upgrading, the Client side planning console functionality for project scheduling is disabled. To enable the functionality, you must: 1. Set the project property Enable firing of Business Rules on save from Planning Console to false, if it was set to true before upgrade. 2. Set the Enable Client Side Planning check box to true.

Application or feature	Details
	Note: If you do not have any custom business rules on the fields listed below, mark Fire BR on Save to false for these fields in planning console column configuration: • State • Percent Complete • Actual start date • Actual end date • Resource Management: Changes made to allocated hours now update only allocated hours in the resource plan. Prior to this, it had updated the planned hours. Because of this change, if you have customizations around Planned or Allocated hours and cost on the resource plan or resource allocation, you need to alter these in the Madrid release. • Demand Management: On a demand form, the value for the new Assessment Required field is set to true for all existing demands on upgrade.
Project Portfolio Suite with Financials	• After you upgrade the instance, the default value of the Retain start on constraint on tasks after adding relations property is now set to true and cannot be changed back to false. As a result, the upgraded instances that had the property set to false can experience a change in behavior of time constraint when a relation is added to a task. After relations are added to a task, the start date of the task is not affected. • A default flow formatter has been enabled in the Project form in the Kingston release. If you have configured flow formatter before upgrade to Kingston, you need to revisit the configuration. You can disable the stages either from the

Application or feature	Details
	existing custom formatter or from the newly added formatter as needed.
Reporting	Report Charting v2 is automatically used, and Reporting v1 can no longer be used after an instance is upgraded. The Report Charting v2 plugin uses the Highcharts charting library to generate reports on the client. This plugin generates all the reports in the ServiceNow report set. Note: Scheduled reports, custom charts, and reports saved as PDF are generated on the server using the Highcharts charting library. As a result, these types of reports sometimes appear differently than reports generated on the client side.
Schedules	Domain separation functionality is introduced for schedules.
Security Incident Response	Application administration is enabled for Security Incident Response by default. If you are upgrading from a version earlier than Jakarta, verify whether you have added custom tables to Security Incident Response. If so, and your custom tables rely on global ACLs, you may need to recreate those global ACLs in the Security Incident Response scope after the upgrade. If you added custom roles or custom ACLs, retest them after the upgrade and ensure the assignable by attribute on the roles is set correctly to allow access to application administration. After you upgrade, but prior to configuring the Splunk - Incident Enrichment integration or any other integrations that support sighting search (for example, Elasticsearch, HPE ArcSight, McAfee ESM, and IBM QRadar), please contact ServiceNow support to manually activate the com.snc.core.automation.api plugin. The configuration will not function properly if this action is not taken.

Application or feature	Details
Security Incident Response	If you are upgrading directly from Jakarta or Kingston to this release (skipping the London release), navigate to System Definition > Fix Scripts, and run the Update integrations to multi domain fix script to allow certain integrations to have multiple configurations defined. For example, if you have multiple Splunk instances, you can create connections and queries that run sighting searches across multiple Splunk instances. After the fix script has run, return to System Definition > Fix Scripts and deactivate the fix script. It is important that the script is not allowed to run more than one time.
Service Catalog	Before upgrading, you should be aware of changes that were made to the underlying Service Catalog data model. These changes affect the way that you implement multiple service catalogs. For details, see Upgrade to multiple service catalogs. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts . After you upgrade from a previous release, complete the following tasks: • Make sure that discovery errors are categorized by rediscovering CIs that were discovered before the upgrade with errors. For details, see Categorize discovery errors after Service Mapping upgrade. • Make sure that discovery errors hidden before the upgrade do not reappear in business maps. To resolve these errors, rediscover all CIs using the All Applications schedule.
Service Portal	• In new instances, search facets are enabled by default. If upgrading from a previous release, enable search facets by activating a record in the Page Route Maps [sp_page_route_map] table. See Enable search facets.

Application or feature	Details
	• Validate user input in a specific field type using a validation script. In new instances, Service Portal includes XML, Script, Script (Plain), Email, and Version validation scripts by default. If upgrading from a previous release, the Mobile and Service Portal version is not active by default. You must activate the Mobile and Service Portal version of the validation script to validate user input in the Service Portal. See Activate Service Portal validation scripts. • In new instances, guided tours in Service Portal are enabled by default. If upgrading from a previous release, you must enable the com.snc.guided_tours.sp.enable system property to create a guided tour in Service Portal. See Activate guided tours for Service Portal. • Announcements are active on new instances. To activate announcements after upgrade, activate the Service Portal Announcements plugin (com.glide.service-portal.announcements). • The Font Awesome library has been upgraded to version 4.7 and includes new icon names and syntax changes. If your Service Portal implementation includes custom use of the Font Awesome library, you may need to update icon names in your custom widgets. For more information, see the Font Awesome GitHub upgrade guide.
Software Asset Management	Warning: You must revert customizations after installing Software Asset Management for the first time, or upgrading from Software Asset Management Foundation plugin, for all features to function as intended. The Revert Customizations module in Software Asset Management administration reverts customizations of files related to Software Asset Management to base configuration that were skipped during the installation or upgrade process. For more information, see Revert Software Asset Management customizations.

Application or feature	Details
	Warning: If you upgrade to the Software Asset Management (com.snc.samp) plugin from the Software Asset Management plugin (com.snc.software_asset_management), you cannot revert to the Software Asset Management plugin (com.snc.software_asset_management).
Subscription Management	A fix job runs during the upgrade and creates an inventory of all global and scoped custom tables that currently exist in your production instance. A scheduled job runs after the completion of the upgrade and creates an inventory of the number of custom tables that each user can access. Platform feature – upgraded by default.
Time Card	When you upgrade to the Kingston release, a default rate type named Standard is available through the Rate Type feature. This rate type is available only if the user's default time sheet policy has the Allow multiple rate types field selected.
UI	When you upgrade to this release, your instance is updated with the new ServiceNow branding. Any customizations you have made to the system theme are not updated. You can revert to the previous theme by changing the system defaults in the Basic Configuration UI16 module. For more information on switching the system defaults, see Configure logo, colors, and system defaults for UI16. UI15 is not affected by these changes, with the exception of the icon that appears on the browser tab. You can update the icon by changing the value for the glide.product.icon system property. • UI11 is no longer available. Use UI15 or UI16 instead. • Pop-up forms are no longer available.

Application or feature	Details
	• The List v3 plugin is no longer available for new deployments.

Virtual Agent	• Migrating Virtual Agent topics: Conversation topics created in the London release are fully supported in this release and are not changed during upgrade. After upgrade, you can update your topics, for example, to use new features such as the no-code controls available in Virtual Agent Designer.
	• Using Slack Enterprise Grid after upgrading:
	  • If you have Slack Enterprise Grid workspaces, your end users can move between those workspaces and use the Virtual Agent bot from any workspace.
	  • Your end users must relink their ServiceNow accounts to the Virtual Agent messaging integration for Slack.
	  • If you upgrade to Slack Enterprise Grid after upgrading to this release, an upgrade script runs automatically to complete the upgrade for the Slack messaging integration.

Vulnerability Response	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have a large number of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Response activities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see the Kingston Vulnerability Response release notes.

Application or feature	Details
	If you are upgrading from Kingston, existing CI Identifier Rules are disabled by default, but not removed. These rules appear in Security Operations > CMDB > CI Lookup Rules. To reenable, open a rule and enter values for the Source and Source field fields, select the Active check box, and click Submit. To reduce upgrade time, if you have the Qualys product or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you add custom tables that rely on inherited ACLs, you must recreate the ACLs in that custom table. If you add custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. If you upgraded from a previous version of Vulnerability Response, your original Overview page is stored in the Overview (Legacy) module in the left navigation pane. If you created a customized homepage overview, the overview is overwritten by the new reports dashboard. To access your customized homepage, Create a new module for your customized homepage and add it to the Vulnerability Response application. If you are upgrading from a previous version, you can begin using the Vulnerability Response new features immediately. All updates to Vulnerability Response are only available in the ServiceNow Store. If you have previously installed Vulnerability Response and want an update from the ServiceNow Store, you do not need to activate the Dependencies (com.snc.vul_dep) plugin prior to installing the Vulnerability Response update.

Application or feature	Details
	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have large numbers of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Responseactivities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match each other. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see Kingston Vulnerability Response release notes. To reduce upgrade time, if you have Qualys or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you have added custom tables that rely on inherited ACLs, you must recreate the ACLs on that custom table. If you added custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. Existing CI Identifier Rules are disabled by default but not removed. They appear in Security Operations > CI Lookup Rules. To reenable, open a rule and enter values for Source and Source field, select the Active check box, and click Submit. When upgrading from a version prior to Kingston, the Vulnerable Items by Remediation Target Status report does not appear in

Application or feature	Details
	the Vulnerability Response Overview and must be added manually. Rapid7 Upgrade: Unmatched configuration items (CIs) from previous versions of Rapid7 are transferred and listed in the Discovered Items module. However, these unmatched CIs cannot be reclassified using the Reclassify button. They must be reclassified manually. See Reclassify unmatched configuration items from Discovered Items. If you are upgrading Vulnerability Response to London Now platform, Patch 5 there is nothing to do to continuing using Vulnerability Response. Going forward, all updates to London Vulnerability Response are only available in the ServiceNow Store.
Walk-up Experience	Before upgrading, be aware that the following feature changes can affect your customizations: • Your online check-in, as well as the onsite queue and onsite check-in interfaces are updated to reflect the new data model and features. • Reports using Queue for grouping should use Location due to a change in the Interaction [interaction] table. Filtering is done based on Channel instead of Type. • Notifications may no longer trigger due to State changes in interactions, such as the On Hold state. Reevaluate your custom notification conditions. • Business rules and other logic running on fields that are deprecated, for example, Queue on the Interactions form.

Changes to plugins

This table lists new plugins in the Madrid release and existing plugins that were deprecated, renamed, or changed in some way.

Plugin	Status	Description	Details
Action Status Automation [com.sn_action_status]	New in Madrid	This plugin tracks blocking records created for tasks and updates the action status indicators on the task list.	
Advanced Work Assignment [com.glide.awa]	New in Madrid	Automatically assigns work items to agents based on their availability, capacity, and skills.	
Advanced Work Assignment for CSM [com.sn_csm.awa]	New in Madrid	Configuration data supporting routing, queuing, and assignment of CSM Cases.	
Advanced Work Assignment for Incidents [com.snc.incident.awa]	New in Madrid	Default configuration to support Advanced Work Assignment for Incident	
Agent Chat [com.glide.interaction.awa]	New in Madrid	Enables Workspace Agent Chat and the Chat service channel in Advanced Work Assignment.	
Agent Intelligence	New in Madrid		

Plugin	Status	Description	Details
[com.glide.platform_ml]			
Agent Intelligence Reports [com.glide.platform_ml_pa]	New in Madrid		
Agent Schedule [com.snc.agent_schedule]	New in Madrid	Enables customer service agents and field service technicians to see work schedules and assignments and also add personal events such as meetings or appointments.	
Agent Workspace [com.agent_workspace]	New in Madrid	All-in-one app enabling CSM/ ITSM agents to provide world-class service at light speed.	
Agent Workspace - Ribbon [com.snc.agent_workspace.ribbon]	New in Madrid	Workspace Ribbon Configuration.	
Agile - Scaled Agile Framework - Essential SAFe [com.snc.sdlc.agile.multi_task]	Madrid	Scaled Agile Framework was designed to apply Lean-Agile principles to the entire organization. Essential SAFe is most basic	

Plugin	Status	Description	Details
		configuration of the framework and it provides the minimal elements necessary to be successful with SAFe: manage your agile release train backlog, plan program increments, implement stories, and track sprints.	
Agile - Scaled Agile Framework - Portfolio SAFe [com.snc.sdlc.portfolio_safe]	New in Madrid	Use Portfolio SAFe to apply lean and agile principles to your portfolio work.	
Agile Development 2.0 - ATF Tests [com.snc.sdlc.agile.2.0.atf]	New in Madrid	Agile Development 2.0 - ATF Tests provides you test cases and test suites that can be run on the Agile Development 2.0 application.	
Application Portfolio Management - ATF Tests [com.snc.apm.atf]	New in Madrid	ATF tests for Application Portfolio Management.	
Automated Test Framework - Custom UI	New in Madrid	Adds ability to test custom UI.	

Plugin	Status	Description	Details
[com.glide.automated_testing_impl.custom_ui]			
Automated Test Framework - Parameters [com.glide.automated_testing_impl.parameters]	New in Madrid	Adds ability to parameterize ATF tests.	
Automated Test Framework - Reporting [com.glide.automated_testing_impl.report]	New in Madrid	Automated Testing Framework Reporting test step configuration.	
Automated Test Framework - Responsive Dashboards [com.glide.automated_testing_impl.dashboards]	New in Madrid	Automated Testing Framework Responsive Dashboard test step configuration.	
Automated Test Scripts For Survey [com.glide.automated_testing_impl.survey]	New in Madrid	Automated Test Scripts For Survey	
Base Upgrade Logger [com.glide.base_upgrade_logger]	New in Madrid		
Change Management - ATF Tests	New in Madrid	This plugin loads ATF tests for	

Plugin	Status	Description	Details
[com.snc.change_management.atf]		Change Management when the Change Management - State Model plugin is active.The demo data for this plugin is required to successfully execute these ATF tests.	
Chef Activities com.snc.orchestration.activities.chef	Planned for deprecation in release New York		
CMDB Search [com.snc.cmdb_search]	New in Madrid	Query-like search on CMDB CIs and relationships. Converts a free-style query with configurable synonyms and stop words, into a properly formulated query on CMDB tables.	
CMDB Workspace [com.cmdb-workspace]	New in Madrid	Plugin to enable CMDB capabilities to workspace.	
Coaching	New in Madrid	The Coaching module facilitates the	

Plugin	Status	Description	Details
[com.sn_coaching]		coaching of employees on their work through the use of coaching opportunities (critical moments in a process) that can be conditionally configured.	
Context-Sensitive Help Rest API [com.glide.context_help.rest_api]	New in Madrid	REST API for the context-sensitive help system.	
Continual Improvement Management Automated Tests [com.sn_cim_atf]	New in Madrid	ATF plugin for Continual Improvement Management (CIM).	
Conversation Branding Settings [com.glide.cs.branding]	New in Madrid	Conversation Branding Settings	
Conversation General Settings [com.glide.cs.settings]	New in Madrid	Conversation General Settings	
CSM Lookup and Verify	New in Madrid	CSM Lookup and Verify	

Plugin	Status	Description	Details
[com.snc.sn_csm_lookup_verify]			
CTI Softphone [com.snc.cti]	New in Madrid	Enables Twilio integration using Notify and OpenFrame to provide softphone functions and call center capabilities. These include make, receive phone calls, transfer, hold and mute. Applications like Customer Service and Incident Management provide demo workflows for CTI.	Please re-activate respective applications where you require CTI demo workflows.
Customer Service Virtual Agent Conversations [com.sn_csm.virtualagent]	New in Madrid	CSM Virtual Agent Conversations	
Customer Service with Request Management [com.sn_cs_sm_request]	New in Madrid	Provides an integration between Customer Service Management and the Request Management application. Enables users to	

Plugin	Status	Description	Details
		create request records from a Customer Service case.	
Customer Service with Service Management [com.sn_cs_sm]	New in Madrid	Provides an integration between Customer Service Management and the Incident, Problem and Change Management applications. Enables users to create incident, problem and change records from a Customer Service case.	
Email Address Filter [com.glide.email_address_filt er]	New in Madrid	APIs and data structures for email address filtering.	
Email Client [com.glide.email_client]	New in Madrid	Enables you to send email directly from any record.	
Encrypted Workflow Scratchpad [com.snc.encrypted.scratch pad]	New in Madrid	Encrypted Scratchpad support on the Workflow Context and Workflow Executing Activities.	

Plugin	Status	Description	Details
Fixed Costs [com.snc.fixed_costs]	New in Madrid	Fixed Costs	
Flow Client [com.glide.hub.flow.client]	New in Madrid	The client side API for interacting with flows, subflows, and actions.	
Flow Designer Action Step - Payload Builder [com.glide.hub.action_step.payload]	New in Madrid	Action Step - Payload Builder	
Flow Designer support for the Service Catalog [com.glideapp.servicecatalog.flow_designer]	New in Madrid	Service Catalog Flow Designer	
Glide Conversation Server Adapters [com.glide.cs.adapter]	New in Madrid	Glide Conversation Server Adapters	
Glide Virtual Agent [com.glide.cs.chatbot]	New in Madrid	Activates the Virtual Agent framework and the other necessary plugins.	
GRC: Risk Management Dependencies	New in Madrid	Installs all the dependent plugins required	

Plugin	Status	Description	Details
[com.snc.grc_risk_dep]		to support the GRC Risk Management application.	
GRC: Vendor Risk Management Dependencies [com.snc.grc_vrm_dep]	New in Madrid	Installs all the dependent plugins required to support the GRC Vendor Risk Management application.	
HR Performance Analytics (aka Modules IT) [com.snc.pa.hr_core, com.snc.pa.hr.context_sensitive_analytics, com.snc.hr.pa" plugins are set to “retired" state]	Planned for deprecation in release New York.		
Incident Alert Management [com.snc.iam]	Changed in Madrid	Renamed to Incident Communication Management	
Incident Management - ATF Tests [com.snc.incident.atf]	New in Madrid	Provides Incident Management ATF Tests.	
Instance Security Center [com.glide.instance_sec_center]	New in Madrid	This plugin activates the Instance Security Center Portal. Search for Instance Security Center in the left	

Plugin	Status	Description	Details
		navigation menu.	
Interactions Management [com.glide.interaction]	New in Madrid	Activates the Interactions Management System.	
ISD Dashboard [com.glide.security.dashboard]	Deprecated and not supported in release Madrid.		
ITSM Mobile [com.sn_itsm_mobile]	New in Madrid	ITSM Mobile Experience	
ITSM Virtual Agent Conversations [com.snc.itsm.virtualagent]	New in Madrid	This plugin contains prebuilt conversation topics for ITSM related use cases.	
ITSM Workspace [com.snc.agent_workspace.itsm]	New in Madrid	ITSM Agent Workspace	
Keylines Business Service Maps [com.snc.keylines_bsm_map]	New in Madrid	An interactive and graphical interface to visualize Configuration Items (CIs) and their relationships. Provides filtering capabilities to	

Plugin	Status	Description	Details
		manage data being displayed, allowing for configuration by the user to view in context to their role. Additional capabilities provide for the displaying of related tasks such as Incidents, Problems, Changes and Certification Tasks.	
Knowledge Blocks [com.snc.knowledge_blocks]	New in Madrid	This plugin adds an advanced editing feature to Knowledge Management which allows user to create re-usable content blocks that can be included in existing knowledge articles. This feature will give the ability to have one large article and be able to just display pieces of that article to specific users.	
KMv2	Planned for deprecation in release Orlando.		

Plugin	Status	Description	Details
[com.glideapp.knowledge2]			
Knowledge Management Core [com.glideapp.knowledge]	New in Madrid	Installs the core Knowledge Management items used to allow other Knowledge related plugins to work, such as Knowledge V3, Knowledge Advanced, Knowledge Service Portal.	This plugin is activated by default.
Knowledge Management with KCS [com.glideapp.knowledge2]	Planned for deprecation in Release Orlando		
Legacy Notify [com.snc.notifynow]	Deprecated in Release New York.		
Legacy Survey [com.snc.bestpractice.task_survey, com.glideapp.survey com.snc.assessment, com.glideapp.survey_wizard]	Deprecation in Release New York.		
Live Agent Conversation Settings	New in Madrid	Live Agent Conversation Settings	

Plugin	Status	Description	Details
[com.glide.cs.live_agent_settings]			
Lookup and Verify [com.snc.sn_lookup_and_verify_config]	New in Madrid	This plugin packages the lookup and verify functionality.	
Mobile Studio [com.glide.sg-studio]	New in Madrid	Plugin for Mobile Studio	
Modules IT [com.snc.pa.hr_core] [com.snc.pa.hr.context_sensitive_analytics] [com.snc.hr.pa]	Planned for deprecation in Release New York		
Okta [com.snc.sso.okta	No longer supported as of Madrid.		• Not available for new deployments. • Activation: Requires ServiceNow, Inc. personnel support.
On-call Scheduling Table Name change "Rota to Shift" [com.snc.on_call_rotation]	Table renamed in Madrid.		

