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Yokohama Proactive Service Experience Workflows

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Company Headquarters
2225 Lawson Lane
Santa Clara, CA 95054
United States
(408) 501-8550

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Proactive Service Experience Workflows

The Proactive Service Experience Workflows application enables service providers to deliver comprehensive support while understanding customer impact and maintaining transparent communication with all parties involved in the support process.

Watch this short video for an introduction to the Proactive Service Experience Workflows application.

https://player.vimeo.com/video/981575621?h=19878717a5

Explore

Learn about how service providers and customers use Proactive Service Experience Workflows.

Configure

Plan and customize Proactive Service Experience Workflows to meet your specific needs.

Use

Use Proactive Service Experience Workflows to resolve the network-initiated incidents and notify the impacted customers.

Reference

Learn about user roles, main components, and domain separation in Proactive Service Experience Workflows.

Additional resources

- Learn more about what's new and changed, see the Proactive Service Experience Workflows.
- Log in to your ServiceNow® account and find additional information about implementing and deploying Proactive Service Experience Workflow features at Now Create.
- Access real-time courses, self-paced training, and career resources at ServiceNow University
- Find useful resources related to your role and explore best practices at the Customer Success Center.
- Connect with other Proactive Service Experience Workflow users at Now Community.

Exploring the Proactive Service Experience Workflows

Proactive Service Experience Workflows enhances the Service Operations Workspace to empower agents with automation and visibility, including customer and business context, so that service providers can resolve service issues swiftly and proactively, in the appropriate order, and with complete transparency.

Proactive Service Experience Workflows capabilities

The application delivers end-to-end support, analyzes customer impact, and enables transparent communication between all parties involved in the support process. With Proactive Service Experience Workflows, service providers can:

Capabilities	Key features
Identify affected customer accounts based on one or more configuration items associated with upstream services that are tied to an install base.	About identifying affected accounts with Proactive Service Experience Workflows in Incident Management
With Operations Account 360, use data from ITSM and CSM to drill down into customer accounts and visualize key information about the account.	Reviewing customer or partner accounts in Proactive Service Experience Workflows
Generate proactive cases that include synchronizations of certain fields on case insert, incident resolution, or closure of a change request.	Redirection to the right case type
Reduce administrative setup and overhead with enhanced incident and change request forms in the Service Operations Workspace.	Create a case from a change request
Resolve minor cases without intervention by customer support agents.	Auto-creation of cases and updates from incidents
Provide capabilities for technical support agents to communicate with external customers without navigating between incident or change requests, and associated case records.	About identifying affected accounts with Proactive Service Experience Workflows in Incident Management
Use five unique Workflow Studio flows that can be modified to suit your business needs.	Proactive Service Experience Workflows
Escalate incidents for faster action based on a preconfigured decision table.	About escalating incidents
Create incident records from certain API clients based on TM Forum TMF621 Rest API standards.	Create an incident in Proactive Service Experience Workflows
Use dedicated roles that enable technical support agents to see both ITSM and CSM and applications.	Components installed with Customer Service Problem Management

For information about the architectural components of the Proactive Service Experience Workflows application, see Proactive Service Experience Workflows.

Proactive Service Experience Workflows

There are multiple components that make up the architecture of the Proactive Service Experience Workflows application.

Proactive Service Experience Workflows process

The following diagram shows the steps involved in the Proactive Service Experience Workflows process:

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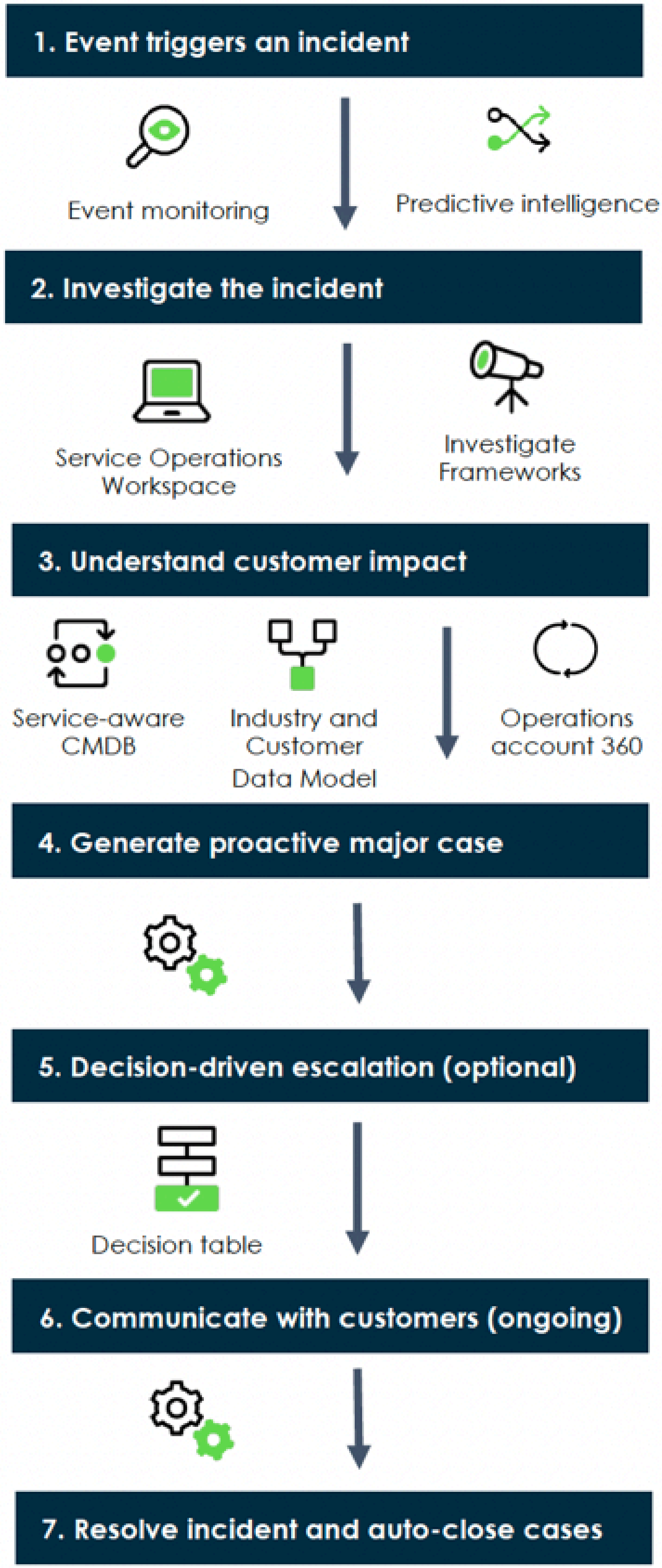


Proactive Service Experience Workflows

Proactive Service Experience Workflows and Incident Management within the Service Operations Workspace

You can use the Service Operations Workspace application to get an overview of how a network agent can prioritize tasks and resolve incidents.