Plugin	Status	Description	Details
Outlook Actionable Messages [com.sn_ms_oam]	New in Madrid	Outlook Actionable Messages	
Performance Analytics - Content Pack - Advanced Work Assignment [com.snc.pa.awa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Advanced Work Assignment, along with visualizations and a dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Analytics [com.snc.pa.premium.content_analytics]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Content Analytics, along with visualizations and the following dashboards: • Content Analytics • Content Analytics - Basics	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Automation	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.premium.content_automation]		breakdowns for Content Automation, along with visualizations and the following dashboards: • Campaign Overview • Campaign Analytics	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Customer Service Management - Advanced [com.snc.pa.customer_service_advanced]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Customer Service Management. Has the contents of the older Performance Analytics - Content Pack - Customer Service plugin, but also supports the following features: • Major Issue Management • Customer Service Case Action Status • Customer Service with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		Request Management • Customer Service with Service Management • Agent Chat • Advanced Work Assignment for CSM • Performance Analytics - Content Pack - Advanced Work Assignment	
Performance Analytics - Content Pack - GRC: Policy and Compliance Management [com.sn_compliance_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Policy and Compliance along with improved visualizations presented on the following dashboards: • Control Owner • Compliance Manager	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		• Compliance Executive	
Performance Analytics - Content Pack - GRC: Risk Management [com.sn_risk_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Risk Management along with improved visualizations presented on the Compliance Executive dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - ITSM Dashboards [com.snc.pa.itsm_dashboards]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for ITSM along with improved visualizations presented on the following dashboards: • IT Agent • IT Manager • IT Executive	
Performance Analytics - Content Pack - Project Portfolio Suite with Financials Dashboards	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.pmo_dashboards]		breakdowns for Project Portfolio Management along with visualizations presented on the PMO Dashboard.	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Security Incident Response	Temporarily unavailable in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Security Incident Response along with visualizations presented on dashboards.	An updated version of this plugin will be available on the ServiceNow Store.
Performance Analytics - Content Pack – Virtual Agent [com.glide.cs.pa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for the Virtual Agent along with visualizations presented on the Virtual Agent Overview Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Vulnerability Response [com.snc.vulnerability.analytics]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for Vulnerability Response Management along with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact

Plugin	Status	Description	Details
		visualizations presented on the Vulnerability Management Dashboard.	ServiceNow for details. This solution is available only from the ServiceNow Store.
Performance Analytics - Domain Support [com.snc.pa.domain_support]	New in Madrid	The Performance Analytics Domain Support plugin provides additional features to support scores collection on domain separated instances.	This plugin requires the Performance Analytics Premium and Domain Separation plugins to be installed.
Performance Analytics and Reporting - Service Portal Widgets [com.snc.pa.sp.widget]	New in Madrid	Support for PA widgets in the Service Portal. A number of JavaScript and CSS libraries are included to be able to run PA widgets independently in the Service Portal.	
Performance Analytics Premium for Security Operations [com.snc.pa.premium.sir]	New in Madrid		Installing this plugin will remove the limitations of the out of box Performance Analytics.

Plugin	Status	Description	Details
PPM Dashboard [com.snc.problem.atf]	Deprecated and no longer supported in release Madrid.		
Problem Management - ATF Tests [com.snc.problem.atf]	New in Madrid	Provides Problem Management ATF Tests.	This plugin requires Problem Management Best Practice - Madrid plugin to be active.
Problem Management Best Practice - Madrid [com.snc.best_practice.problem.madrid]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Provides roles for problem management including a problem coordinator, problem manager and problem administrator Provides fields to record the category, where the issue was first reported, the workaround, the	

Plugin	Status	Description	Details
		cause notes and the fix notes Searches for and attaches knowledge articles Communicates when a workaround or fix is available Clears the ˜Assigned to" field when changing the "Assignment Group".	
Problem Management Best Practice - Madrid - Knowledge Integration [com.snc.best_practice.problem.madrid.knowledge]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Create Known Error articles for Incident Deflection.	Requires that the Knowledge Management Advanced plugin to be activated.
Problem Overview Dashboard	New in Madrid	Displays Problem Overview Dashboard.	

Plugin	Status	Description	Details
[com.snc.pa.problem.dashboards]			
Project Portfolio Suite with Financials - ATF Tests [com.snc.financial_planning_pmo.atf]	New in Madrid	ATF tests for Project Portfolio Suite with Financials	
Puppet Activities [com.snc.orchestration.activities.puppet]	Planned for deprecation in release New York		
Scaled Agile Framework	Plugin renamed in release Madrid.	Plugin renamed Agile - Scaled Agile Framework - Essential SAFe	
Security Incident Response Dependencies [com.snc.si_dep]	New in Madrid	Installs all the dependent plugins required to support the Security Incident Response application.	
Service Catalog - ATF Tests [com.glideapp.servicecatalog.atf.test]	New in Madrid	Provides Service Catalog ATF Tests	
Service Catalog - Workspace [com.glideapp.servicecatalog.workspace]	New in Madrid	Service Catalog - Workspace	

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Plugin	Status	Description	Details
Service Level Management PA Dashboard [com.snc.pa.sla.overview]	New in Madrid	This plugin provides the SLA Overview (Premium) Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Service Portal La Jolla Brand Update [com.glide.service-portal.themes.la-jolla]	New in Madrid	This plugin will update your /sp and /sp_config portals with the ServiceNow La Jolla branding. The logo, favicon, login page background image, hero banner, theme, and widget instance options are updated when the portal record has not been modified. When the portal record is modified no changes are made and an administrator can manually apply changes by downloading the La Jolla images from the	

Plugin	Status	Description	Details
		db_image table and applying as well as updating the theme setting of the portal record.	
ServiceNow Add-In for Microsoft Outlook [com.sn_outlook_addin]	New in Madrid	ServiceNow Add-In for Microsoft Outlook	
ServiceNow Document Viewer [com.snc.documentviewer]	New in Madrid	Document viewer is a platform feature that will enable users to view enterprise class documents (*.pdf only) inline within the platform attachment instead of downloading it to the local device and then opening the documents with a locally installed viewer.	
ServiceNow Subscription Management Dashboards [com.snc.usage_admin.dashboards]	New in Madrid	ServiceNow Subscription Management Dashboards	
Survey Question Bank Sample Data	New in Madrid	Provides a library of Survey category and	

Plugin	Status	Description	Details
[com.snc.question_bank_data]		Survey questions that you can add to your new or existing survey in seconds.	
Test Management 2.0 - ATF Tests [com.snc.test_management.2.0.atf]	New in Madrid	Test Management 2.0 - ATF Tests provides you test cases and test suites that can be run on the Test Management 2.0 application.	

Browser support in Madrid

Browser support varies for each version of the user interface (UI). Most major browsers are supported.

Some features have additional browser requirements, which are noted in the appropriate documentation.

Note: UI11 is no longer supported. All instances have been upgraded to UI15 or UI16.

Browser support for each UI version

UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
UI16	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is	Latest public release	9.1 and up	Supported	Not supported

UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
			supported				
UI15	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is supported	Latest public release	9.1 and up	Supported	Not supported

*Mobile phone browsers do not support the desktop version of the UI. Instead, mobile browsers use the mobile UI.

Internet Explorer web browser notes

> Important: Due to significant performance issues, ServiceNow recommends that customers utilize a modern browser for its products and migrate away from Internet Explorer 11. For more information, refer to KB0683275.

- Internet Explorer 11 is susceptible to memory leaks, which may impact performance, especially in Windows 7.
- In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.
- Compatibility mode is not supported.
- Setting Security Mode to High (via Internet Options > Security tab) is not supported.

Safari web browser notes

- There is a security issue in some versions of Safari. User credentials may be disclosed to an unexpected site via auto-fill. For more information, see the Apple security update.
- Starting with Safari 9.1 and future versions of Safari, the leave page / stay on page pop-up message only displays once.

Firefox web browser notes

The iOS version of Firefox does not support ServiceNow Community or other Service Portal-based pages.

- Exceptions to browser support

Exceptions to browser support

Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Browser exceptions

Application or feature	Details
Automated Test Framework	Automated Test Framework only supports running tests from desktop browsers. You cannot run tests or test suites from tablets, mobile browsers, or the mobile UI. Some desktop browsers require additional configuration. See Browser recommendations for Automated Test Framework. Automated Test Framework offers limited support for test design on tablets. You cannot add new custom UI test steps from tablets because you have to run a test to retrieve page components, and tablets do not support running tests. You may be able to review existing custom UI test steps that were added from a desktop browser from a tablet.

Upgrade to Madrid from Kingston

When you upgrade from the Kingston release to the Madrid release, understand the fixes in each release version, notable changes for the user interface, browser support, plugin updates, and each feature's upgrade and migration tasks if applicable.

- Release notes for upgrade from Kingston to Madrid

  Before you upgrade from Kingston to Madrid, read the release notes for information about new features, notable changes, and fixes to existing functionality.

- Madrid user interface

  List v3 is no longer available for new deployments. If you are already using List v3, you can continue to do so. There are several aspects of list administration that are specific to List v3.

- Notable changes for upgrades from Kingston to Madrid

  Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.

- Changes to plugins

  This table lists new plugins in the Madrid release and existing plugins that were deprecated, renamed, or changed in some way.

- Browser support in Madrid

  Browser support varies for each version of the user interface (UI). Most major browsers are supported.

Release notes for upgrade from Kingston to Madrid

Before you upgrade from Kingston to Madrid, read the release notes for information about new features, notable changes, and fixes to existing functionality.

New features and changes in Kingston, London, and Madrid

Each release family contains new functionality. Read to the release notes for details on the new features and changes in Jakarta, Kingston, London, Madrid.

- Kingston release notes
- London release notes
- Madrid release notes

Patch and hot fix release notes

Patches and hot fixes contain security fixes as well as fixes for products and applications. These fixes are listed in each family's Available Versions.

- Available versions (Kingston)

- Available versions (London)
- Available versions (Madrid)

Patch release notes are organized into three sections.

Release notes section	Type of information
Security-related fixes	Contains a KB article with details on the patch's fixed security bugs
Notable fixes	Lists important fixed PRBs in the patch Important: Examine the notable fixes in each patch and consider adding them to your upgrade testing plans. For information on how to test different instances during upgrades, refer to Upgrade to Madrid .
All other fixes	Lists all other fixed PRBs in the patch

Refer to the Known Error Portal to quickly locate Known Error articles related to the various releases.

Upgrade instructions

After you have reviewed the release notes and patch information to understand all the changes that will be implemented in Madrid, you can start upgrading your instance. For an overview of the upgrade process, release definitions, and upgrade testing, refer to Upgrade to Madrid .

For a step-by-step guide through the upgrade process, refer to Upgrade your instance and the Upgrade planning checklist (Madrid).

Testing throughout upgrades

To help automate your testing and validation on non-production instances, use the Automated Test Framework. In the Madrid release, Automated Test Framework quick start tests were introduced. Many products include testing suites to help you jump start your testing before and after upgrades. For a list of available tests and activation information, see Quick start tests.

Madrid user interface

List v3 is no longer available for new deployments. If you are already using List v3, you can continue to do so. There are several aspects of list administration that are specific to List v3.

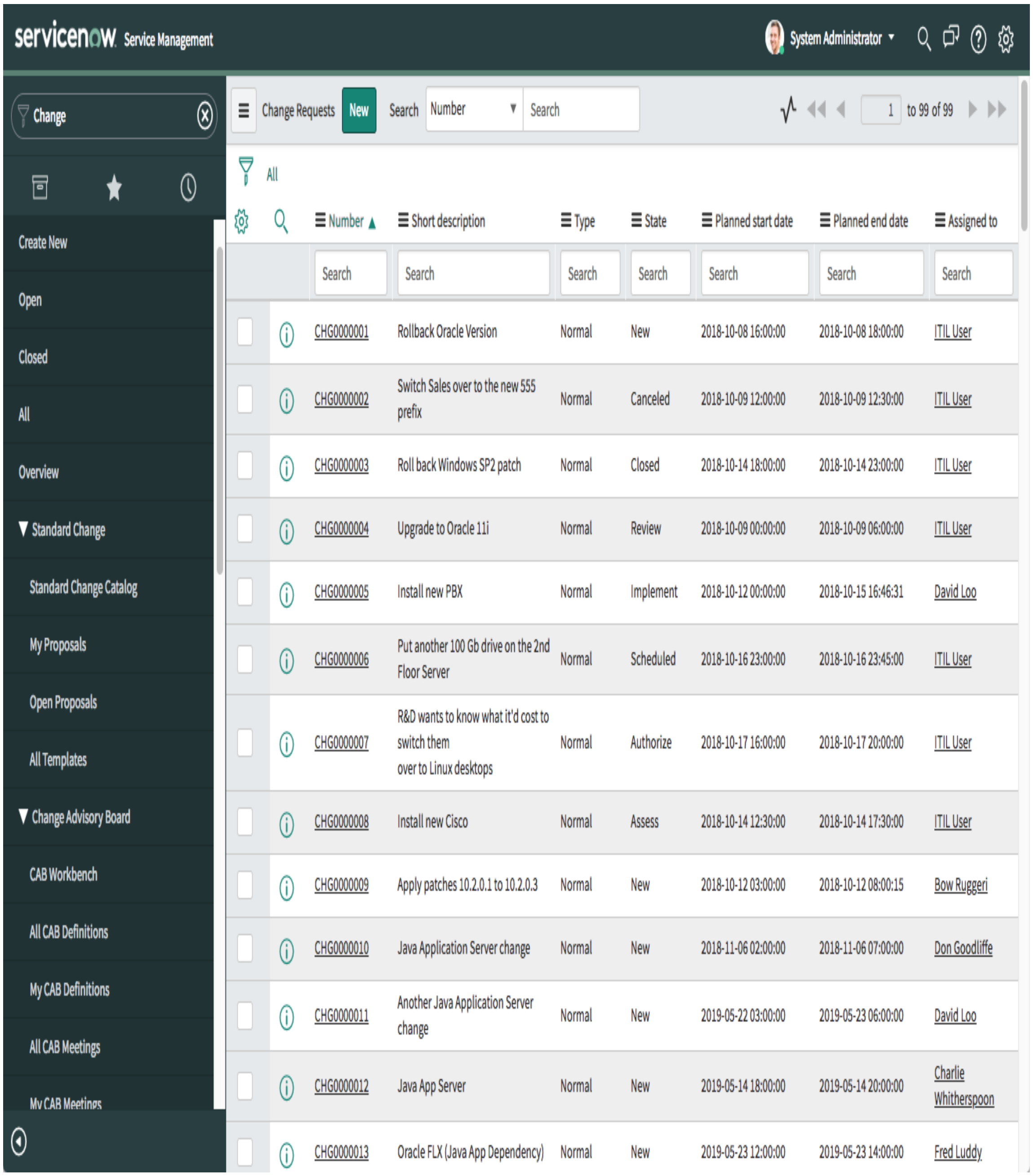
UI16

The UI16 interface provides an updated look and usability improvements.

Notable features include real-time form updates, user presence, a redesigned application navigator with tabs for favorites and history, and enhanced activity streams. UI16 is the default user interface for new instances. For upgraded instances, an administrator must activate UI16.

Watch the five-minute video User Interface | Overview to learn about the elements of the UI16 user interface.

UI16 user interface



UI16 components

Component	Description
Banner frame	Runs across the top of every page and contains a logo and the following information, controls, and tools. • User menu provides options to access your profile and preferences. Administrators can impersonate users and elevate their security role. • Connect sidebar icon ( ): Lets you begin or continue conversations. This icon is available if Connect is enabled. • Global text search icon ( ): Finds records from multiple tables. • Help icon ( ): Opens the help panel with embedded help, where available. If there is no embedded help, it offers help search options. • Gear icon ( ): Opens the System settings for the user interface (UI) .
Application navigator	Also called the left-navigation bar. Provides links to all applications and modules. See Application navigator .
Content frame	Displays information such as lists, forms, homepages, and wizards.
The Edge	The Edge is removed in UI16. The collapsed view of the UI16 application navigator is similar to the Edge.

List v3 in Madrid

List v2 is the default version of lists and is supported in all versions of the UI. Even when List v3 is activated, some UI16 lists may display in List v2. For details, see List v3 compatibility.

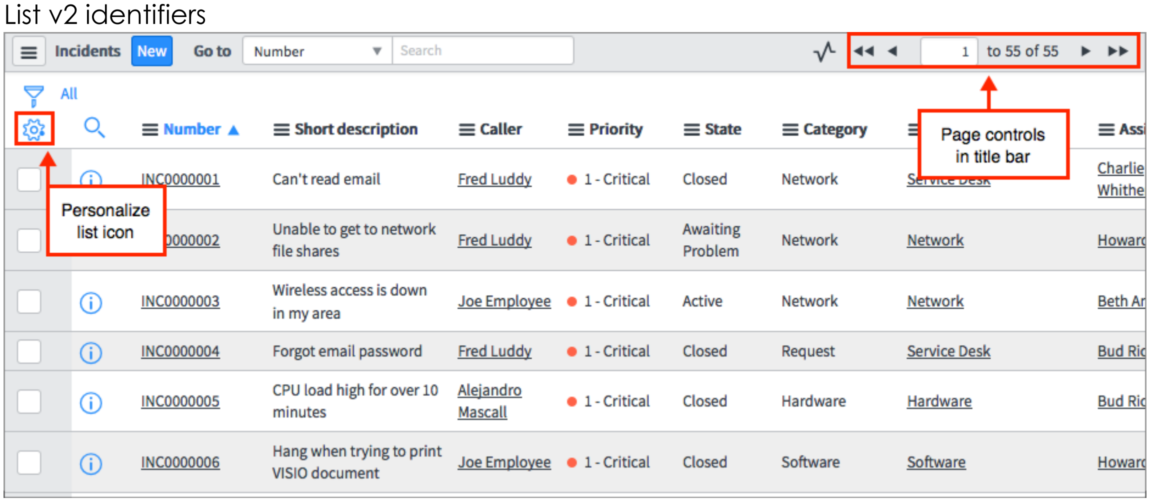
For details on how to activate and administer List v3, refer to List v3 administration.

Visual differences between List v2 and List v3

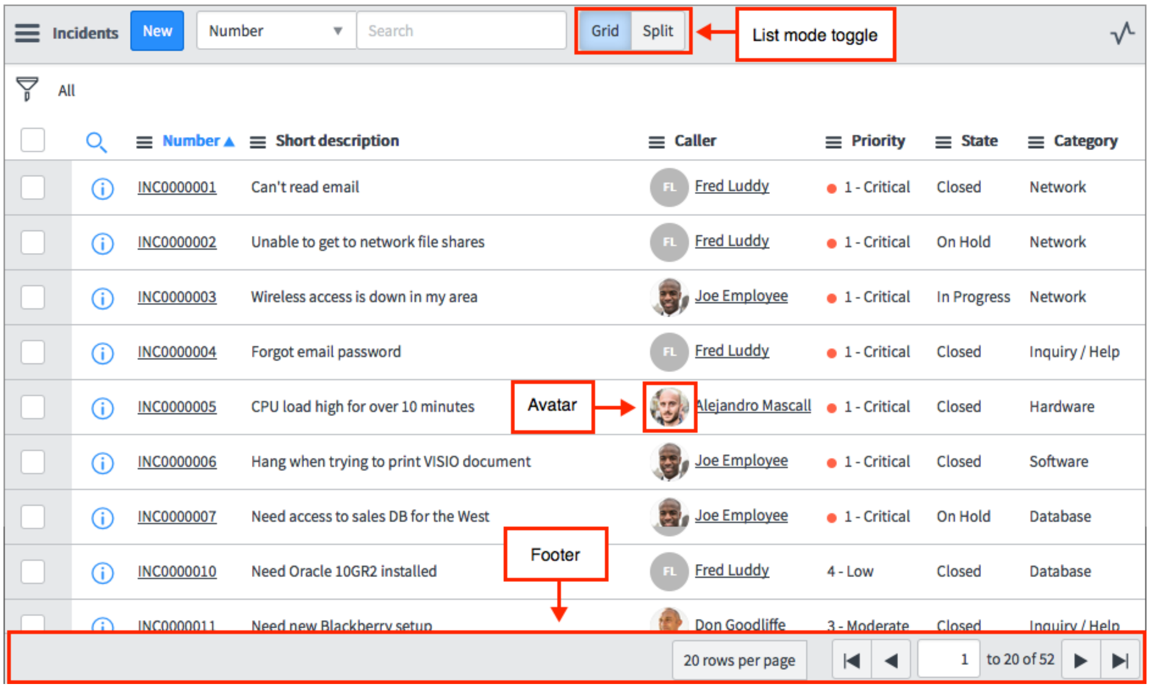
If you are unsure whether a list is v2 or v3, look for the following identifiers.

- The personalize list gear icon appears in the upper left corner of v2 lists. The personalize list option is located in the List title menus.
- Page controls appear in the list title bar of v2 lists.
- The list mode toggle appears in the list title bar of v3 lists. You can switch between the standard list mode, called Grid mode, and a Split list and form mode.
- Avatars appear by user names in v3 lists.
- Page controls appear in a footer at the bottom of the page for v3 lists.
- The response time indicator does not appear on the bottom, right of v3 lists. You can create a property to display the response time in milliseconds (ms) on the lower left in the List v3 footer.

List v2 identifiers



List v3 identifiers



For more information on the differences between List v2 and v3, see the comparison of List v2 and List v3.

Notable changes for upgrades from Kingston to Madrid

Complete the upgrade tasks where necessary to prepare an application or feature for the upgrade process, and complete appropriate migration tasks after the upgrade to protect your data and customizations from changes to the system.

Notable changes to applications and features

> Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Application or feature	Details
Advanced Work Assignment	If you are using Connect Support and want to move to Advanced Work Assignment and Agent Chat, see Migrate from Connect Support to AWA and Agent Chat.
Agent Intelligence	These ML Solution Definition templates are deprecated in the Madrid release and are replaced by a Classification Template: • Assignment Template • Category Template • Priority Template This new template prompts you to choose specific record fields that you can use to build a classification solution. If you upgrade to the Madrid release and you have existing solutions that use one of these deprecated templates, you must update and retrain the solutions to use the new Classification Template. For more information on how to update these solutions in Madrid, see Create and train a classification solution.
Application Portfolio Management	Application Portfolio Management integrates with Service Mapping differently from what it was. The application Instances tab has been removed and the application instances [apm_app_instance] table is no longer used to store application instances data. The application instances table is replaced with the Business Services [cmdb_ci_service] table (if Service Mapping is not installed) or the Discovered Business Service [cmdb_ci_discovered_service] table (if Service Mapping product is installed). Any data in the application instances table for service mapping integration must be migrated to the business service table. If you are upgrading to the Madrid release, then contact ServiceNow personnel for help with migrating the data.

Application or feature	Details
Asset Management	If you have the ITSM Software Asset Management feature enabled using the existing Software Asset Management (com.snc.software_asset_management) plugin on a release prior to Madrid, you can continue to use the Software Asset Management plugin. To migrate from the Software Asset Management (com.snc.software_asset_management) plugin to the Software Asset Management Foundation (com.snc.sams) plugin, consult your service manager. Warning: If you upgrade to Software Asset Management Foundation plugin (com.snc.sams) from Software Asset Management plugin (com.snc.software_asset_management), you cannot revert back to Software Asset Management plugin (com.snc.software_asset_management).
Automated Test Framework	Copy and customize ServiceNow-provided quick start tests to validate that your instance still works after you make any configuration changes such as apply an upgrade or develop an application. Quick start tests are disabled and read-only test templates. By default, they only produce a pass result when you run them with the default demo data that is provided with the application or feature plugin. To make quick start tests produce a pass result when you run them with your instance-specific data, copy and configure them to use your instance data. See Available quick start tests by application or feature. The Run Server Side Script test step supports version 3.1 of the Jasmine testing framework. You can upgrade individual test steps from Jasmine version 1.3 to Jasmine version 3.1. See Run Server Side Script. By default, the system property to run automated tests is disabled to prevent you from running them on a production system. Only run tests on development, test, and other non-

Application or feature	Details
	production instances. See Enable or disable executing Automated Test Framework tests.
Change management	After you upgrade, you can: • Use the new com.snc.change_management.enforce_data_requirements property that provides additional controls along with the existing UI policy and client scripts. When true, it ensures that any updates made from a change request form, such as Workflow, REST/SOAP, JavaScript, or GlideRecord updates adhere to the same mandatory data requirements. This property is installed with Change Management - Core and is set to False by default for upgrade customers. Change the property value to True to use this feature. • Activate the Change Management - Approval Policy plugin so that you can use the new change approval policies. Configuration details are described in Change approval policy. • If you are on Jakarta and above, an upgrade from any version of Cloud Management platform version 2 (CMPv2) is supported. • Catalog items created based on cloud-native templates in releases prior to Madrid on CMPv2, will be treated as blueprint-based catalog items, which means that the underlying template cannot be modified. If you are upgrading, to the current release, from a release prior to Jakarta with the cloud plugins (com.snc.azure, com.snc.aws, and orchestration.vmware) activated on your instance and you decide to activate the Cloud Management plugin (com.snc.cloud.mgmt), then the cloud plugins activated prior to Jakarta may not work correctly. Do not use the cloud plugins (com.snc.azure, com.snc.aws, and orchestration.vmware) because they are deprecated. You must migrate all configurations, discovery schedules, and catalog items to the post-Jakarta Cloud Management plugin (com.snc.cloud.mgmt).

Application or feature	Details
Configuration Management Database (CMDB)	Upgraded instances include the new cmdb_read role. However, the system does not enforce the requirement to use cmdb_read when an application reads data from the cmdb_ci table hierarchy. For information about enforcing the usage of cmdb_read after an upgrade and other related issues, see the New role to read data from CMDB [KB0694559] article in the HI Knowledge Base. The CMDB Workspace plugin (com.cmdb-workspace) is not activated in an upgraded instance. Activate CMDB Workspace to get the functionality of CMDB Agent Workspace.
Connect	If you are currently using the legacy chat feature to provide help desk support, close any open help desk chats before activating Connect Support. Legacy chat and Connect Support cannot be used concurrently. When you activate Connect Support, the system automatically sets the state of all Chat Queue Entry [chat_queue_entry] records to Closed Complete. This ends any open help desk chats.
Credentials	Upgrading Connection information: The JDBC connection [jdbc_connection] and JMS connection [orch_jms_ds] tables extend from the Connection [sys_connection] table. They move from the Orchestration run time plugin (com.snc.runbook_automation.runtime) to the Centralized Connection and Credential plugin (com.snc.core.automation.connection_credential). The upgrade process obtains JDBC and JMS connection information and creates corresponding connection aliases and assigns the alias to its corresponding connection. Upgrading Credential tagging: The upgrade process migrates credential tags to credential aliases. All credential tags in the Credentials table have a corresponding credential alias, comprised of: • Name: alias name • Scope: global

Application or feature	Details
	• ID: alias name The credential tag field type changes from string to GlideList in the Credential table and the credential alias field refers to the created alias records.
Customer Service Management	Before you upgrade, read the information in KB0640006. Upgrading to Kingston from any previous release also requires an upgrade to OpenFrame version 1.0.2. Data migration: To use the new dashboards for existing case records, you must perform a one-time data migration. The procedure populates the new Case Report table. Perform the procedure during off-hours. The process can take several hours, depending on data volume. Note: The Case Report table includes three new calculated metrics: Agent Reassignment Count, First Contact Resolution, and Reopen Count, as described in Customer Service Manager dashboard. To add the Case Report column to the Cases list, navigate to Customer Service > Cases Customer ServiceCases and add the Case Report field. 1. Navigate to System Definition > Schedule Job. 2. Open the CaseDataMigrationForCaseReports record and click Execute Now. 3. When the process finishes, the instance generates a record in the syslog table with the Message column populated with the text "`Case column migration completed`".
Dashboards	Review Dashboards upgrade information for information about responsive canvas and dashboard versions of homepages . Responsive dashboards are enabled by default on new instances. On upgrading instances, responsive canvas must be enabled by an administrator.
Discovery	Discovery identifiers were replaced in the Geneva release, but some systems that were upgraded from pre-Geneva versions to

<table>
<tr><th>Application or feature</th><th>Details</th></tr>
<tr><td></td><td>Jakarta might still be using legacy identifiers. A system property allows these customers to switch to the CMDB identifiers. It is important to note that if Service Mapping is active on your instance, the CMDB identifiers are always used, regardless of how this property is configured.</td></tr>
<tr><td>Edge Encryption</td><td>Upon an upgrade, the newly installed proxy has the same folder name as the previous proxy folder name, and the previous proxy folder is renamed. For example, the previous proxy folder is renamed from EdgeProxy_16001 to backup.dist-upgrade_20181204-144650461, and the new proxy folder is named EdgeProxy_16001.

• Java is no longer included in the Edge Encryption proxy server distribution. The host machine installing or running the Edge Encryption proxy server must maintain a supported version of Java:
  ◦ Java 8 update 121 (8u121)
  ◦ Java 8 update 141 (8u141) and later
Note: Java 8 update 131 (8u131) is not supported. Before installing the Edge Encryption proxy server, check that the $JAVA_HOME variable is pointing to a supported version of Java for each user that runs the proxy server. For example, if installing the proxy server as a local administrator on Windows, check that the $JAVA_HOME variable is pointing to the correct version of Java system-wide. If installing on Linux, check that each user that will run the proxy server has this variable correctly defined. If a supported version of Java is not found, the proxy server will not run.

• If using AES 256-bit encryption, copy the Java Cryptography Extension (JCE) jurisdiction policy files into the system Java home directory of each Edge Encryption proxy server host. Add these files to the <Java-home-directory>/jre/lib/security folder before performing a scheduled or manual upgrade. To install the 256-bit encryption policy files, see Optionally enable AES 256-bit encryption.</td></tr>
</table>

Application or feature	Details

	• When you upgrade from previous releases, you may encounter an issue during Edge Encryption proxy server upgrades because the proxy has not yet been upgraded to handle newly introduced request and response codes. During the proxy upgrade, a message like the following may appear in the proxy logs:
	`Error:`
	`2018-05-25 09:48:44,758 WARN  Unexpected response code 555 from the ServiceNow instance "10.11.87.4:16001". Will try again in 5 seconds.`
	`2018-05-25 09:48:44,784 ERROR Update stats received error code : 555 : ServiceNow instance is currently being upgraded`
	`2018-05-25 09:48:49,862 WARN  Unexpected response code 555 from the ServiceNow instance "10.11.87.4:16001". Will try again in 5 seconds.`
	The solution is to restart the proxy and then retry the proxy upgrade.

Event Management	The upgrade process moves your instance to a new ServiceNow release version. Upgrading and patching your instance requires planning, testing, and validation. To ensure a safe and effective upgrade, create upgrade plans and test your upgrade on non-production instances before upgrading your production instance.
Event Management and Service Analytics	During an upgrade to the Jakarta release, a script converts and moves Event Management rules and events for the release. Even though this script runs automatically, there are configuration tasks you must complete after the upgrade.
Field Service Management	When you upgrade from a previous release, six event type schedule entries are available by default. You can choose to activate these event type configurations to create schedule entries. You must deactivate any existing Events configuration that overlaps with the newly created schedule entries. For more

Application or feature	Details
	information on configuring event types, see Configure the agent calendar. You can optimize the agent task routes for the current date. However, if the SMTaskRouting script was modified in an earlier release, the agent route is optimized, but it does not take the agent schedule and agent time off into consideration. For more information on optimizing task routes, see Route optimization.
Financial Management	The upgrade instructions do not apply to Project Portfolio Planning (Portfolio Budget Model) as it is automatically upgraded as part of the Madrid upgrade. Financial Management is no longer dependent on its use of IT DataMart. The DataMart Definitions have been upgraded to Financial Management Segments in Istanbul. New segments required for cost model or budget model must henceforth be created in Financial Management Segments.
Flow Designer	• Flows created before the upgrade default to run as the System user, which means that the flows bypass normal access controls. New record-based flows default to run as the user who triggers the flow. • Flows using the Always option for Created or Updated or Updated trigger types in previous releases use the Only if not currently running option. Use the For each unique change option to trigger a flow for every unique change, even if the flow is running.
GRC: Policy and Compliance Management	The GRC: UCF Import (com.snc.ucf_import_add_on) plugin was deprecated and replaced by the new GRC: Compliance UCF (com.sn_comp_ucf) plugin.

Application or feature	Details
	Note: If your GRC entitlement date is before December 1, 2016, you are entitled to a free UCF CCH account for the period of December 1, 2016 through November 30, 2018. For customers on Helsinki (Patch 7 and above), or Istanbul and whose effective GRC entitlement date start on Dec 1, 2016 or after, you need to sign up for a UCF CCH account and customize your basic subscription to include API Access. For more information about establishing a UCF CCH account, see Unified Compliance.
Guided Setup	The new plugin that provides a new, process-centric version of guided setup is introduced in this release. The ITSM Guided Setup plugin (com.snc.guided_setup_metadata.itsm) is active by default for new customers. Upgrading customers can activate the plugin to view the new version of guided setup. One or both versions appear as modules in the navigation pane or as links on the System Administration homepage. They appear as ITSM Guided Setup or ITSM Guided Setup (Old). ITSM Guided Setup (Old) takes you to the guided setup created in the Helsinki and Istanbul releases. The administrator can hide the version that you do not want to use. Note: The plugin name, ITSM Guided Setup, is the same for both old and new versions, but the plugin ID is different.
Guided Tour Designer	The Guided Tour Designer was first introduced in the Jakarta release with support for guided tours on the standard platform UI. For new instances created in Jakarta and beyond, guided tours are active by default. For instances originating from pre-Jakarta, guided tours are inactive by default. See Activate guided tours to enable the feature on your instance. With the Madrid release, you can also enable guided tours to run on Service Portal pages. When you upgrade your instance to Madrid, the following results occur.

Application or feature	Details
	• For instances that are new in Madrid, the Guided Tours for Service Portal feature is active by default. • For pre-Madrid instances that you upgrade to Madrid, the Guided Tours for Service Portal feature is inactive by default. • To run guided tours on Service Portal pages, ensure the com.glide.guided_tours.enable and glide.sp.guided_tours.enable properties are both set to True. See Activate guided tours to enable the feature on your instance.
HR Service Delivery	Note: When upgrading from the Istanbul release, HR document templates have a new field. The Document type field helps to filter a list of document types so that HR Criteria can apply the necessary document based on the conditions of an employee. HR criteria works with this field to further narrow the list of document templates you want available for an HR case. Because Istanbul did not have this field, you must create new or select an existing document type for your document templates. See Document Types.
Knowledge Management	The Knowledge Management Core plugin (com.glideapp.knowledge) is active by default for new or upgrade customers. The Knowledge Management with KCS plugin (com.glideapp.knowledge2) is planned for deprecation. Some of the key differences between Legacy Knowledge and Knowledge v3 are: • Multiple knowledge bases (instead of one knowledge base) • Separate customizable workflows available for each knowledge base (instead of a single lifecycle shared by all articles)

Application or feature	Details
	• Category structure that supports any number of levels (instead of a two-level organizational structure using Topic and Category) • Permissions defined per knowledge base and article, using user criteria (instead of per article, using roles and ACLs) For additional upgrade considerations, see the links under Migrate .
MetricBase	Legacy triggers are available only to upgraded instances. New activations of the MetricBase application do not include legacy triggers.
MID Server	If an unsupported version of the Java Runtime Environment (JRE) is running on a MID Server when the MID Server is upgraded, the upgrade process replaces that JRE with the OpenJDK that is bundled with the MID Server installer. If a supported JRE is running on the MID Server host, the upgraded MID Server uses that Java version. MID Server hosts for instances upgraded from London do not require connection to the download site at install.service-now.com. The auto-upgrade process for MID Servers in Madrid is handled through the instance. However, upgrades from Kingston or earlier require that each MID Server host machine have access to the download site. For additional details about how MID Server upgrades are managed and where to look for errors, see MID Server upgrade. For additional information about MID Server upgrades, see: • MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade. • Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

Application or feature	Details

	• There is a new process for accessing the install.service-now.com download site for MID Server upgrades. New ServiceNow® instances handle all traffic from the download site, which eliminates the need for MID Server host machines to connect with install.service-now.com. However, instances upgraded to the London release require their MID Servers to send their initial upgrade requests through install.service-now.com. After the first upgrade, MID Servers can send subsequent auto-upgrade requests directly to the instance, when the mid.download.through.instance system property is set to true. For details, see MID Server upgrade.
	• The change to the Java Runtime Environment (JRE) installation procedure for new MID Servers does not affect upgrades of existing MID Servers. These MID Servers receive the supported JRE version when they upgrade.
	• For additional information about MID Server upgrades, see:
	  ◦ MID Server pre-upgrade check: Describes how the AutoUpgrade monitor tests the MID Server's ability to upgrade on your system before the actual upgrade.
	  ◦ Upgrade the MID Server manually: Describes how to upgrade your MID Servers manually.

Notifications	This release introduces a new Email Client Configuration feature and a Connection Security option on the Email Account form for choosing the secure connection for your email server. These features are enabled in new and upgraded instances. When you upgrade to this release, the following items are migrated if you previously set them in your instance: • The secure connection mode that you selected for your email server in the Email Account form (Enable TLS and Enable SSL fields). • The email client property settings for controlling: ◦ Email address autocomplete (glide.ui.email_client.autocomplete.group)

Application or feature	Details
	- From and Reply To email addresses displayed in the email client (glide.ui.email_client.from and glide.ui.email_client.reply_to) - Email address recipient qualifiers (glide.ui.email_client.email_adresss.disambiguator and glide.ui.email_client.email_address.disambiguator_search) The email client property settings are preserved in a default email client configuration created during upgrade. You can view the default configuration in the new Email Client Configuration [sys_email_client_configuration] table. These email client properties are also deprecated in this release because these features can be set using email client configurations. If you want to enable randomized watermarks in email notifications for upgraded instances, activate the Random Watermark Support plugin (com.glide.email.random_watermark). This plugin includes system properties for managing a watermark transition period, during which the system recognizes both randomized watermarks and non-randomized watermarks in emails created before upgrading. For details, see Notifications upgrade information.
Notify	The legacy Notify-Twilio driver (com.snc.notify.twilio) plugin is now being replaced by a Notify-Twilio Direct driver (com.snc.notify.twilio_direct). A Migrate Now button for one-click migration from the legacy driver to the new Notify-Twilio Direct driver is provided. The Notify core plugin now provides JS Telephony Driver support that enables you to code your own integrations in JavaScript by using the platform capability of JS Extension Point. In prior releases, the Notify-Twilio Driver (com.snc.notify.twilio) enabled voice and SMS services provided by Twilio. This driver has been replaced by the Notify-Twilio Direct Driver (com.snc.notify.twilio_direct). Both the drivers work

Application or feature	Details
	simultaneously provided they are configured with two separate accounts. The migration to the new driver has the following impact. 1. Notify participant records will remain inactive until a participant joins a conference. Previously, they were set to active by default. 2. If you are using the previous driver, the participant record is activated after a minor delay. Note: New customers will have access only to the new Notify-Twilio Direct driver plugin. If the Legacy Notify plugin (com.snc.notifynow) is activated on the instance: • The Legacy Notify plugin and the Notify plugin (com.snc.notify) can coexist and work independently because they use different tables, properties, and API namespaces. You must also use two different Twilio accounts for both plugins to work. • The Legacy Notify plugin and the Notify plugin (com.snc.notify) can be simultaneously instantiated on the same instance. However, the applications must be configured with different Twilio accounts or sub-accounts. • Notify account setup can be configured for a single number within an account (Legacy Notify) or for multiple numbers (Notify). • Conference call flow is hard-coded in Legacy Notify. Notify uses a workflow-driven conference call approach. • Legacy Notify and Notify use independent properties and schemas. • Legacy Notify modules are moved to the Notify menu in the application navigator. • Notify includes the notifynow_admin user role.

Application or feature	Details
	• Updates the Category field for all workflow activity to display Legacy Notify rather thanNotifyNow. If the Incident Alert Management plugin (com.snc.iam) is activated on the instance: • And Notify is activated for the first time, the appropriate scripts are installed for Notify integration. • And Legacy Notify has been previously configured with Incident Alert Management and the Notify plugin is activated, Incident Alert Management continues to use Legacy Notify properties. • To switch to the Notify plugin, configure the Twilio account and upgrade the Incident Alert Management plugin. If the On-Call Scheduling plugin (com.snc.on_call_rotation) is activated on the instance, the appropriate files related to On-Call Scheduling and Notify are installed.
On-Call Scheduling	Upgrading from previous versions is automatic, and all events are recorded in the upgrade logs (System Diagnostics > Upgrade History). • The existing On-Call plugin has been changed. When you upgrade, the plugin changes are applied automatically (this action is not optional). • The group device functionality is deprecated in favor of a Catch All person. • On-call Scheduling replaces the existing business rules for escalations with escalations based on Graphical Workflow. • The workflow uses Notification Activities, so it sends emails and not SMS messages. It must be modified to use Create Events activities to send SMS messages.