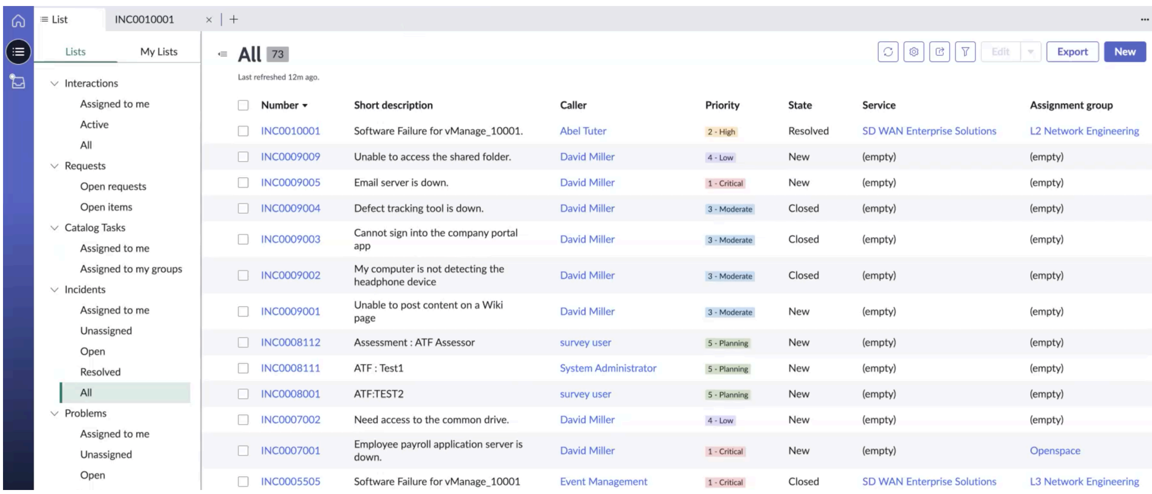
Viewing the Service Operations Workspace

From the **Workspaces** menu, select **Service Operations Workspace** and select the **Home** icon. From the landing page, a network agent can analyze incidents and view cases and upcoming tasks. To view:

- **Lists**: Select the **Lists** tab in the Service Operations Workspace. From the Lists tab, a network agent can analyze the individual lists of incidents and tasks and then take the appropriate action.

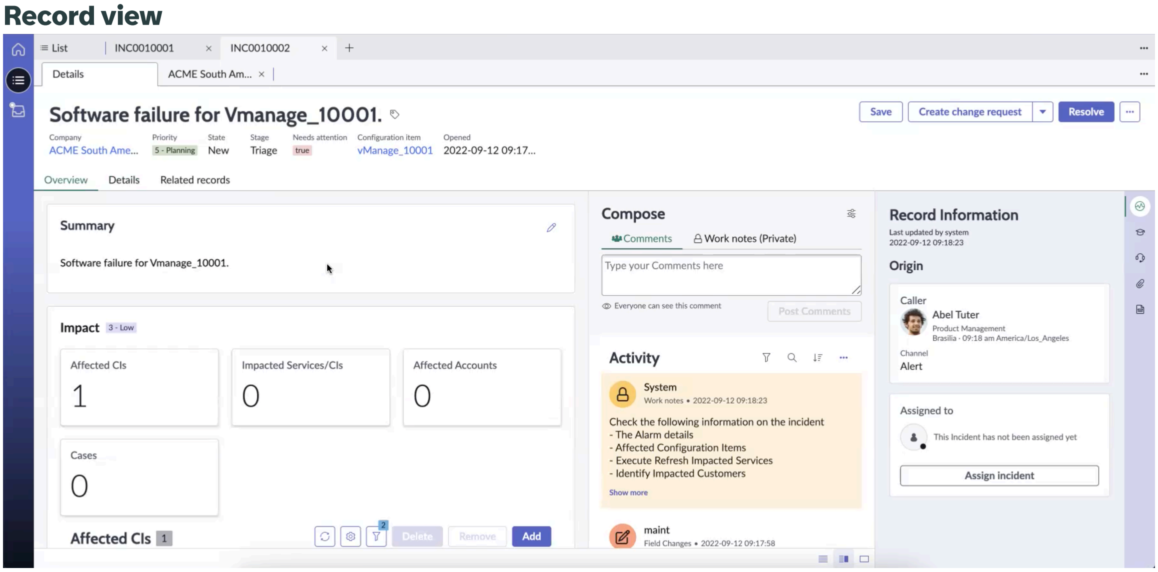
  The following example shows the List tab.

List tab



- Records: Open any task record to navigate to its record view as shown in the following example.