Application or feature	Details
	See Upgrade to on-call scheduling for links to other changes that you should be aware of as you transition to on-call scheduling.
Operational Intelligence	• In Madrid, user-specified width override values are replaced by new advanced settings that are used internally to calculate width values. Width override values are preserved through an upgrade to Madrid and are being used internally. However, they do not appear in the UI and you cannot modify them. When you use the Bounds Settings wizard in an upgraded instance and you select a metric class that has a width override value, a notification appears. To use the new advanced settings in the Bounds Settings wizard, accept the notification to delete the width override values from an earlier release. For more information about the Bounds Settings wizard, see Custom bounds settings. • During the upgrade to Madrid, the Apache Ignite software that runs on Operational Intelligence MID Servers in MID Server distributed clusters is upgraded to version 2.5.3. After you upgrade all the MID Servers in the MID Server distributed cluster to Madrid, restart these Operational Intelligence MID Servers to complete the Apache Ignite upgrade. You might have some data loss during the time that the MID Servers upgrade starts until the MID Servers are restarted. To minimize this data loss, before you start the upgrade to Madrid, disable the metric connectors. After the upgrade completes, set the max_fetch_interval_min parameter to how long the connectors were down and then enable the connectors so that the missing data is pulled. After upgrading to Madrid, the default Event Management binding workflow which binds nodes to host CIs, is disabled for metric events. If you relied on this binding before the upgrade, then to allow host binding for metric events after upgrade,

Application or feature	Details
	explicitly create a host binding event rule as described in Create an event rule to map metrics to host CIs.
Password Reset	Platform feature – upgraded by default. Note: The Password Reset application is not available during upgrade.
Project Portfolio Management	Two new dashboards have been added with the new Performance Analytics – Content Pack – Project Portfolio Suite with Financials (com.snc.pa.pmo_dashboards) plugin. If you are upgrading and you activate the new plugin, two new navigation links are available in PPM: • Portfolio dashboard • Program dashboard The following pre-Madrid navigation links are still available after upgrading. Review the existing and the new dashboards and deactivate the older ones if required. • Portfolio manager dashboard • Program manager dashboard • PMO dashboard • Planning Console: If you are upgrading, the Client side planning console functionality for project scheduling is disabled. To enable the functionality, you must: 1. Set the project property Enable firing of Business Rules on save from Planning Console to false, if it was set to true before upgrade. 2. Set the Enable Client Side Planning check box to true.

Application or feature	Details
	Note: If you do not have any custom business rules on the fields listed below, mark Fire BR on Save to false for these fields in planning console column configuration: • State • Percent Complete • Actual start date • Actual end date • Resource Management: Changes made to allocated hours now update only allocated hours in the resource plan. Prior to this, it had updated the planned hours. Because of this change, if you have customizations around Planned or Allocated hours and cost on the resource plan or resource allocation, you need to alter these in the Madrid release. • Demand Management: On a demand form, the value for the new Assessment Required field is set to true for all existing demands on upgrade.
Project Portfolio Suite with Financials	• After you upgrade the instance, the default value of the Retain start on constraint on tasks after adding relations property is now set to true and cannot be changed back to false. As a result, the upgraded instances that had the property set to false can experience a change in behavior of time constraint when a relation is added to a task. After relations are added to a task, the start date of the task is not affected. • A default flow formatter has been enabled in the Project form in the Kingston release. If you have configured flow formatter before upgrade to Kingston, you need to revisit the configuration. You can disable the stages either from the

Application or feature	Details
	existing custom formatter or from the newly added formatter as needed.
Reporting	Report Charting v2 is automatically used, and Reporting v1 can no longer be used after an instance is upgraded. The Report Charting v2 plugin uses the Highcharts charting library to generate reports on the client. This plugin generates all the reports in the ServiceNow report set. Note: Scheduled reports, custom charts, and reports saved as PDF are generated on the server using the Highcharts charting library. As a result, these types of reports sometimes appear differently than reports generated on the client side.
Schedules	Domain separation functionality is introduced for schedules.
Security Incident Response	Application administration Application administration is enabled for Security Incident Response by default. If you are upgrading from a version earlier than Jakarta, verify whether you have added custom tables to Security Incident Response. If so, and your custom tables rely on global ACLs, you may need to recreate those global ACLs in the Security Incident Response scope after the upgrade. If you added custom roles or custom ACLs, retest them after the upgrade and ensure the assignable by attribute on the roles is set correctly to allow access to application administration. After you upgrade, but prior to configuring the Splunk - Incident Enrichment integration or any other integrations that support sighting search (for example, Elasticsearch, HPE ArcSight, McAfee ESM, and IBM QRadar), please contact ServiceNow support to manually activate the com.snc.core.automation.api plugin. The configuration will not function properly if this action is not taken.

Application or feature	Details
Security Incident Response	If you are upgrading directly from Jakarta or Kingston to this release (skipping the London release), navigate to System Definition > Fix Scripts, and run the Update integrations to multi domain fix script to allow certain integrations to have multiple configurations defined. For example, if you have multiple Splunk instances, you can create connections and queries that run sighting searches across multiple Splunk instances. After the fix script has run, return to System Definition > Fix Scripts and deactivate the fix script. It is important that the script is not allowed to run more than one time.
Service Catalog	Before upgrading, you should be aware of changes that were made to the underlying Service Catalog data model. These changes affect the way that you implement multiple service catalogs. For details, see Upgrade to multiple service catalogs. If you are upgrading from a version prior to the Fuji release, see Migrate cart layouts.
Service Mapping	After you upgrade from a previous release, complete the following tasks: • Make sure that discovery errors are categorized by rediscovering CIs that were discovered before the upgrade with errors. For details, see Categorize discovery errors after Service Mapping upgrade. • Make sure that discovery errors hidden before the upgrade do not reappear in business maps. To resolve these errors, rediscover all CIs using the All Applications schedule.
Service Portal	• In new instances, search facets are enabled by default. If upgrading from a previous release, enable search facets by activating a record in the Page Route Maps [sp_page_route_map] table. See Enable search facets.

Application or feature	Details
	• Validate user input in a specific field type using a validation script. In new instances, Service Portal includes XML, Script, Script (Plain), Email, and Version validation scripts by default. If upgrading from a previous release, the Mobile and Service Portal version is not active by default. You must activate the Mobile and Service Portal version of the validation script to validate user input in the Service Portal. See Activate Service Portal validation scripts. • In new instances, guided tours in Service Portal are enabled by default. If upgrading from a previous release, you must enable the com.snc.guided_tours.sp.enable system property to create a guided tour in Service Portal. See Activate guided tours for Service Portal. • Announcements are active on new instances. To activate announcements after upgrade, activate the Service Portal Announcements plugin (com.glide.service-portal.announcements). • The Font Awesome library has been upgraded to version 4.7 and includes new icon names and syntax changes. If your Service Portal implementation includes custom use of the Font Awesome library, you may need to update icon names in your custom widgets. For more information, see the Font Awesome GitHub upgrade guide.
Software Asset Management	Warning: You must revert customizations after installing Software Asset Management for the first time, or upgrading from Software Asset Management Foundation plugin, for all features to function as intended. The Revert Customizations module in Software Asset Management administration reverts customizations of files related to Software Asset Management to base configuration that were skipped during the installation or upgrade process. For more information, see Revert Software Asset Management customizations.

Application or feature	Details
	Warning: If you upgrade to the Software Asset Management (com.snc.samp) plugin from the Software Asset Management plugin (com.snc.software_asset_management), you cannot revert to the Software Asset Management plugin (com.snc.software_asset_management).
Subscription Management	A fix job runs during the upgrade and creates an inventory of all global and scoped custom tables that currently exist in your production instance. A scheduled job runs after the completion of the upgrade and creates an inventory of the number of custom tables that each user can access. Platform feature – upgraded by default.
Time Card	When you upgrade to the Kingston release, a default rate type named Standard is available through the Rate Type feature. This rate type is available only if the user's default time sheet policy has the Allow multiple rate types field selected.
UI	When you upgrade to this release, your instance is updated with the new ServiceNow branding. Any customizations you have made to the system theme are not updated. You can revert to the previous theme by changing the system defaults in the Basic Configuration UI16 module. For more information on switching the system defaults, see Configure logo, colors, and system defaults for UI16. UI15 is not affected by these changes, with the exception of the icon that appears on the browser tab. You can update the icon by changing the value for the glide.product.icon system property. • UI11 is no longer available. Use UI15 or UI16 instead. • Pop-up forms are no longer available.

Application or feature	Details
	• The List v3 plugin is no longer available for new deployments.

Virtual Agent	• Migrating Virtual Agent topics: Conversation topics created in the London release are fully supported in this release and are not changed during upgrade. After upgrade, you can update your topics, for example, to use new features such as the no-code controls available in Virtual Agent Designer.
	• Using Slack Enterprise Grid after upgrading:
	  ◦ If you have Slack Enterprise Grid workspaces, your end users can move between those workspaces and use the Virtual Agent bot from any workspace.
	  ◦ Your end users must relink their ServiceNow accounts to the Virtual Agent messaging integration for Slack.
	  ◦ If you upgrade to Slack Enterprise Grid after upgrading to this release, an upgrade script runs automatically to complete the upgrade for the Slack messaging integration.

Vulnerability Response	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have a large number of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Response activities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see the Kingston Vulnerability Response release notes.

Application or feature	Details
	If you are upgrading from Kingston, existing CI Identifier Rules are disabled by default, but not removed. These rules appear in Security Operations > CMDB > CI Lookup Rules. To reenable, open a rule and enter values for the Source and Source field fields, select the Active check box, and click Submit. To reduce upgrade time, if you have the Qualys product or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you add custom tables that rely on inherited ACLs, you must recreate the ACLs in that custom table. If you add custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. If you upgraded from a previous version of Vulnerability Response, your original Overview page is stored in the Overview (Legacy) module in the left navigation pane. If you created a customized homepage overview, the overview is overwritten by the new reports dashboard. To access your customized homepage, Create a new module for your customized homepage and add it to the Vulnerability Response application. If you are upgrading from a previous version, you can begin using the Vulnerability Response new features immediately. All updates to Vulnerability Response are only available in the ServiceNow Store. If you have previously installed Vulnerability Response and want an update from the ServiceNow Store, you do not need to activate the Dependencies (com.snc.vul_dep) plugin prior to installing the Vulnerability Response update.

Application or feature	Details
	For releases prior to Kingston, during upgrade the Vulnerable Item table is reparented to improve performance. If you have large numbers of vulnerable items, the upgrade process may take additional time. No special handling is needed, however, you should stop any Vulnerability Responseactivities prior to upgrade and record your vulnerable item count. Once complete, verify that your pre- and post-upgrade vulnerable item counts match each other. For more information on the impact of reparenting, see the Upgrade impact of reparenting change in the Kingston release [KB0680550] article in the HI Knowledge Base. For information on the upgrade impact to existing instances, see the Vulnerability Response: FAQ for Kingston Upgrade [KB0680543] article in the HI Knowledge Base. This information does not apply if you upgrade from Kingston to this release. For Kingston release information, see Kingston Vulnerability Response release notes. To reduce upgrade time, if you have Qualys or a third-party integration installed, delete all attachments on your integration data sources. You can find the attachments by navigating to System Import Sets > Administration > Data Sources and searching by integration. See Manage attachments for more information. Application administration is not enabled, by default, in Vulnerability Response for upgrades. If you have added custom tables that rely on inherited ACLs, you must recreate the ACLs on that custom table. If you added custom roles or custom ACLs, and you enable Application administration, retest those roles and ACLs after upgrading. Ensure the assignable by attribute on the roles is set correctly to enable access to application administration. Note: Once enabled, Application administration cannot be disabled. Existing CI Identifier Rules are disabled by default but not removed. They appear in Security Operations > CI Lookup Rules. To reenable, open a rule and enter values for Source and Source field, select the Active check box, and click Submit. When upgrading from a version prior to Kingston, the Vulnerable Items by Remediation Target Status report does not appear in

Application or feature	Details
	the Vulnerability Response Overview and must be added manually. Rapid7 Upgrade: Unmatched configuration items (CIs) from previous versions of Rapid7 are transferred and listed in the Discovered Items module. However, these unmatched CIs cannot be reclassified using the Reclassify button. They must be reclassified manually. See Reclassify unmatched configuration items from Discovered Items. If you are upgrading Vulnerability Response to London Now platform, Patch 5 there is nothing to do to continuing using Vulnerability Response. Going forward, all updates to London Vulnerability Response are only available in the ServiceNow Store.
Walk-up Experience	Before upgrading, be aware that the following feature changes can affect your customizations: • Your online check-in, as well as the onsite queue and onsite check-in interfaces are updated to reflect the new data model and features. • Reports using Queue for grouping should use Location due to a change in the Interaction [interaction] table. Filtering is done based on Channel instead of Type. • Notifications may no longer trigger due to State changes in interactions, such as the On Hold state. Reevaluate your custom notification conditions. • Business rules and other logic running on fields that are deprecated, for example, Queue on the Interactions form.

Changes to plugins

This table lists new plugins in the Madrid release and existing plugins that were deprecated, renamed, or changed in some way.

Plugin	Status	Description	Details
Action Status Automation [com.sn_action_status]	New in Madrid	This plugin tracks blocking records created for tasks and updates the action status indicators on the task list.	
Advanced Work Assignment [com.glide.awa]	New in Madrid	Automatically assigns work items to agents based on their availability, capacity, and skills.	
Advanced Work Assignment for CSM [com.sn_csm.awa]	New in Madrid	Configuration data supporting routing, queuing, and assignment of CSM Cases.	
Advanced Work Assignment for Incidents [com.snc.incident.awa]	New in Madrid	Default configuration to support Advanced Work Assignment for Incident	
Agent Chat [com.glide.interaction.awa]	New in Madrid	Enables Workspace Agent Chat and the Chat service channel in Advanced Work Assignment.	
Agent Intelligence	New in Madrid		

Plugin	Status	Description	Details
[com.glide.platform_ml]			
Agent Intelligence Reports [com.glide.platform_ml_pa]	New in Madrid		
Agent Schedule [com.snc.agent_schedule]	New in Madrid	Enables customer service agents and field service technicians to see work schedules and assignments and also add personal events such as meetings or appointments.	
Agent Workspace [com.agent_workspace]	New in Madrid	All-in-one app enabling CSM/ ITSM agents to provide world-class service at light speed.	
Agent Workspace - Ribbon [com.snc.agent_workspace.ribbon]	New in Madrid	Workspace Ribbon Configuration.	
Agile - Scaled Agile Framework - Essential SAFe [com.snc.sdlc.agile.multi_task]	Madrid	Scaled Agile Framework was designed to apply Lean-Agile principles to the entire organization. Essential SAFe is most basic	

Plugin	Status	Description	Details
		configuration of the framework and it provides the minimal elements necessary to be successful with SAFe: manage your agile release train backlog, plan program increments, implement stories, and track sprints.	
Agile - Scaled Agile Framework - Portfolio SAFe [com.snc.sdlc.portfolio_safe]	New in Madrid	Use Portfolio SAFe to apply lean and agile principles to your portfolio work.	
Agile Development 2.0 - ATF Tests [com.snc.sdlc.agile.2.0.atf]	New in Madrid	Agile Development 2.0 - ATF Tests provides you test cases and test suites that can be run on the Agile Development 2.0 application.	
Application Portfolio Management - ATF Tests [com.snc.apm.atf]	New in Madrid	ATF tests for Application Portfolio Management.	
Automated Test Framework - Custom UI	New in Madrid	Adds ability to test custom UI.	

Plugin	Status	Description	Details
[com.glide.automated_testing_impl.custom_ui]			
Automated Test Framework - Parameters [com.glide.automated_testing_impl.parameters]	New in Madrid	Adds ability to parameterize ATF tests.	
Automated Test Framework - Reporting [com.glide.automated_testing_impl.report]	New in Madrid	Automated Testing Framework Reporting test step configuration.	
Automated Test Framework - Responsive Dashboards [com.glide.automated_testing_impl.dashboards]	New in Madrid	Automated Testing Framework Responsive Dashboard test step configuration.	
Automated Test Scripts For Survey [com.glide.automated_testing_impl.survey]	New in Madrid	Automated Test Scripts For Survey	
Base Upgrade Logger [com.glide.base_upgrade_logger]	New in Madrid		
Change Management - ATF Tests	New in Madrid	This plugin loads ATF tests for	

Plugin	Status	Description	Details
[com.snc.change_management.atf]		Change Management when the Change Management - State Model plugin is active.The demo data for this plugin is required to successfully execute these ATF tests.	
Chef Activities com.snc.orchestration.activities.chef	Planned for deprecation in release New York		
CMDB Search [com.snc.cmdb_search]	New in Madrid	Query-like search on CMDB CIs and relationships. Converts a free-style query with configurable synonyms and stop words, into a properly formulated query on CMDB tables.	
CMDB Workspace [com.cmdb-workspace]	New in Madrid	Plugin to enable CMDB capabilities to workspace.	
Coaching	New in Madrid	The Coaching module facilitates the	

Plugin	Status	Description	Details
[com.sn_coaching]		coaching of employees on their work through the use of coaching opportunities (critical moments in a process) that can be conditionally configured.	
Context-Sensitive Help Rest API [com.glide.context_help.rest_api]	New in Madrid	REST API for the context-sensitive help system.	
Continual Improvement Management Automated Tests [com.sn_cim_atf]	New in Madrid	ATF plugin for Continual Improvement Management (CIM).	
Conversation Branding Settings [com.glide.cs.branding]	New in Madrid	Conversation Branding Settings	
Conversation General Settings [com.glide.cs.settings]	New in Madrid	Conversation General Settings	
CSM Lookup and Verify	New in Madrid	CSM Lookup and Verify	

Plugin	Status	Description	Details
[com.snc.sn_csm_lookup_verify]			
CTI Softphone [com.snc.cti]	New in Madrid	Enables Twilio integration using Notify and OpenFrame to provide softphone functions and call center capabilities. These include make, receive phone calls, transfer, hold and mute. Applications like Customer Service and Incident Management provide demo workflows for CTI.	Please re-activate respective applications where you require CTI demo workflows.
Customer Service Virtual Agent Conversations [com.sn_csm.virtualagent]	New in Madrid	CSM Virtual Agent Conversations	
Customer Service with Request Management [com.sn_cs_sm_request]	New in Madrid	Provides an integration between Customer Service Management and the Request Management application. Enables users to	

Plugin	Status	Description	Details
		create request records from a Customer Service case.	
Customer Service with Service Management [com.sn_cs_sm]	New in Madrid	Provides an integration between Customer Service Management and the Incident, Problem and Change Management applications. Enables users to create incident, problem and change records from a Customer Service case.	
Email Address Filter [com.glide.email_address_filter]	New in Madrid	APIs and data structures for email address filtering.	
Email Client [com.glide.email_client]	New in Madrid	Enables you to send email directly from any record.	
Encrypted Workflow Scratchpad [com.snc.encrypted.scratchpad]	New in Madrid	Encrypted Scratchpad support on the Workflow Context and Workflow Executing Activities.	

Plugin	Status	Description	Details
Fixed Costs [com.snc.fixed_costs]	New in Madrid	Fixed Costs	
Flow Client [com.glide.hub.flow.client]	New in Madrid	The client side API for interacting with flows, subflows, and actions.	
Flow Designer Action Step - Payload Builder [com.glide.hub.action_step.payload]	New in Madrid	Action Step - Payload Builder	
Flow Designer support for the Service Catalog [com.glideapp.servicecatalog.flow_designer]	New in Madrid	Service Catalog Flow Designer	
Glide Conversation Server Adapters [com.glide.cs.adapter]	New in Madrid	Glide Conversation Server Adapters	
Glide Virtual Agent [com.glide.cs.chatbot]	New in Madrid	Activates the Virtual Agent framework and the other necessary plugins.	
GRC: Risk Management Dependencies	New in Madrid	Installs all the dependent plugins required	

Plugin	Status	Description	Details
[com.snc.grc_risk_dep]		to support the GRC Risk Management application.	
GRC: Vendor Risk Management Dependencies [com.snc.grc_vrm_dep]	New in Madrid	Installs all the dependent plugins required to support the GRC Vendor Risk Management application.	
HR Performance Analytics (aka Modules IT) [com.snc.pa.hr_core, com.snc.pa.hr.context_sensitive_analytics, com.snc.hr.pa" plugins are set to “retired" state]	Planned for deprecation in release New York.		
Incident Alert Management [com.snc.iam]	Changed in Madrid	Renamed to Incident Communication Management	
Incident Management - ATF Tests [com.snc.incident.atf]	New in Madrid	Provides Incident Management ATF Tests.	
Instance Security Center [com.glide.instance_sec_center]	New in Madrid	This plugin activates the Instance Security Center Portal. Search for Instance Security Center in the left	

Plugin	Status	Description	Details
		navigation menu.	
Interactions Management [com.glide.interaction]	New in Madrid	Activates the Interactions Management System.	
ISD Dashboard [com.glide.security.dashboard]	Deprecated and not supported in release Madrid.		
ITSM Mobile [com.sn_itsm_mobile]	New in Madrid	ITSM Mobile Experience	
ITSM Virtual Agent Conversations [com.snc.itsm.virtualagent]	New in Madrid	This plugin contains prebuilt conversation topics for ITSM related use cases.	
ITSM Workspace [com.snc.agent_workspace.itsm]	New in Madrid	ITSM Agent Workspace	
Keylines Business Service Maps [com.snc.keylines_bsm_map]	New in Madrid	An interactive and graphical interface to visualize Configuration Items (CIs) and their relationships. Provides filtering capabilities to	

Plugin	Status	Description	Details
		manage data being displayed, allowing for configuration by the user to view in context to their role. Additional capabilities provide for the displaying of related tasks such as Incidents, Problems, Changes and Certification Tasks.	
Knowledge Blocks [com.snc.knowledge_blocks]	New in Madrid	This plugin adds an advanced editing feature to Knowledge Management which allows user to create re-usable content blocks that can be included in existing knowledge articles. This feature will give the ability to have one large article and be able to just display pieces of that article to specific users.	
KMv2	Planned for deprecation in release Orlando.		

Plugin	Status	Description	Details
[com.glideapp.knowledge2]			
Knowledge Management Core [com.glideapp.knowledge]	New in Madrid	Installs the core Knowledge Management items used to allow other Knowledge related plugins to work, such as Knowledge V3, Knowledge Advanced, Knowledge Service Portal.	This plugin is activated by default.
Knowledge Management with KCS [com.glideapp.knowledge2]	Planned for deprecation in Release Orlando		
Legacy Notify [com.snc.notifynow]	Deprecated in Release New York.		
Legacy Survey [com.snc.bestpractice.task_survey, com.glideapp.survey com.snc.assessment, com.glideapp.survey_wizard]	Deprecation in Release New York.		
Live Agent Conversation Settings	New in Madrid	Live Agent Conversation Settings	

Plugin	Status	Description	Details
[com.glide.cs.live_agent_settings]			
Lookup and Verify [com.snc.sn_lookup_and_verify_config]	New in Madrid	This plugin packages the lookup and verify functionality.	
Mobile Studio [com.glide.sg-studio]	New in Madrid	Plugin for Mobile Studio	
Modules IT [com.snc.pa.hr_core] [com.snc.pa.hr.context_sensitive_analytics] [com.snc.hr.pa]	Planned for deprecation in Release New York		
Okta [com.snc.sso.okta	No longer supported as of Madrid.		• Not available for new deployments. • Activation: Requires ServiceNow, Inc. personnel support.
On-call Scheduling Table Name change "Rota to Shift" [com.snc.on_call_rotation]	Table renamed in Madrid.		

Plugin	Status	Description	Details
Outlook Actionable Messages [com.sn_ms_oam]	New in Madrid	Outlook Actionable Messages	
Performance Analytics - Content Pack - Advanced Work Assignment [com.snc.pa.awa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Advanced Work Assignment, along with visualizations and a dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Analytics [com.snc.pa.premium.content_analytics]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Content Analytics, along with visualizations and the following dashboards: • Content Analytics • Content Analytics - Basics	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Automation	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.premium.content_automation]		breakdowns for Content Automation, along with visualizations and the following dashboards: • Campaign Overview • Campaign Analytics	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Customer Service Management - Advanced [com.snc.pa.customer_service_advanced]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Customer Service Management. Has the contents of the older Performance Analytics - Content Pack - Customer Service plugin, but also supports the following features: • Major Issue Management • Customer Service Case Action Status • Customer Service with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		Request Management • Customer Service with Service Management • Agent Chat • Advanced Work Assignment for CSM • Performance Analytics - Content Pack - Advanced Work Assignment	
Performance Analytics - Content Pack - GRC: Policy and Compliance Management [com.sn_compliance_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Policy and Compliance along with improved visualizations presented on the following dashboards: • Control Owner • Compliance Manager	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		• Compliance Executive	
Performance Analytics - Content Pack - GRC: Risk Management [com.sn_risk_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Risk Management along with improved visualizations presented on the Compliance Executive dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - ITSM Dashboards [com.snc.pa.itsm_dashboards]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for ITSM along with improved visualizations presented on the following dashboards: • IT Agent • IT Manager • IT Executive	
Performance Analytics - Content Pack - Project Portfolio Suite with Financials Dashboards	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.pmo_dashboards]		breakdowns for Project Portfolio Management along with visualizations presented on the PMO Dashboard.	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Security Incident Response	Temporarily unavailable in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Security Incident Response along with visualizations presented on dashboards.	An updated version of this plugin will be available on the ServiceNow Store.
Performance Analytics - Content Pack – Virtual Agent [com.glide.cs.pa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for the Virtual Agent along with visualizations presented on the Virtual Agent Overview Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Vulnerability Response [com.snc.vulnerability.analytics]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for Vulnerability Response Management along with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact

Plugin	Status	Description	Details
		visualizations presented on the Vulnerability Management Dashboard.	ServiceNow for details. This solution is available only from the ServiceNow Store.
Performance Analytics - Domain Support [com.snc.pa.domain_support]	New in Madrid	The Performance Analytics Domain Support plugin provides additional features to support scores collection on domain separated instances.	This plugin requires the Performance Analytics Premium and Domain Separation plugins to be installed.
Performance Analytics and Reporting - Service Portal Widgets [com.snc.pa.sp.widget]	New in Madrid	Support for PA widgets in the Service Portal. A number of JavaScript and CSS libraries are included to be able to run PA widgets independently in the Service Portal.	
Performance Analytics Premium for Security Operations [com.snc.pa.premium.sir]	New in Madrid		Installing this plugin will remove the limitations of the out of box Performance Analytics.

Plugin	Status	Description	Details
PPM Dashboard [com.snc.problem.atf]	Deprecated and no longer supported in release Madrid.		
Problem Management - ATF Tests [com.snc.problem.atf]	New in Madrid	Provides Problem Management ATF Tests.	This plugin requires Problem Management Best Practice - Madrid plugin to be active.
Problem Management Best Practice - Madrid [com.snc.best_practice.problem.madrid]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Provides roles for problem management including a problem coordinator, problem manager and problem administrator Provides fields to record the category, where the issue was first reported, the workaround, the	

Plugin	Status	Description	Details
		cause notes and the fix notes Searches for and attaches knowledge articles Communicates when a workaround or fix is available Clears the ˜Assigned to" field when changing the "Assignment Group".	
Problem Management Best Practice - Madrid - Knowledge Integration [com.snc.best_practice.problem.madrid.knowledge]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Create Known Error articles for Incident Deflection.	Requires that the Knowledge Management Advanced plugin to be activated.
Problem Overview Dashboard	New in Madrid	Displays Problem Overview Dashboard.	

Plugin	Status	Description	Details
[com.snc.pa.problem.dashboards]			
Project Portfolio Suite with Financials - ATF Tests [com.snc.financial_planning_pmo.atf]	New in Madrid	ATF tests for Project Portfolio Suite with Financials	
Puppet Activities [com.snc.orchestration.activities.puppet]	Planned for deprecation in release New York		
Scaled Agile Framework	Plugin renamed in release Madrid.	Plugin renamed Agile - Scaled Agile Framework - Essential SAFe	
Security Incident Response Dependencies [com.snc.si_dep]	New in Madrid	Installs all the dependent plugins required to support the Security Incident Response application.	
Service Catalog - ATF Tests [com.glideapp.servicecatalog.atf.test]	New in Madrid	Provides Service Catalog ATF Tests	
Service Catalog - Workspace [com.glideapp.servicecatalog.workspace]	New in Madrid	Service Catalog - Workspace	

Plugin	Status	Description	Details
Service Level Management PA Dashboard [com.snc.pa.sla.overview]	New in Madrid	This plugin provides the SLA Overview (Premium) Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Service Portal La Jolla Brand Update [com.glide.service-portal.themes.la-jolla]	New in Madrid	This plugin will update your /sp and /sp_config portals with the ServiceNow La Jolla branding. The logo, favicon, login page background image, hero banner, theme, and widget instance options are updated when the portal record has not been modified. When the portal record is modified no changes are made and an administrator can manually apply changes by downloading the La Jolla images from the	

Plugin	Status	Description	Details
		db_image table and applying as well as updating the theme setting of the portal record.	
ServiceNow Add-In for Microsoft Outlook [com.sn_outlook_addin]	New in Madrid	ServiceNow Add-In for Microsoft Outlook	
ServiceNow Document Viewer [com.snc.documentviewer]	New in Madrid	Document viewer is a platform feature that will enable users to view enterprise class documents (*.pdf only) inline within the platform attachment instead of downloading it to the local device and then opening the documents with a locally installed viewer.	
ServiceNow Subscription Management Dashboards [com.snc.usage_admin.dashboards]	New in Madrid	ServiceNow Subscription Management Dashboards	
Survey Question Bank Sample Data	New in Madrid	Provides a library of Survey category and	

Plugin	Status	Description	Details
[com.snc.question_bank_data]		Survey questions that you can add to your new or existing survey in seconds.	
Test Management 2.0 - ATF Tests [com.snc.test_management.2.0.atf]	New in Madrid	Test Management 2.0 - ATF Tests provides you test cases and test suites that can be run on the Test Management 2.0 application.	

Browser support in Madrid

Browser support varies for each version of the user interface (UI). Most major browsers are supported.

Some features have additional browser requirements, which are noted in the appropriate documentation.

> Note: UI11 is no longer supported. All instances have been upgraded to UI15 or UI16.

Browser support for each UI version

UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
UI16	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is	Latest public release	9.1 and up	Supported	Not supported

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UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
			supported				
UI15	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is supported	Latest public release	9.1 and up	Supported	Not supported

*Mobile phone browsers do not support the desktop version of the UI. Instead, mobile browsers use the mobile UI.

Internet Explorer web browser notes

> Important: Due to significant performance issues, ServiceNow recommends that customers utilize a modern browser for its products and migrate away from Internet Explorer 11. For more information, refer to KB0683275.

- Internet Explorer 11 is susceptible to memory leaks, which may impact performance, especially in Windows 7.
- In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.
- Compatibility mode is not supported.
- Setting Security Mode to High (via Internet Options > Security tab) is not supported.

Safari web browser notes

- There is a security issue in some versions of Safari. User credentials may be disclosed to an unexpected site via auto-fill. For more information, see the Apple security update.
- Starting with Safari 9.1 and future versions of Safari, the leave page / stay on page pop-up message only displays once.

Firefox web browser notes

The iOS version of Firefox does not support ServiceNow Community or other Service Portal-based pages.

- Exceptions to browser support

Exceptions to browser support

Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Browser exceptions

Application or feature	Details
Automated Test Framework	Automated Test Framework only supports running tests from desktop browsers. You cannot run tests or test suites from tablets, mobile browsers, or the mobile UI. Some desktop browsers require additional configuration. See Browser recommendations for Automated Test Framework. Automated Test Framework offers limited support for test design on tablets. You cannot add new custom UI test steps from tablets because you have to run a test to retrieve page components, and tablets do not support running tests. You may be able to review existing custom UI test steps that were added from a desktop browser from a tablet.

Changes to plugins in the Madrid release

This table lists new plugins in the Madrid release and existing plugins that were deprecated, renamed, or changed in some way.

Plugin	Status	Description	Details
Action Status Automation	New in Madrid	This plugin tracks blocking records	

Plugin	Status	Description	Details
[com.sn_action_status]		created for tasks and updates the action status indicators on the task list.	
Advanced Work Assignment [com.glide.awa]	New in Madrid	Automatically assigns work items to agents based on their availability, capacity, and skills.	
Advanced Work Assignment for CSM [com.sn_csm.awa]	New in Madrid	Configuration data supporting routing, queuing, and assignment of CSM Cases.	
Advanced Work Assignment for Incidents [com.snc.incident.awa]	New in Madrid	Default configuration to support Advanced Work Assignment for Incident	
Agent Chat [com.glide.interaction.awa]	New in Madrid	Enables Workspace Agent Chat and the Chat service channel in Advanced Work Assignment.	
Agent Intelligence [com.glide.platform_ml]	New in Madrid		
Agent Intelligence Reports	New in Madrid		

Plugin	Status	Description	Details
[com.glide.platform_ml_pa]			
Agent Schedule [com.snc.agent_schedule]	New in Madrid	Enables customer service agents and field service technicians to see work schedules and assignments and also add personal events such as meetings or appointments.	
Agent Workspace [com.agent_workspace]	New in Madrid	All-in-one app enabling CSM/ ITSM agents to provide world-class service at light speed.	
Agent Workspace - Ribbon [com.snc.agent_workspace.ribbon]	New in Madrid	Workspace Ribbon Configuration.	
Agile - Scaled Agile Framework - Essential SAFe [com.snc.sdlc.agile.multi_task]	Madrid	Scaled Agile Framework was designed to apply Lean-Agile principles to the entire organization. Essential SAFe is most basic configuration of the framework and it provides the minimal elements	

Plugin	Status	Description	Details
		necessary to be successful with SAFe: manage your agile release train backlog, plan program increments, implement stories, and track sprints.	
Agile - Scaled Agile Framework - Portfolio SAFe [com.snc.sdlc.portfolio_safe]	New in Madrid	Use Portfolio SAFe to apply lean and agile principles to your portfolio work.	
Agile Development 2.0 - ATF Tests [com.snc.sdlc.agile.2.0.atf]	New in Madrid	Agile Development 2.0 - ATF Tests provides you test cases and test suites that can be run on the Agile Development 2.0 application.	
Application Portfolio Management - ATF Tests [com.snc.apm.atf]	New in Madrid	ATF tests for Application Portfolio Management.	
Automated Test Framework - Custom UI [com.glide.automated_testing_impl.custom_ui]	New in Madrid	Adds ability to test custom UI.	

Plugin	Status	Description	Details
Automated Test Framework - Parameters [com.glide.automated_testing_impl.parameters]	New in Madrid	Adds ability to parameterize ATF tests.	
Automated Test Framework - Reporting [com.glide.automated_testing_impl.report]	New in Madrid	Automated Testing Framework Reporting test step configuration.	
Automated Test Framework - Responsive Dashboards [com.glide.automated_testing_impl.dashboards]	New in Madrid	Automated Testing Framework Responsive Dashboard test step configuration.	
Automated Test Scripts For Survey [com.glide.automated_testing_impl.survey]	New in Madrid	Automated Test Scripts For Survey	
Base Upgrade Logger [com.glide.base_upgrade_logger]	New in Madrid		
Change Management - ATF Tests [com.snc.change_management.atf]	New in Madrid	This plugin loads ATF tests for Change Management when the	

Plugin	Status	Description	Details
		Change Management - State Model plugin is active.The demo data for this plugin is required to successfully execute these ATF tests.	
Chef Activities com.snc.orchestration.activities.chef	Planned for deprecation in release New York		
CMDB Search [com.snc.cmdb_search]	New in Madrid	Query-like search on CMDB CIs and relationships. Converts a free-style query with configurable synonyms and stop words, into a properly formulated query on CMDB tables.	
CMDB Workspace [com.cmdb-workspace]	New in Madrid	Plugin to enable CMDB capabilities to workspace.	
Coaching [com.sn_coaching]	New in Madrid	The Coaching module facilitates the coaching of employees on	

Plugin	Status	Description	Details
		their work through the use of coaching opportunities (critical moments in a process) that can be conditionally configured.	
Context-Sensitive Help Rest API [com.glide.context_help.rest_api]	New in Madrid	REST API for the context-sensitive help system.	
Continual Improvement Management Automated Tests [com.sn_cim_atf]	New in Madrid	ATF plugin for Continual Improvement Management (CIM).	
Conversation Branding Settings [com.glide.cs.branding]	New in Madrid	Conversation Branding Settings	
Conversation General Settings [com.glide.cs.settings]	New in Madrid	Conversation General Settings	
CSM Lookup and Verify [com.snc.sn_csm_lookup_verify]	New in Madrid	CSM Lookup and Verify	

Plugin	Status	Description	Details
CTI Softphone [com.snc.cti]	New in Madrid	Enables Twilio integration using Notify and OpenFrame to provide softphone functions and call center capabilities. These include make, receive phone calls, transfer, hold and mute. Applications like Customer Service and Incident Management provide demo workflows for CTI.	Please re-activate respective applications where you require CTI demo workflows.
Customer Service Virtual Agent Conversations [com.sn_csm.virtualagent]	New in Madrid	CSM Virtual Agent Conversations	
Customer Service with Request Management [com.sn_cs_sm_request]	New in Madrid	Provides an integration between Customer Service Management and the Request Management application. Enables users to create request records from a	

Plugin	Status	Description	Details
		Customer Service case.	
Customer Service with Service Management [com.sn_cs_sm]	New in Madrid	Provides an integration between Customer Service Management and the Incident, Problem and Change Management applications. Enables users to create incident, problem and change records from a Customer Service case.	
Email Address Filter [com.glide.email_address_filter]	New in Madrid	APIs and data structures for email address filtering.	
Email Client [com.glide.email_client]	New in Madrid	Enables you to send email directly from any record.	
Encrypted Workflow Scratchpad [com.snc.encrypted.scratchpad]	New in Madrid	Encrypted Scratchpad support on the Workflow Context and Workflow Executing Activities.	
Fixed Costs	New in Madrid	Fixed Costs	

Plugin	Status	Description	Details
[com.snc.fixed_costs]			
Flow Client [com.glide.hub.flow.client]	New in Madrid	The client side API for interacting with flows, subflows, and actions.	
Flow Designer Action Step - Payload Builder [com.glide.hub.action_step.payload]	New in Madrid	Action Step - Payload Builder	
Flow Designer support for the Service Catalog [com.glideapp.servicecatalog.flow_designer]	New in Madrid	Service Catalog Flow Designer	
Glide Conversation Server Adapters [com.glide.cs.adapter]	New in Madrid	Glide Conversation Server Adapters	
Glide Virtual Agent [com.glide.cs.chatbot]	New in Madrid	Activates the Virtual Agent framework and the other necessary plugins.	
GRC: Risk Management Dependencies [com.snc.grc_risk_dep]	New in Madrid	Installs all the dependent plugins required to support the GRC Risk	

Plugin	Status	Description	Details
		Management application.	
GRC: Vendor Risk Management Dependencies [com.snc.grc_vrm_dep]	New in Madrid	Installs all the dependent plugins required to support the GRC Vendor Risk Management application.	
HR Performance Analytics (aka Modules IT) [com.snc.pa.hr_core, com.snc.pa.hr.context_sensitive_analytics, com.snc.hr.pa" plugins are set to "retired" state]	Planned for deprecation in release New York.		
Incident Alert Management [com.snc.iam]	Changed in Madrid	Renamed to Incident Communication Management	
Incident Management - ATF Tests [com.snc.incident.atf]	New in Madrid	Provides Incident Management ATF Tests.	
Instance Security Center [com.glide.instance_sec_center]	New in Madrid	This plugin activates the Instance Security Center Portal. Search for Instance Security Center in the left navigation menu.	

Plugin	Status	Description	Details
Interactions Management [com.glide.interaction]	New in Madrid	Activates the Interactions Management System.	
ISD Dashboard [com.glide.security.dashboard]	Deprecated and not supported in release Madrid.		
ITSM Mobile [com.sn_itsm_mobile]	New in Madrid	ITSM Mobile Experience	
ITSM Virtual Agent Conversations [com.snc.itsm.virtualagent]	New in Madrid	This plugin contains prebuilt conversation topics for ITSM related use cases.	
ITSM Workspace [com.snc.agent_workspace.itsm]	New in Madrid	ITSM Agent Workspace	
Keylines Business Service Maps [com.snc.keylines_bsm_map]	New in Madrid	An interactive and graphical interface to visualize Configuration Items (CIs) and their relationships. Provides filtering capabilities to manage data being displayed,	

Plugin	Status	Description	Details
		allowing for configuration by the user to view in context to their role. Additional capabilities provide for the displaying of related tasks such as Incidents, Problems, Changes and Certification Tasks.	
Knowledge Blocks [com.snc.knowledge_blocks]	New in Madrid	This plugin adds an advanced editing feature to Knowledge Management which allows user to create re-usable content blocks that can be included in existing knowledge articles. This feature will give the ability to have one large article and be able to just display pieces of that article to specific users.	
KMv2	Planned for deprecation in release Orlando.		

Plugin	Status	Description	Details
[com.glideapp.knowledge2]			
Knowledge Management Core [com.glideapp.knowledge]	New in Madrid	Installs the core Knowledge Management items used to allow other Knowledge related plugins to work, such as Knowledge V3, Knowledge Advanced, Knowledge Service Portal.	This plugin is activated by default.
Knowledge Management with KCS [com.glideapp.knowledge2]	Planned for deprecation in Release Orlando		
Legacy Notify [com.snc.notifynow]	Deprecated in Release New York.		
Legacy Survey [com.snc.bestpractice.task_survey, com.glideapp.survey com.snc.assessment, com.glideapp.survey_wizard]	Deprecation in Release New York.		
Live Agent Conversation Settings	New in Madrid	Live Agent Conversation Settings	

Plugin	Status	Description	Details
[com.glide.cs.live_agent_settings]			
Lookup and Verify [com.snc.sn_lookup_and_verify_config]	New in Madrid	This plugin packages the lookup and verify functionality.	
Mobile Studio [com.glide.sg-studio]	New in Madrid	Plugin for Mobile Studio	
Modules IT [com.snc.pa.hr_core] [com.snc.pa.hr.context_sensitive_analytics] [com.snc.hr.pa]	Planned for deprecation in Release New York		
Okta [com.snc.sso.okta	No longer supported as of Madrid.		• Not available for new deployments. • Activation: Requires ServiceNow, Inc. personnel support.
On-call Scheduling Table Name change "Rota to Shift" [com.snc.on_call_rotation]	Table renamed in Madrid.		

Plugin	Status	Description	Details
Outlook Actionable Messages [com.sn_ms_oam]	New in Madrid	Outlook Actionable Messages	
Performance Analytics - Content Pack - Advanced Work Assignment [com.snc.pa.awa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Advanced Work Assignment, along with visualizations and a dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Analytics [com.snc.pa.premium.content_analytics]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Content Analytics, along with visualizations and the following dashboards: • Content Analytics • Content Analytics - Basics	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Content Automation	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.premium.content_automation]		breakdowns for Content Automation, along with visualizations and the following dashboards: • Campaign Overview • Campaign Analytics	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Customer Service Management - Advanced [com.snc.pa.customer_service_advanced]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Customer Service Management. Has the contents of the older Performance Analytics - Content Pack - Customer Service plugin, but also supports the following features: • Major Issue Management • Customer Service Case Action Status • Customer Service with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		Request Management • Customer Service with Service Management • Agent Chat • Advanced Work Assignment for CSM • Performance Analytics - Content Pack - Advanced Work Assignment	
Performance Analytics - Content Pack - GRC: Policy and Compliance Management [com.sn_compliance_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Policy and Compliance along with improved visualizations presented on the following dashboards: • Control Owner • Compliance Manager	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.

Plugin	Status	Description	Details
		• Compliance Executive	
Performance Analytics - Content Pack - GRC: Risk Management [com.sn_risk_pa]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for GRC Risk Management along with improved visualizations presented on the Compliance Executive dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - ITSM Dashboards [com.snc.pa.itsm_dashboards]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for ITSM along with improved visualizations presented on the following dashboards: • IT Agent • IT Manager • IT Executive	
Performance Analytics - Content Pack - Project Portfolio Suite with Financials Dashboards	New in Madrid	Preconfigured Performance Analytics indicators and	Activation of this plugin on production instances may

Plugin	Status	Description	Details
[com.snc.pa.pmo_dashboards]		breakdowns for Project Portfolio Management along with visualizations presented on the PMO Dashboard.	require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Security Incident Response	Temporarily unavailable in Madrid	Preconfigured Performance Analytics indicators and breakdowns for Security Incident Response along with visualizations presented on dashboards.	An updated version of this plugin will be available on the ServiceNow Store.
Performance Analytics - Content Pack – Virtual Agent [com.glide.cs.pa]	New in Madrid	Preconfigured Performance Analytics indicators and breakdowns for the Virtual Agent along with visualizations presented on the Virtual Agent Overview Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Performance Analytics - Content Pack - Vulnerability Response [com.snc.vulnerability.analytics]	Updated in Madrid with new visualizations	Preconfigured Performance Analytics indicators and breakdowns for Vulnerability Response Management along with	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact

Plugin	Status	Description	Details
		visualizations presented on the Vulnerability Management Dashboard.	ServiceNow for details. This solution is available only from the ServiceNow Store.
Performance Analytics - Domain Support [com.snc.pa.domain_support]	New in Madrid	The Performance Analytics Domain Support plugin provides additional features to support scores collection on domain separated instances.	This plugin requires the Performance Analytics Premium and Domain Separation plugins to be installed.
Performance Analytics and Reporting - Service Portal Widgets [com.snc.pa.sp.widget]	New in Madrid	Support for PA widgets in the Service Portal. A number of JavaScript and CSS libraries are included to be able to run PA widgets independently in the Service Portal.	
Performance Analytics Premium for Security Operations [com.snc.pa.premium.sir]	New in Madrid		Installing this plugin will remove the limitations of the out of box Performance Analytics.

Plugin	Status	Description	Details
PPM Dashboard [com.snc.problem.atf]	Deprecated and no longer supported in release Madrid.		
Problem Management - ATF Tests [com.snc.problem.atf]	New in Madrid	Provides Problem Management ATF Tests.	This plugin requires Problem Management Best Practice - Madrid plugin to be active.
Problem Management Best Practice - Madrid [com.snc.best_practice.problem.madrid]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Provides roles for problem management including a problem coordinator, problem manager and problem administrator Provides fields to record the category, where the issue was first reported, the workaround, the	

Plugin	Status	Description	Details
		cause notes and the fix notes Searches for and attaches knowledge articles Communicates when a workaround or fix is available Clears the ˜Assigned to" field when changing the "Assignment Group".	
Problem Management Best Practice - Madrid - Knowledge Integration [com.snc.best_practice.problem.madrid.knowledge]	New in Madrid	This best practice plugin helps to identify the cause of a service interruption reported by a significant or recurring incidents. Create Known Error articles for Incident Deflection.	Requires that the Knowledge Management Advanced plugin to be activated.
Problem Overview Dashboard	New in Madrid	Displays Problem Overview Dashboard.	

Plugin	Status	Description	Details
[com.snc.pa.problem.dashboards]			
Project Portfolio Suite with Financials - ATF Tests [com.snc.financial_planning_pmo.atf]	New in Madrid	ATF tests for Project Portfolio Suite with Financials	
Puppet Activities [com.snc.orchestration.activities.puppet]	Planned for deprecation in release New York		
Scaled Agile Framework	Plugin renamed in release Madrid.	Plugin renamed Agile - Scaled Agile Framework - Essential SAFe	
Security Incident Response Dependencies [com.snc.si_dep]	New in Madrid	Installs all the dependent plugins required to support the Security Incident Response application.	
Service Catalog - ATF Tests [com.glideapp.servicecatalog.atf.test]	New in Madrid	Provides Service Catalog ATF Tests	
Service Catalog - Workspace [com.glideapp.servicecatalog.workspace]	New in Madrid	Service Catalog - Workspace	

Plugin	Status	Description	Details
Service Level Management PA Dashboard [com.snc.pa.sla.overview]	New in Madrid	This plugin provides the SLA Overview (Premium) Dashboard.	Activation of this plugin on production instances may require a separate Performance Analytics license. Contact ServiceNow for details.
Service Portal La Jolla Brand Update [com.glide.service-portal.themes.la-jolla]	New in Madrid	This plugin will update your /sp and /sp_config portals with the ServiceNow La Jolla branding. The logo, favicon, login page background image, hero banner, theme, and widget instance options are updated when the portal record has not been modified. When the portal record is modified no changes are made and an administrator can manually apply changes by downloading the La Jolla images from the	

Plugin	Status	Description	Details
		db_image table and applying as well as updating the theme setting of the portal record.	
ServiceNow Add-In for Microsoft Outlook [com.sn_outlook_addin]	New in Madrid	ServiceNow Add-In for Microsoft Outlook	
ServiceNow Document Viewer [com.snc.documentviewer]	New in Madrid	Document viewer is a platform feature that will enable users to view enterprise class documents (*.pdf only) inline within the platform attachment instead of downloading it to the local device and then opening the documents with a locally installed viewer.	
ServiceNow Subscription Management Dashboards [com.snc.usage_admin.dashboards]	New in Madrid	ServiceNow Subscription Management Dashboards	
Survey Question Bank Sample Data	New in Madrid	Provides a library of Survey category and	

Plugin	Status	Description	Details
[com.snc.question_bank_data]		Survey questions that you can add to your new or existing survey in seconds.	
Test Management 2.0 - ATF Tests [com.snc.test_management.2.0.atf]	New in Madrid	Test Management 2.0 - ATF Tests provides you test cases and test suites that can be run on the Test Management 2.0 application.	

Browser support

Browser support varies for each version of the user interface (UI). Most major browsers are supported.

Some features have additional browser requirements, which are noted in the appropriate documentation.

> Note: UI11 is no longer supported. All instances have been upgraded to UI15 or UI16.

Browser support for each UI version

UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
UI16	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is	Latest public release	9.1 and up	Supported	Not supported

UI version	Chrome support	Firefox support	Internet Explorer support	Microsoft Edge support	Safari support	Tablet mobile browser	Phone mobile browser*
			supported				
UI15	Latest public release	Latest public release of Firefox or Firefox ESR	11 and up • Edge mode is supported	Latest public release	9.1 and up	Supported	Not supported

*Mobile phone browsers do not support the desktop version of the UI. Instead, mobile browsers use the mobile UI.

Internet Explorer web browser notes

> Important: Due to significant performance issues, ServiceNow recommends that customers utilize a modern browser for its products and migrate away from Internet Explorer 11. For more information, refer to KB0683275.

- Internet Explorer 11 is susceptible to memory leaks, which may impact performance, especially in Windows 7.
- In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.
- Compatibility mode is not supported.
- Setting Security Mode to High (via Internet Options > Security tab) is not supported.

Safari web browser notes

- There is a security issue in some versions of Safari. User credentials may be disclosed to an unexpected site via auto-fill. For more information, see the Apple security update.
- Starting with Safari 9.1 and future versions of Safari, the leave page / stay on page pop-up message only displays once.

Firefox web browser notes

The iOS version of Firefox does not support ServiceNow Community or other Service Portal-based pages.

Exceptions to browser support

Certain applications and features in the Madrid release have browser requirements that differ from the list of browsers generally supported by the ServiceNow platform.

> Note: In Jakarta and later, Internet Explorer versions prior to IE11 are no longer supported.

Browser exceptions

Application or feature	Details
Automated Test Framework	Automated Test Framework only supports running tests from desktop browsers. You cannot run tests or test suites from tablets, mobile browsers, or the mobile UI. Some desktop browsers require additional configuration. See Browser recommendations for Automated Test Framework. Automated Test Framework offers limited support for test design on tablets. You cannot add new custom UI test steps from tablets because you have to run a test to retrieve page components, and tablets do not support running tests. You may be able to review existing custom UI test steps that were added from a desktop browser from a tablet.

Accessibility and compliance

To make the interface accessible to users with disabilities, ServiceNow includes features that support several specifications in the Web Content Accessibility Guidelines (WCAG) 2.0.

ServiceNow® products are developed with the goal of adhering to the accessibility guidelines and principles which are set by the Section 508 Amendment to the Rehabilitation Act of 1973 and the Web Content Accessibility Guidelines (WCAG) 2.0

Level A. The assistive technologies JAWS, NVDA, and VoiceOver are used to test ServiceNow products.

The Jakarta Web Content Accessibility Guidelines (WCAG) 2.0 document describes accessibility features and limitations.

- ServiceNow Accessibility Conformance Report

  This page details the level of accessibility support for the Madrid release, according to the Web Content Accessibility Guidelines (WCAG) 2.0.

Related Topics

- Section508.gov

ServiceNow Accessibility Conformance Report

This page details the level of accessibility support for the Madrid release, according to the Web Content Accessibility Guidelines (WCAG) 2.0.

VPAT® Version 2.3 – December 2018

Date: 23 January 2019

Product Name: ServiceNow Service Automation

Product Version Number: Madrid

Vendor Company Name: ServiceNow

Vendor Contact Name: ServiceNow Compliance

Vendor Contact information: compliance@servicenow.com

Note: This is a web only application.
The following product categories contain exceptions, but accessible alternatives exist or the product is in the process of being deprecated.

- Forms Designer Alternate: Accessibility Path Exists: Use Slushbucket
- Mobile: Category is deprecated: to be replaced with new Mobile (SkyNow)
- Live Feed: Component is deprecated and will no longer be supported from an accessibility perspective

Evaluation methods used

To make the interface accessible to users with disabilities, ServiceNow includes features that support several specifications in the Web Content Accessibility Guidelines (WCAG) 2.0. ServiceNow® products are developed with the goal of adhering to the accessibility guidelines and principles which are set by the Section 508 Amendment to the Rehabilitation Act of 1973 and the Web Content Accessibility Guidelines (WCAG) 2.0 Level A. The assistive technologies JAWS, NVDA, and VoiceOver are used to test ServiceNow products. The Madrid Web Content Accessibility Guidelines (WCAG) 2.0 document describes accessibility features and limitations. Web Content Accessibility Guidelines (WCAG) 2.0 This page details the level of accessibility support for the Madrid release, according to the Web Content Accessibility Guidelines (WCAG) 2.0

Applicable standards/guidelines

This report covers the degree of conformance for the following accessibility standard/ guidelines:

Standard/Guideline	Included in report
Web Content Accessibility Guidelines 2.0, at http://www.w3.org/TR/2008/REC-WCAG20-20081211/	Level A (Yes) Level AA (Yes) Level AAA (No)

Standard/Guideline	Included in report
Revised Section 508 standards as published by the U.S. Access Board in the Federal Register on January 18, 2017 Corrections to the ICT Final Rule as published by the US Access Board in the Federal Register on January 22, 2018	(Yes)
EN 301 549 Accessibility requirements suitable for public procurement of ICT products and services in Europe, - V1.1.2 (2015-04) at http://mandate376.standards.eu/standard	(No)

Terms

The terms used in the Conformance Level information are defined as follows:

- Supports: The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- Supports with Exceptions: Some functionality of the product does not meet the criterion.
- Does Not Support: The majority of product functionality does not meet the criterion.
- Not Applicable: The criterion is not relevant to the product.
- Not Evaluated: The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

WCAG 2.0 Report

Tables 1 and 2 also document conformance with:

- EN 301 549: Chapter 9 - Web, Chapter 10 - Non-Web documents, Section 11.2.1- Non-Web Software (excluding closed functionality), and Section 11.2.2 - Non-Web Software (closed functionality).
- Revised Section 508: Chapter 5 – 501.1 Scope, 504.2 Content Creation or Editing, and Chapter 6 – 602.3 Electronic Support Documentation.

Note: When reporting on conformance with the WCAG 2.0 Success Criteria, they are scoped for full pages, complete processes, and accessibility-supported ways of using technology as documented in the WCAG 2.0 Conformance Requirements.

Success criteria: Level A

Criteria	Conformance level	Remarks and explanations
1.1.1 Non-text Content (Level A) Also applies to: EN 301 549 Criteria • 9.1.1.1 (Web) • 10.1.1.1 (non-web document) • 11.1.1.1.1 (Open Functionality) • 11.1.1.1.2 (Closed Functionality Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool)	Partially supports	CSM Communities Some elements do not have alternative text Forms and fields Some elements do not have alternative text Human Resources Service Management Some elements do not have alternative text Operational Intelligence Some elements do not have alternative text Performance Analytics Some elements do not have alternative text Service Portal Some elements do not have alternative text

Criteria	Conformance level	Remarks and explanations
• 602.3 (Support Docs)		
1.2.1 Audio-only and Video-only (Prerecorded) (Level A) Also applies to: EN 301 549 Criteria • 9.1.2.1 (Web) • 10.1.2.1 (non-web document) • 11.1.2.1.1 (Open Functionality Software) • 11.1.2.1.2.1 and 11.1.2.1.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Not Applicable	Product does not use prerecorded media

Criteria	Conformance level	Remarks and explanations
1.2.2 Captions (Prerecorded) (Level A) Also applies to: EN 301 549 Criteria • 9.1.2.2 (Web) • 10.1.2.2 (non-web document) • 11.1.2.2 (Open Functionality Software) • 11.1.2.2 (Closed Software) – Does not apply • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Not applicable	Product does not use prerecorded media.
1.2.3 Audio Description or Media Alternative (Prerecorded) (Level A)	Not applicable	Product does not use prerecorded media.

Criteria	Conformance level	Remarks and explanations
Also applies to: EN 301 549 Criteria • 9.1.2.3 (Web) • 10.1.2.3 (non-web document) • 11.1.2.3.1 (Open Functionality Software) • 11.1.2.3.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
1.3.1 Info and Relationships (Level A) Also applies to: EN 301 549 Criteria • 9.1.3.1 (Web) • 10.1.3.1 (non-web document)	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not properly associated. Some elements do not have appropriate markup.

Criteria	Conformance level	Remarks and explanations
• 11.1.3.1.1 (Open Functionality Software) • 11.1.3.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Assessments Some elements do no have appropriate headers. Cloud Management application Some elements do no have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do no have appropriate headers. Language and translations Some elements do not have appropriate markup.

Criteria	Conformance level	Remarks and explanations
		Lists Some elements are not properly associated. Live Feed Some elements do not have appropriate markup. On-call Scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Security Incident Response Labels/information for filters and records in a table is not read correctly. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup.

Criteria	Conformance level	Remarks and explanations
		User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
1.3.2 Meaningful Sequence (Level A) Also applies to: EN 301 549 Criteria • 9.1.3.2 (Web) • 10.1.3.2 (Non-web document) • 11.1.3.2.1 (Open Functionality Software) • 11.1.3.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Supported	

Criteria	Conformance level	Remarks and explanations
1.3.3 Sensory Characteristics (Level A) Also applies to: EN 301 549 Criteria • 9.1.3.3 (Web) • 10.1.3.3 (Non-web document) • 11.1.3.3 (Open Functionality Software) • 11.1.3.3 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Supported	
1.4.1 Use of Color (Level A) Also applies to: EN 301 549 Criteria	Supports	

Criteria	Conformance level	Remarks and explanations
• 9.1.4.2 (Web) • 10.1.4.1 (Non-web document) • 11.1.4.1 (Open Functionality Software) • 11.1.4.1 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
1.4.2 Audio Control (Level A) Also applies to: EN 301 549 Criteria • 9.1.4.2 (Web) • 10.1.4.2 (Non-web document) • 11.1.4.2 (Open Functionality Software)	Supports	

Criteria	Conformance level	Remarks and explanations
• 11.1.4.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
2.1.1 Keyboard (Level A) Also applies to: EN 301 549 Criteria • 9.2.1.1 (Web) • 10.2.1.1 (Non-web document) • 11.2.1.1.1 (Open Functionality Software) • 11.2.1.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs)	Partially supports	Agent Workspace Some elements are not keyboard accessible. Agile Development Some elements are not keyboard accessible. Automated Test Framework Some elements are not keyboard accessible. Benchmarks Application Some elements are not keyboard accessible. Customer Service Management Some elements are not keyboard accessible. Dashboards and Home Pages Some elements are not keyboard accessible.

Criteria	Conformance level	Remarks and explanations
• 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Field Service Management Some elements are not keyboard accessible. Flow Designer Some elements are not keyboard accessible. Forms and fields Some elements are not keyboard accessible. Human Resources Service Management Some elements are not keyboard accessible. Incident Management Some elements are not keyboard accessible. On-call scheduling Some elements are not keyboard accessible. Performance Analytics Some elements are not keyboard accessible. Project Portfolio Management Some elements are not keyboard accessible. Service Portal Some elements are not keyboard accessible. Software Asset Management Professional Some elements are not keyboard accessible. Test Management Some elements are not keyboard accessible.

Criteria	Conformance level	Remarks and explanations
		Visual Task Boards Some elements are not keyboard accessible. Vulnerability Response Some elements are not keyboard accessible. Web Services Some elements are not keyboard accessible. Workflow Some elements are not keyboard accessible.
2.1.2 No Keyboard Trap (Level A) Also applies to: EN 301 549 Criteria • 9.2.1.2 (Web) • 10.2.1.2 (Non-web document) • 11.2.1.2 (Open Functionality Software) • 11.2.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508	Partially supported	User experience engineering Some elements trap keyboard focus. Workflow Some elements trap keyboard focus.

Criteria	Conformance level	Remarks and explanations
• 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
2.1.4 Character Key Shortcuts (Level A 2.1 only) Also applies to: EN 301 549 Criteria • 9.2.1.4 (Web) • 10.2.1.4 (Non-web document) • 11.2.1.4.1 (Open Functionality Software) • 11.2.1.4.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Supports	

Criteria	Conformance level	Remarks and explanations
2.2.1 Timing Adjustable (Level A) Also applies to: EN 301 549 Criteria • 9.2.2.1 (Web) • 10.2.2.1 (Non-web document) • 11.2.2.1 (Open Functionality Software) • 11.2.2.1 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Supports	
2.2.2 Pause, Stop, Hide (Level A) Also applies to: EN 301 549 Criteria	Supports	

Criteria	Conformance level	Remarks and explanations
• 9.2.2.2 (Web) • 10.2.2.2 (Non-web document) • 11.2.2.2 (Open Functionality Software) • 11.2.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
2.3.1 Three Flashes or Below Threshold (Level A) Also applies to: EN 301 549 Criteria • 9.2.3.1 (Web) • 10.2.3.1 (Non-web document)	Supports	

Criteria	Conformance level	Remarks and explanations
• 11.2.3.1 (Open Functionality Software) • 11.2.3.1 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
2.4.1 Bypass Blocks (Level A) Also applies to: EN 301 549 Criteria • 9.2.4.1 (Web) • 10.2.4.1 (Non-web document) • 11.2.4.1 (Open Functionality Software) • 11.2.4.1 (Closed Software)	Partially supports	Application Portfolio Management (APM) Skip links are not provided. Benchmarks application Skip links are not provided. Service Portal Skip-link targets are not available.

Criteria	Conformance level	Remarks and explanations
• 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs) - Does not apply to non-web docs		
2.4.2 Page Titled (Level A) Also applies to: EN 301 549 Criteria • 9.2.4.2 (Web) • 10.2.4.2 (Non-web document) • 11.2.4.2 (Open Functionality Software) • 11.2.4.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs)	Partially supports	Lists There is no indication to the user that they are on a page that contains a table.

Criteria	Conformance level	Remarks and explanations
• 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
2.4.3 Focus Order (Level A) Also applies to: EN 301 549 Criteria • 9.2.4.3 (Web) • 10.2.4.3 (Non-web document) • 11.2.4.3 (Open Functionality Software) • 11.2.4.3 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool)	Partially supports	Application navigator and banner frame Focus does not follow logical order. Automated Test Framework Focus does not follow logical order. Benchmark application Focus does not follow logical order. Condition builder Focus does not follow logical order. Continual Improvement Management (CIM) Focus does not follow logical order. Dashboards and homepage Focus does not follow logical order. Flow Designer Focus does not follow logical order. Forms and fields Focus does not follow logical order.

Criteria	Conformance level	Remarks and explanations
• 602.3 (Support Docs)		Human Resources Service Management Focus does not follow logical order. Operational Intelligence Focus does not follow logical order. Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order. Reporting Focus does not follow logical order. Security Incident Response Focus does not follow logical order. Service Catalog: Service Portal widgets Focus does not follow logical order. UI components Focus does not follow logical order. User Experience engineering Focus does not follow logical order. Workflow Focus does not follow logical order.

Criteria	Conformance level	Remarks and explanations
2.4.4 Link Purpose (In Context) (Level A) Also applies to: EN 301 549 Criteria • 9.2.4.4 (Web) • 10.2.4.4 (Non-web document) • 11.2.4.4 (Open Functionality Software) • 11.2.4.4 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Partially supports	Lists Focus does not follow logical order. Performance Analytics JAWS cannot distinguish link purpose.
3.1.1 Language of Page (Level A) Also applies to: EN 301 549 Criteria	Supports	

Criteria	Conformance level	Remarks and explanations
• 9.3.1.1 (Web) • 10.3.1.1(Non-web document) • 11.3.1.1.1 (Open Functionality Software) • 11.3.1.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
3.2.1 On Focus (Level A) Also applies to: EN 301 549 Criteria • 9.3.2.1 (Web) • 10.3.2.1 (Non-web document) • 11.3.2.1 (Open Functionality Software)	Supports	

Criteria	Conformance level	Remarks and explanations
• 11.3.2.1 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
3.2.2 On Input (Level A) Also applies to: EN 301 549 Criteria • 9.3.2.2 (Web) • 10.3.2.2 (Non-web document) • 11.3.2.2 (Open Functionality Software) • 11.3.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs)	Partially supports	Event Management Selecting an option within the All drop down reloads the page. Forms and fields No confirmation action for selecting various UI actions.

Criteria	Conformance level	Remarks and explanations
• 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
3.3.1 Error Identification (Level A) Also applies to: EN 301 549 Criteria • 9.3.3.1 (Web) • 10.3.3.1(Non-web document) • 11.3.3.1.1 (Open Functionality Software) • 11.3.3.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool)	Partially supports	CSM Communities Malformed handling of error messages.

Criteria	Conformance level	Remarks and explanations
• 602.3 (Support Docs)		
3.3.2 Labels or Instructions (Level A) Also applies to: EN 301 549 Criteria • 9.3.3.2 (Web) • 10.3.3.2 (Non-web document) • 11.3.3.2 (Open Functionality Software) • 11.3.3.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Partially supports	Condition builder Some buttons do not have unique descriptions. Forms and fields JAWS does not read /narrate the state and control types of the elements on Active Section. User Experience engineering Labels are not provided to indicate when content requires user input.
4.1.1 Parsing (Level A) Also applies to: EN 301 549 Criteria	Partially supports	Agent Workspace Parsing errors are present.

Criteria	Conformance level	Remarks and explanations
• 9.4.1.1 (Web) • 10.4.1.1 (Non-web document) • 11.4.1.1.1 (Open Functionality Software) • 11.4.1.1.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Forms and fields Duplicate containers for output messages on each form. Operational Intelligence Parsing errors are present. Performance Analytics Some elements do not have the required or appropriate Aria attribute.
4.1.2 Name, Role, Value (Level A) Also applies to: EN 301 549 Criteria • 9.4.1.2 (Web) • 10.4.1.2 (Non-web document) • 11.4.1.2.1 (Open Functionality Software)	Partially supports	Application Navigator and Banner Frame Some elements are not accessible with assistive tools. Toggle options in system settings are not treated as buttons. Assessments Some elements are not accessible with assistive tools.

Criteria	Conformance level	Remarks and explanations
• 11.4.1.2.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Automated Test Framework Some elements are not accessible with assistive tools. Change Management Some elements do not have the appropriate role. Chat Some elements are not accessible with assistive tools. Some elements do not have the required or appropriate Aria attribute. Continual Improvement Management (CIM) Some elements do not have the required or appropriate Aria attribute. CSM Communities Some elements do not have the appropriate role. Discovery Some elements are not accessible with assistive tools. Forms and fields Some elements are not accessible with assistive tools. Some elements do not have the required or appropriate Aria attribute. Guided Tours Some elements do not have the required or appropriate Aria attribute.

Criteria	Conformance level	Remarks and explanations
		Human Resources Some elements do not have the appropriate role. List v2 Some elements do not have the required or appropriate Aria attribute. Lists Some elements are not accessible with assistive tools. Performance Analytics Some elements are not accessible with assistive tools. Performance Analytics Application Some elements are not accessible with assistive tools. Project Management Some elements do not have the required or appropriate Aria attribute. Security Incident Response Many elements include redundant tooltips. Some elements do not have the required or appropriate Aria attribute. Service Catalog Some elements do not have the required or appropriate Aria attribute.

Criteria	Conformance level	Remarks and explanations
		Service Catalog: Service Portal widgets Some elements are not accessible with assistive tools. Service Portal Some elements are not accessible with assistive tools. Some elements do not have the required or appropriate Aria attribute. Some elements are not readable by assistive technology. UI components Some elements are not properly read with assistive tools. VA-Designer Some elements are not accessible with assistive tools. VA-Web client Visibly removed content is still in the DOM. Vulnerability response Some elements are not accessible with assistive tools. Workflow Some elements are not accessible with assistive tools.

Success Criteria, Level AA

Criteria	Conformance Level	Remarks and Explanations
1.2.4 Captions (Live) (Level AA) Also applies to: EN 301 549 Criteria • 9.1.2.4 (Web) • 10.1.2.4 (Non-web document) • 11.1.2.4 (Open Functionality Software) • 11.1.2.4 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Not applicable	Product does not use prerecorded media.
1.2.5 Audio Description (Prerecorded) (Level AA)	Not applicable	Product does not use prerecorded media.

Criteria	Conformance Level	Remarks and Explanations
Also applies to: EN 301 549 Criteria • 9.1.2.5 (Web) • 10.1.2.5 (Non-web document) • 11.1.2.5 (Open Functionality Software) • 11.1.2.5 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
1.4.3 Contrast (Minimum) (Level AA) Also applies to: EN 301 549 Criteria • 9.1.4.3 (Web) • 10.1.4.3 (Non-web document)	Partially supports	Activity Stream Some elements have insufficient contrast ratio. Agent Workspace Some elements have insufficient contrast ratio.

Criteria	Conformance Level	Remarks and Explanations
• 11.1.4.3 (Open Functionality Software) • 11.1.4.3 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Antivirus scanning Some elements have insufficient contrast ratio. Assessments Some elements have insufficient contrast ratio. Core Platform Some elements have insufficient contrast ratio. Dashboards and homepages Some elements have insufficient contrast ratio. Financial Management Some elements have insufficient contrast ratio. Forms and Fields Some elements have insufficient contrast ratio. Performance Analytics Some elements have insufficient contrast ratio. Reporting Some elements have insufficient contrast ratio. Service Creator Some elements have insufficient contrast ratio. Service Portal Some elements have insufficient contrast ratio. Software Asset Management Professional Some elements have insufficient contrast ratio.

Criteria	Conformance Level	Remarks and Explanations
		System Applications Some elements have insufficient contrast ratio. Templates Some elements have insufficient contrast ratio. VA-Web Client Some elements have insufficient contrast ratio. Walk-up experience Some elements have insufficient contrast ratio.
1.4.4 Resize text (Level AA) Also applies to: EN 301 549 Criteria • 9.1.4.4 (Web) • 10.1.4.4 (Non-web document) • 11.1.4.4.1 (Open Functionality Software) • 11.1.4.4.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508	Partially supported	Forms and Fields Resizing the page is disabled.

Criteria	Conformance Level	Remarks and Explanations
• 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
1.4.5 Images of Text (Level AA) Also applies to: EN 301 549 Criteria • 9.1.4.5 (Web) • 10.1.4.5 (Non-web document) • 11.1.5.1 (Open Functionality Software) • 11.1.5.2 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Supports	

Criteria	Conformance Level	Remarks and Explanations
2.4.5 Multiple Ways (Level AA) Also applies to: EN 301 549 Criteria • 9.2.4.5 (Web) • 10.2.4.5 (Non-web document) – Does not apply • 11.2.4.5 (Open Functionality Software) – Does not apply • 11.2.4.5 (Closed Software) – Does not apply • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) – Does not apply to non-web software • 504.2 (Authoring Tool) • 602.3 (Support Docs) – Does not apply to non-web docs	Supports	

Criteria	Conformance Level	Remarks and Explanations
2.4.6 Headings and Labels (Level AA) Also applies to: EN 301 549 Criteria • 9.2.4.6 (Web) • 10.2.4.6 (Non-web document) • 11.2.4.6 (Open Functionality Software) • 11.2.4.6 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)	Partially supports	Forms and Fields Some fields do not have appropriate labels. Import/Export Some fields do not have appropriate labels. Operational Intelligence Some fields do not have appropriate labels. Reporting Some fields do not have appropriate labels.
2.4.7 Focus Visible (Level AA) Also applies to: EN 301 549 Criteria	Partially supports	Application Navigator and Banner Frame Focus indication is inadequate.

Criteria	Conformance Level	Remarks and Explanations
• 9.2.4.7 (Web) • 10.2.4.7 (Non-web document) • 11.2.4.7 (Open Functionality Software) • 11.2.4.7 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		Dashboards and homepages Focus indication is inadequate. Forms and fields Focus indication is inadequate. Lists Focus indication is inadequate. Performance Analytics Focus indication is inadequate. Service Catalog Focus indication is inadequate. Service Portal Focus indication is inadequate. Workflow Focus indication is inadequate.
3.1.2 Language of Parts (Level AA) Also applies to: EN 301 549 Criteria • 9.3.1.2 (Web) • 10.3.1.2 (Non-web document) • 11.3.1.2 (Open Functionality	Supports	

Criteria	Conformance Level	Remarks and Explanations
Software) - Does not apply • 11.3.1.2 (Closed Software) - Does not apply • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
3.2.3 Consistent Navigation (Level AA) Also applies to: EN 301 549 Criteria • 9.3.2.3 (Web) • 10.3.2.3 (Non-web document) - Does not apply • 11.3.2.3 (Open Functionality Software) - Does not apply	Partially supports	Knowledge Management Pressing the spacebar on the Subscribe button for a article on the KB portal is not working as expected. Reporting Inconsistent navigation. Lack of consistency between hover status and keyboard focusable status

Criteria	Conformance Level	Remarks and Explanations
• 11.3.2.3 (Closed Software) - Does not apply • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) – Does not apply to non-web software. • 504.2 (Authoring Tool) • 602.3 (Support Docs) – Does not apply to non-web docs.		
3.2.4 Consistent Identification (Level AA) Also applies to: EN 301 549 Criteria • 9.3.2.4 (Web) • 10.3.2.4 (Non-web document) - Does not apply • 11.3.2.4 (Open Functionality Software) - Does not apply	Partially supports	Chat The Edit Group details button is not consistently identified. Forms and fields Date/Time fields are not part of the tab index when displayed as Time Ago.

Criteria	Conformance Level	Remarks and Explanations
• 11.3.2.4 (Closed Software) - Does not apply • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) – Does not apply to non-web software. • 504.2 (Authoring Tool) • 602.3 (Support Docs) – Does not apply to non-web docs.		
3.3.3 Error Suggestion (Level AA) Also applies to: EN 301 549 Criteria • 9.3.3.3 (Web) • 10.3.3.3 (Non-web document) • 11.3.3.3 (Open Functionality Software) • 11.3.3.3 (Closed Software)	Supports	

Criteria	Conformance Level	Remarks and Explanations
• 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		
3.3.4 Error Prevention (Legal, Financial, Data) (Level AA) Also applies to: EN 301 549 Criteria • 9.3.3.4 (Web) • 10.3.3.4 (Non-web document) • 11.3.3.4 (Open Functionality Software) • 11.3.3.4 (Closed Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs)	Supports	

Criteria	Conformance Level	Remarks and Explanations
Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool) • 602.3 (Support Docs)		

Success Criteria, Level AAA

Not evaluated against AAA.

Revised Section 508 Report

Functional Performance Criteria (FPC)

Criteria	Conformance Level	Remarks and Explanations
302.1 Without Vision	Partially supports	Agent Workspace Parsing errors are present. Some elements are not keyboard accessible. Agile Development Some elements do not have appropriate markup. Some elements are not keyboard accessible. Application Navigator and banner frame Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not accessible with assistive tools. Some elements are not appropriately associated. Some elements do not have appropriate markup. Toggle options in system settings are not treated as buttons. Application Portfolio Management (APM) Skip links are not provided. Assessments Some elements are not accessible with assistive tools. Some elements do not have appropriate headers. Automated Test Framework Focus does not follow logical order. Some elements are not accessible with assistive tools. Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Benchmarks application Focus does not follow logical order. Skip links are not provided. Some elements are not keyboard accessible. Change Management Some elements do not have the appropriate role. Chat There is not consistent identification for the Edit group details button. Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Change Management Application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have the appropriate role. Condition Builder Focus does not follow logical order. Some buttons do not have unique descriptions. Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. Continual Improvement Management (CIM) Focus does not follow logical order. Some elements do not have required or appropriate Aria attribute. CSM Communities Malformed handling of error messages. Some elements do not have alternative text. Some elements do not have the appropriate role.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not use proper structure. Customer Service Management Some elements are not keyboard accessible. Dashboard and home pages Focus does not follow logical order. Some elements are not keyboard accessible. Discovery Some elements are not accessible with assistive tools. Email Some elements do not use proper structure. Event Management Selecting an option within the All drop down reloads the page. Field Service Management Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Flow Designer Focus does not follow logical order. Some elements are not keyboard accessible. Forms and fields Date/Time fields are not part of the tab index when displayed as Time Ago. There are duplicate containers for output messages on each form. Focus does not follow logical order. JAWS does not read/ narrate the state and control types of the elements on Active Section. No confirmation action for selecting various UI actions. Some elements are not accessible with assistive tools. Some elements do not have alternative text. Some elements do not have the appropriate labels. Some elements do not have required or appropriate Aria attribute.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not keyboard accessible. Some fields do not have appropriate labels. Guided Tours Some elements do not have required or appropriate Aria attribute. Human Resources Some elements do not have the appropriate role. Human Resources Service Management Focus does not follow logical order. Some elements do not have alternative text. Some elements are not keyboard accessible. Import/Export Some fields do not have appropriate labels. Incident Management Some elements are not keyboard accessible. Knowledge Management Pressing the spacebar on the Subscribe button for a

Criteria	Conformance Level	Remarks and Explanations
		article on the KB portal is not working as expected. Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. List v2 Some elements do not have required or appropriate Aria attribute. Lists Focus does not follow logical order. Some elements are not accessible with assistive tools. Some elements are not appropriately associated. There is not indication to the user that they are on a page that contains a table. Live Feed Some elements do not have appropriate markup. On-call Scheduling Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not keyboard accessible. Operational Intelligence Focus does not follow logical order. Parsing errors are present. Some elements do not have alternative text. Some fields do not have appropriate labels. Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order. JAWS cannot distinguish link purpose. Some elements are not accessible with assistive tools. Some elements do not have alternative text. Some elements do not have appropriate labels. Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have required or appropriate Aria attribute. Some elements are not keyboard accessible. Performance Analytics Application Some elements are not accessible with assistive tools. Project Management Some elements do not have required or appropriate Aria attribute. Project Portfolio Management Some elements are not keyboard accessible. Reporting Focus does not follow logical order. Inconsistent navigation. Lack of consistency between hover status and keyboard focusable status. Some elements do not have the appropriate role. Some fields do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		User has no indication that the report is published. Security Incident Response Focus does not follow logical order. Many elements include redundant tooltips. Some elements do not have required or appropriate Aria attribute. Service Analytics Some pages do not have appropriate titles. Service Catalog Some elements do not have required or appropriate Aria attribute. Service Catalog: Service Portal widgets Focus does not follow logical order. Some elements are not accessible with assistive tools. Service Portal Skip link targets are not available.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not accessible with assistive tools. Some elements do not have alternative text. Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Some elements do not have required or appropriate Aria attribute. Some elements are not keyboard accessible. Some elements are not readable by assistive technology. Software Asset Management Professional Some elements do not have appropriate markup. Some elements are not keyboard accessible. Test Management Some elements are not keyboard accessible. UI components Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not properly read by assistive tools. User Experience Engineering Focus does not follow logical order. Labels are not provided to indicate when content requires user input. Some elements do not have appropriate labels. Some elements trap keyboard focus. VA-Designer Some elements are not accessible with assistive tools. VA-Web Client Visibly removed content is still in the DOM. Visual Task Boards Some elements are not keyboard accessible. Vulnerability Response Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not keyboard accessible. Web Services Some elements are not keyboard accessible. Workflow Focus does not follow logical order. Some elements are not accessible with assistive tools. Some elements do not have appropriate roles. Some elements are not keyboard accessible. Some elements trap keyboard focus.
302.2 With Limited Vision	Partially supports	Activity Stream Some elements have insufficient contrast ratio. Agent Workspace Some elements have insufficient contrast ratio. Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Agile Development Some elements do not have appropriate markup. Some elements are not keyboard accessible. Antivirus Scanning Some elements have insufficient contrast ratio. Application Navigator and banner frame Focus does not follow logical order. Some elements are not appropriately associated. Some elements do not have appropriate markup. Application Portfolio Management (APM) Focus indication is inadequate. Assessments Some elements do not have appropriate headers. Some elements have insufficient contrast ratio. Automated Test Framework Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Some elements are not keyboard accessible. Benchmarks application Focus does not follow logical order. Some elements are not keyboard accessible. Chat There is not consistent identification for the Edit group details button. Multiple elements on the Conversation page are not visible in increased zoom mode (200%). Change Management Application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have the appropriate role. Condition Builder Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. Continual Improvement Management (CIM) Focus does not follow logical order. Core platform Some elements have insufficient contrast ratio. CSM Communities Malformed handling of error messages. Some elements do not use proper structure. Customer Service Management Some elements are not keyboard accessible. Dashboard and home pages Focus does not follow logical order. Focus indication is inadequate.

Criteria	Conformance Level	Remarks and Explanations
		Some elements have insufficient contrast ratio. Some elements are not keyboard accessible. Email Some elements do not use proper structure. Field Service Management Some elements are not keyboard accessible. Financial Management Some elements have insufficient contrast ratio. Flow Designer Focus does not follow logical order. Some elements are not keyboard accessible. Forms and fields Date/Time fields are not part of the tab index when displayed as Time Ago. Focus does not follow logical order. Focus indication is inadequate. Resizing the page is disabled.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have the appropriate labels. Some elements have insufficient contrast ratio. Some elements are not keyboard accessible. Some fields do not have appropriate labels. Human Resources Service Management Focus does not follow logical order. Some elements are not keyboard accessible. Import/Export Some fields do not have appropriate labels. Incident Management Some elements are not keyboard accessible. Knowledge Management Pressing the spacebar on the Subscribe button for a article on the KB portal is not working as expected. Some elements do not have appropriate headers.

Criteria	Conformance Level	Remarks and Explanations
		Language and translations Some elements do not have appropriate markup. Lists Focus indication is inadequate. Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call Scheduling Some elements do not have appropriate markup. Some elements are not keyboard accessible. Operational Intelligence Focus does not follow logical order. Some fields do not have appropriate labels. Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Focus indication is inadequate. Some elements do not have appropriate labels. Some elements do not have appropriate markup. Some elements have insufficient contrast ratio. Some elements are not keyboard accessible. Project Portfolio Management Some elements are not keyboard accessible. Reporting Focus does not follow logical order. Inconsistent navigation. Lack of consistency between hover status and keyboard focusable status. Some elements do not have the appropriate role. Some elements have insufficient contrast ratio. Some fields do not have appropriate labels. User has no indication that the report is published.

Criteria	Conformance Level	Remarks and Explanations
		Security Incident Response Focus does not follow logical order. Service Analytics Some pages do not have appropriate titles. Service Catalog Focus indication is inadequate. Service Catalog: Service Portal widgets Focus does not follow logical order. Service Portal Focus indication is inadequate. Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Some elements have insufficient contrast ratio. Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Software Asset Management Professional Some elements do not have appropriate markup. Some elements have insufficient contrast ratio. Some elements are not keyboard accessible. System Applications Some elements have insufficient contrast ratio. Templates Some elements have insufficient contrast ratio. Test Management Some elements are not keyboard accessible. UI components Focus does not follow logical order. User Experience Engineering Focus does not follow logical order. Some elements do not have appropriate labels. Some elements trap keyboard focus.

Criteria	Conformance Level	Remarks and Explanations
		VA-Web Client Some elements have insufficient contrast ratio. Visual Task Boards Some elements are not keyboard accessible. Vulnerability Response Some elements are not keyboard accessible. Walk-up experience Some elements have insufficient contrast ratio. Web Services Some elements are not keyboard accessible. Workflow Focus does not follow logical order. Focus indication is inadequate Some elements do not have appropriate roles. Some elements are not keyboard accessible. Some elements trap keyboard focus.

Criteria	Conformance Level	Remarks and Explanations
302.3 Without Perception of Color	Partially supports	Activity Stream Some elements have insufficient contrast ratio. Agent Workspace Some elements have insufficient contrast ratio. Antivirus Scanning Some elements have insufficient contrast ratio. Assessments Some elements have insufficient contrast ratio. Core platform Some elements have insufficient contrast ratio. Dashboard and home pages Some elements have insufficient contrast ratio. Financial Management Some elements have insufficient contrast ratio. Forms and fields Some elements have insufficient contrast ratio.

Criteria	Conformance Level	Remarks and Explanations
		Performance Analytics Some elements have insufficient contrast ratio. Reporting Some elements have insufficient contrast ratio. Service Creator Some elements have insufficient contrast ratio. Service Portal Some elements have insufficient contrast ratio. Software Asset Management Professional Some elements have insufficient contrast ratio. System Applications Some elements have insufficient contrast ratio. Templates Some elements have insufficient contrast ratio. VA-Web Client Some elements have insufficient contrast ratio.

Criteria	Conformance Level	Remarks and Explanations
		Walk-up experience Some elements have insufficient contrast ratio.
302.4 Without Hearing	Not Applicable	Product does not use prerecorded media.
302.5 With Limited Hearing	Not Applicable	Product does not use prerecorded media.
302.6 Without Speech	Not Applicable	Product does not use prerecorded media.
302.7 With Limited Manipulation	Supports with exceptions	Agent Workspace Some elements are not keyboard accessible. Agile Development Some elements are not keyboard accessible. Application Portfolio Management (APM) Focus indication is inadequate. Automated Test Framework Some elements are not keyboard accessible. Benchmarks application Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Chat There is not consistent identification for the Edit group details button. Customer Service Management Some elements are not keyboard accessible. Dashboard and home pages Focus indication is inadequate. Some elements are not keyboard accessible. Field Service Management Some elements are not keyboard accessible. Flow Designer Some elements are not keyboard accessible. Forms and fields Date/Time fields are not part of the tab index when displayed as Time Ago. Focus indication is inadequate. Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Human Resources Service Management Some elements are not keyboard accessible. Incident Management Some elements are not keyboard accessible. Knowledge Management Pressing the spacebar on the Subscribe button for a article on the KB portal is not working as expected. Lists Focus indication is inadequate. On-call Scheduling Some elements are not keyboard accessible. Performance Analytics Focus indication is inadequate. Some elements are not keyboard accessible. Project Portfolio Management Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Reporting Inconsistent navigation. Lack of consistency between hover status and keyboard focusable status. Service Catalog Focus indication is inadequate. Service Portal Focus indication is inadequate. Some elements are not keyboard accessible. Software Asset Management Professional Some elements are not keyboard accessible. Test Management Some elements are not keyboard accessible. User Experience Engineering Some elements trap keyboard focus. Visual Task Boards Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Vulnerability Response Some elements are not keyboard accessible. Web Services Some elements are not keyboard accessible. Workflow Some elements do not have appropriate roles. Some elements are not keyboard accessible. Some elements trap keyboard focus.
302.8 With Limited Reach and Strength	Not Applicable	No hardware is produced.
302.9 With Limited Language, Cognitive, and Learning Abilities	Supports with exceptions	Application Navigator and banner frame Focus does not follow logical order. Some elements are not accessible with assistive tools. Toggle options in system settings are not treated as buttons.

Criteria	Conformance Level	Remarks and Explanations
		Assessments Some elements are not accessible with assistive tools. Automated Test Framework Focus does not follow logical order. Some elements are not accessible with assistive tools. Benchmarks application Focus does not follow logical order. Change Management Some elements do not have the appropriate role. Chat There is not consistent identification for the Edit group details button. Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Condition Builder Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Some buttons do not have unique descriptions. Continual Improvement Management (CIM) Focus does not follow logical order. Some elements do not have required or appropriate Aria attribute. CSM Communities Malformed handling of error messages. Some elements do not have the appropriate role. Dashboard and home pages Focus does not follow logical order. Discovery Some elements are not accessible with assistive tools. Flow Designer Focus does not follow logical order. Forms and fields Date/Time fields are not part of the tab index when displayed as Time Ago.

Criteria	Conformance Level	Remarks and Explanations
		Focus does not follow logical order. JAWS does not read/ narrate the state and control types of the elements on Active Section. Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Some fields do not have appropriate labels. Guided Tours Some elements do not have required or appropriate Aria attribute. Human Resources Some elements do not have the appropriate role. Human Resources Service Management Focus does not follow logical order. Import/Export Some fields do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Knowledge Management Pressing the spacebar on the Subscribe button for a article on the KB portal is not working as expected. List v2 Some elements do not have required or appropriate Aria attribute. Lists Some elements are not accessible with assistive tools. Operational Intelligence Focus does not follow logical order. Some fields do not have appropriate labels. Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order. Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Performance Analytics Application Some elements are not accessible with assistive tools. Project Management Some elements do not have required or appropriate Aria attribute. Reporting Focus does not follow logical order. Inconsistent navigation. Lack of consistency between hover status and keyboard focusable status. Some fields do not have appropriate labels. Security Incident Response Focus does not follow logical order. Many elements include redundant tooltips. Some elements do not have required or appropriate Aria attribute.

Criteria	Conformance Level	Remarks and Explanations
		Service Catalog Some elements do not have required or appropriate Aria attribute. Service Catalog: Service Portal widgets Focus does not follow logical order. Some elements are not accessible with assistive tools. Service Portal Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Some elements are not readable by assistive technology. UI components Focus does not follow logical order. Some elements are not properly read by assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Focus does not follow logical order. Labels are not provided to indicate when content requires user input. VA-Designer Some elements are not accessible with assistive tools. VA-Web Client Visibly removed content is still in the DOM. Vulnerability Response Some elements are not accessible with assistive tools. Workflow Focus does not follow logical order. Some elements are not accessible with assistive tools.

Software

Criteria	Conformance Level	Remarks and Explanations
501.1 Scope – Incorporation of WCAG 2.0 AA	See the WCAG 2.0 section.	See information in the WCAG section

Criteria	Conformance Level	Remarks and Explanations
502 Interoperability with Assistive Technology		
502.2.1 User Control of Accessibility Features	Partially supports	Application Navigator and banner frame Elements are not accessible with assistive tools. Assessments Elements are not accessible with assistive tools. Automated Test Framework Elements are not accessible with assistive tools. Chat Elements are not accessible with assistive tools. Discovery Elements are not accessible with assistive tools. Forms and fields Elements are not accessible with assistive tools. Lists Elements are not accessible with assistive tools. Performance Analytics Elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Performance Analytics application Elements are not accessible with assistive tools. Service Catalog: Service Portal Widgets Elements are not accessible with assistive tools. Service Portal Elements are not accessible with assistive tools. Some elements are not readable by assistive tools. UI components Some elements are not properly read by assistive tools VA-Designer Elements are not accessible with assistive tools. Vulnerability Response Elements are not accessible with assistive tools. Workflow Elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
502.2.2 No Disruption of Accessibility Features	Partially supports	Application Navigator and banner frame Elements are not accessible with assistive tools. Assessments Elements are not accessible with assistive tools. Automated Test Framework Elements are not accessible with assistive tools. Chat Elements are not accessible with assistive tools. Discovery Elements are not accessible with assistive tools. Forms and fields Elements are not accessible with assistive tools. Lists Elements are not accessible with assistive tools. Performance Analytics Elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Performance Analytics application Elements are not accessible with assistive tools. Service Catalog: Service Portal Widgets Elements are not accessible with assistive tools. Service Portal Elements are not accessible with assistive tools. Some elements are not readable by assistive technology. UI components Some elements are not properly read by assistive tools. VA-Designer Elements are not accessible with assistive tools. Vulnerability Response Elements are not accessible with assistive tools. Workflow Elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
502.3 Accessibility Services		
502.3.1 Object Information	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not accessible with assistive tools. Some elements are not appropriately associated. Some elements do not have appropriate markup. Toggle options in system settings are not treated as buttons. Assessments Some elements are not accessible with assistive tools. Some elements do not have appropriate headers. Automated Test Framework Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Change Management Some elements do not have appropriate role. Chat Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Continual Improvement Management (CIM) Some elements do not have required or appropriate Aria attribute CSM Communities Some elements do not have appropriate role. Some elements do not use proper structure. Discovery Some elements are not accessible with assistive tools. Email Some elements do not use proper structure. Forms and fields Some elements are not accessible with assistive tools. Some elements do not have appropriate labels. Some elements do not have required or appropriate Aria attribute.

Criteria	Conformance Level	Remarks and Explanations
		Guided Tours Some elements do not have required or appropriate Aria attribute. Human Resources Some elements do not have appropriate role. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. List v2 Some elements do not have required or appropriate Aria attribute. Lists Some elements are not accessible with assistive tools. Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements are not accessible with assistive tools. Some elements do not have appropriate labels. Some elements do not have appropriate markup. Performance Analytics application Some elements are not accessible with assistive tools. Project Management Some elements do not have required or appropriate Aria attribute. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Security Incident Response Many elements include redundant tooltips.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have required or appropriate Aria attribute. Service Analytics Some pages do not have appropriate titles. Service Catalog Some elements do not have required or appropriate Aria attribute. Service Catalog: Service Portal Widgets Some elements are not accessible with assistive tools. Service Portal Some elements are not accessible with assistive tools. Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Some elements do not have required or appropriate Aria attribute. Some elements are not readable by assistive technology.

Criteria	Conformance Level	Remarks and Explanations
		Software Asset Management Professional Some elements do not have appropriate markup. UI components Some elements are not properly read by assistive tools. User Experience Engineering Some elements do not have appropriate labels. VA-Designer Some elements are not accessible with assistive tools. VA-Web Client Visibly removed content is still in the DOM. Vulnerability Response Some elements are not accessible with assistive tools. Workflow Some elements are not accesible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate roles.
502.3.2 Modification of Object Information	Partially supports	Agent Workspace Some elements not keyboard accessible. Agile Development Some elements not keyboard accessible. Automated Test Framework Some elements not keyboard accessible. Benchmarks application Some elements not keyboard accessible. Customer Service Management Some elements not keyboard accessible. Dashboards and home pages Some elements not keyboard accessible. Event Management Selection of an option within the All drop-down reloads the page.

Criteria	Conformance Level	Remarks and Explanations
		Field Service Management Some elements not keyboard accessible. Flow Designer Some elements are not keyboard accessible. Forms and fields No confirmation action for selecting various UI actions. Some elements are not keyboard accessible. Human Resources Service Management Some elements are not keyboard accessible. Incident Management Some elements are not keyboard accessible. On-call scheduling Some elements are not keyboard accessible. Performance Analytics Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Project Portfolio Management Some elements are not keyboard accessible. Service Portal Some elements are not keyboard accessible. Software Asset Management Professional Some elements are not keyboard accessible. Test Management Some elements are not keyboard accessible. User Experience Engineering Some elements trap keyboard focus. Visual Task Boards Some elements are not keyboard accessible. Vulnerability Response Some elements are not keyboard accessible. Web Services Some elements are not keyboard accessible.

Criteria	Conformance Level	Remarks and Explanations
		Workflow Some elements are not keyboard accessible. Some elements trap keyboard focus.
502.3.3 Row, Column, and Headers	Partially supports	Application Navigator and banner frame Some elements are not accessible with assistive tools. Toggle options in system settings are not treated as buttons. Assessments Some elements are not accessible with assistive tools. Automated Test Frameworks Some elements are not accessible with assistive tools. Change Management Some elements do not have appropriate role.

Criteria	Conformance Level	Remarks and Explanations
		Chat Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Continual Improvement Management (CIM) Some elements do not have required or appropriate Aria attribute. CSM Communities Some elements do not have appropriate role. Discovery Some elements are not accessible with assistive tools. Forms and fields Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Some fields do not have appropriate label.

Criteria	Conformance Level	Remarks and Explanations
		Guided Tours Some elements do not have required or appropriate Aria attribute. Human Resources Some elements do not have appropriate role. Import/Export Some fields do not have appropriate label. List v2 Some elements do not have required or appropriate Aria attribute. Lists Some elements are not accessible with assistive tools. Operational Intelligence Some fields do not have appropriate label. Performance Analytics Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Performance Analytics application Some elements are not accessible with assistive tools. Project Management Some elements do not have required or appropriate Aria attribute. Reporting Some fields do not have appropriate label. Security Incident Response Many elements include redundant tooltips. Some elements do not have required or appropriate Aria attribute. Service Catalog Some elements do not have required or appropriate Aria attribute. Service Catalog: Service Portal Widgets Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
		Service Portal Some elements are not accessible with assistive tools. Some elements do not have required or appropriate Aria attribute. Some elements are not readable by assistive technology. UI components Some elements are not properly read by assistive tools. VA-Designer Some elements are not accessible with assistive tools. VA-Web Client Visibly removed content is still in the DOM. Vulnerability Response Some elements are not accessible with assistive tools. Workflow Some elements are not accessible with assistive tools.

Criteria	Conformance Level	Remarks and Explanations
502.3.4 Values	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management Application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate labels. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
502.3.5 Modification of Values	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not use proper structure. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Event Management Selection of an option within the All drop-down reloads the page. Forms and fields No confirmation action for selecting various UI actions. Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published.

Criteria	Conformance Level	Remarks and Explanations
		Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup. User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
502.3.6 Label Relationships	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure.

Criteria	Conformance Level	Remarks and Explanations
		Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup. User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.

Criteria	Conformance Level	Remarks and Explanations
502.3.7 Hierarchical Relationships	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some element do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
502.3.8 Text	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup. User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
502.3.9 Modification of Text	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers.

Criteria	Conformance Level	Remarks and Explanations
		Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure.

Criteria	Conformance Level	Remarks and Explanations
		Event Management Selection of an option with the All drop-down reloads the page. Forms and fields No confirmation action for selecting various UI actions. Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup. User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.

Criteria	Conformance Level	Remarks and Explanations
502.3.10 List of Actions	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup. Configuration Management Database (CMDB) Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		CSM Communities Some elements do not user proper structure. Email Some elements do not user proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup. On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels.

Criteria	Conformance Level	Remarks and Explanations
		Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portal Some elements do not have appropriate labels. Some elements do not have appropriate landmarks. Software Asset Management Professional Some elements do not have appropriate markup. User Experience Engineering Some elements do not have appropriately labels. Workflow Some elements do not have appropriate roles.

Criteria	Conformance Level	Remarks and Explanations
502.3.11 Actions on Objects	Partially supports	Agile Development Some elements do not have appropriate markup. Application Navigator and banner frame Some elements are not appropriately associated. Some elements do not have appropriate markup. Assessments Some elements do not have appropriate headers. Cloud Management application Some elements do not have appropriate headers. Some elements do not have appropriate landmarks. Some elements do not have appropriate markup. Some elements do not have appropriate roles. Condition Builder Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		Configuration Management Database (CMDB) Some elements do not have appropriate labels. CSM Communities Some elements do not use proper structure. Email Some elements do not use proper structure. Forms and fields Some elements do not have appropriate labels. Knowledge Management Some elements do not have appropriate headers. Language and translations Some elements do not have appropriate markup. Lists Some elements are not appropriately associated. Live Feed Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		On-call scheduling Some elements do not have appropriate markup. Performance Analytics Some elements do not have appropriate labels. Some elements do not have appropriate markup. Reporting Some elements do not have appropriate roles. User has no indication that the report is published. Service Analytics Some pages do not have appropriate titles. Service Portals Some elements do not have appropriate labels. Some elements do not have appropriate landmarks Software Asset Management Professional Some elements do not have appropriate markup.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Some elements do not have appropriate labels. Workflow Some elements do not have appropriate roles.
502.3.12 Focus Cursor	Partially supports	Application Navigator and banner frame Focus does not follow logical order Application Portfolio Management (APM) Focus Indication is inadequate. Automated Test Framework Focus does not follow logical order. Benchmarks application Focus does not follow logical order. Condition Builder Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Continual Improvement Management (CIM) Focus does not follow logical order. Dashboards and home pages Focus does not follow logical order. Focus Indication is inadequate. Flow Designer Focus does not follow logical order. Forms and fields Focus does not follow logical order. Focus Indication is inadequate. Human Resources Service Management Focus does not follow logical order. Lists Focus Indication is inadequate. Operational Intelligence Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order. Focus Indication is inadequate. Reporting Focus does not follow logical order. Security Incident Response Focus does not follow logical order. Service Catalog Focus Indication is inadequate. Service Catalog: Service Portal Widgets Focus does not follow logical order. Service Portal Focus Indication is inadequate. UI components Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Focus does not follow logical order. Workflow Focus does not follow logical order. Focus Indication is inadequate.
502.3.13 Modification of Focus Cursor	Partially supports	Application Navigator and banner frame Focus does not follow logical order. Application Portfolio Management (APM) Focus Indication is inadequate. Automated Test Framework Focus does not follow logical order. Benchmarks application Focus does not follow logical order. Condition Builder Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Continual Improvement Management (CIM) Focus does not follow logical order. Dashboards and home pages Focus does not follow logical order. Focus Indication is inadequate. Flow Designer Focus does not follow logical order. Forms and fields Focus does not follow logical order. Focus Indication is inadequate. Human Resources Service Management Focus does not follow logical order. Lists Focus Indication is inadequate. Operational Intelligence Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		Orchestration Focus does not follow logical order. Performance Analytics Focus does not follow logical order. Focus Indication is inadequate. Reporting Focus does not follow logical order. Security Incident Response Focus does not follow logical order. Service Catalog Focus Indication is inadequate. Service Catalog: Service Portal Widgets Focus does not follow logical order. Service Portal Focus Indication is inadequate. UI components Focus does not follow logical order.

Criteria	Conformance Level	Remarks and Explanations
		User Experience Engineering Focus does not follow logical order. Workflow Focus does not follow logical order. Focus Indication is inadequate.
502.3.14 Event Notification	Partially supports	CSM Communities Malformed handling of error messages.
502.4 Platform Accessibility Features	Supports	
503 Applications		
503.2 User Preferences	Not applicable	Web application only
503.3 Alternative User Interfaces	Not applicable	New UIs not created for assistive technology
503.4 User Controls for Captions and Audio Description		
503.4.1 Caption Controls	Not applicable	Product does not have captions.
503.4.2 Audio Description Controls	Not applicable	Product does not use audio description.
504 Authoring Tools		

Criteria	Conformance Level	Remarks and Explanations
504.2 Content Creation or Editing (if not authoring tool, enter `not applicable`)	See the WCAG 2.0 section.	See information in WCAG section
504.2.1 Preservation of Information Provided for Accessibility in Format Conversion	Not applicable	Product is not an authoring tool.
504.2.2 PDF Export	Not applicable	Product is not an authoring tool.
504.3 Prompts	Not applicable	Product is not an authoring tool.
504.4 Templates	Not applicable	Product is not an authoring tool.

Support Documentation and Services

This report covers accessibility conformance for the ServiceNow product and does not discuss Documentation or Support Services.

Hardware

The hardware section has been removed. No hardware is produced.

Related Topics

- Web Content Accessibility Guidelines (WCAG) overview