Record view



Example

The Proactive Service Experience Workflows application is automatically triggered when an incident is created within the system by an alert flow. A technical support can manually create this alert in the Service Operations Workspace. It can also be generated from an external fault management system using the TMF 621 integration.

The following example demonstrates how Proactive Service Experience Workflows is used to resolve an external network-initiated incident. In this example,

1. An external fault management system using TMF 621 integration sends an alert that triggers the creation of an incident record with the following values:
    - Short Description and Description: Vmanage_10001 failed to restart after a change was implemented.
    - Configuration Item: Vmanage_10001 (SD-WAN CI Class)
    - Category: SD-WAN
    - Sub Category: Protocol Failure
    - Affected Customers: 5
2. A technical support engineer opens the incident record inside the Service Operations Workspace and sees the list of impacted services and accounts in the **Overview** section.
3. The technical support engineer triages the issues by reviewing the latest changes in the Agent Assist that triggered the outage.
4. The technical support engineer then restarts the SD-WAN controller and selects **Generate Proactive Cases** in the Cases section. One major case and five child cases are generated and notifications are sent to the primary contacts for the affected accounts.
5. As a major case was created, the technical support engineer notifies the major issue manager of a potentially serious outage. The Major Issue Manager manages the major case record and communication with both technical teams and affected customers.
6. The Technical Support Engineer (TSE) realizes the device can't be rebooted and might have failed altogether. The TSE changes the Sub Category field to device failure and selects the **Escalate UI** action and enters a work note.
7. The next level L2 Support team receives the incident and updates the record status.
8. The L2 Technical Support Engineer tries to troubleshoot the issues on the SD-WAN controller and successfully restarts the configuration item. Four out of the five the affected accounts report the issue is resolved, but the fifth account is still experiencing some problems.
9. To diagnose further issues with the fifth account, the L2 Technical Support Engineer performs the following steps:
    - Selects the check box next to the case record on the Overview page.
    - Selects the **Notify UI** action to send a message via additional comments to the contact person on the case record.
10. The contact person receives the additional comment and performs some extra steps. When the service is restored, the contact updates the status in the CSM portal.
11. Seeing the additional comments in the incident record, the L2 Technical Support Engineer changes the State field to **Resolved**.

    The resolution information is copied down to each case record, while the Major Issue Manager resolves the major case record and any associated cases.

Configuring Proactive Service Experience Workflows

You can configure Proactive Service Experience Workflows so that you can add users to assignment groups. You can also create custom instructions for engineers to guide them in resolving network-initiated issues through automatically provided workflows.

Install Proactive Service Experience Workflows

If you're a user with the system administrator role, you can install the Proactive Service Experience Workflows application.

Before you begin
Ensure that the application and all of its associated ServiceNow Store applications have valid ServiceNow entitlements. For more information, see Get entitlement for a ServiceNow product or application.

- Role required: admin
- Plugins required: The following plugins must have been installed:
  - Customer Service Management
  - Customer Service with Service Management
  - Service Operations Workspace

About this task
The Telecom core application is installed with Proactive Service Experience Workflows:

Procedure

1. Navigate to **All** > **System Applications** > **All Available Applications** > **All**.
2. Find the Proactive Service Experience Workflows application (sn_ind_tsm_sdwan) using the filter criteria and search bar.

   You can search for the application by its name or ID. If you can't find the application, you may have to request it from the ServiceNow Store.

   Visit the ServiceNow Store website to view all the available apps and for information about submitting requests to the store. For cumulative release notes information for all released apps, see the ServiceNow Store version history release notes.
3. In the Application installation dialog box, review the application dependencies.

   All dependent plugins and applications that are included, or must be installed are listed in the dialog box.
4. **Optional:** If demo data is available and you want to install it, select **Load demo data**.

   (Optional) Demo data comprises sample records that describe application features for common use cases. Load demo data when you first install the application on a development or test instance.

   > **Important:**
   > If you don't load the demo data during installation, it's unavailable to load later.
5. Select **Install**.

Add users to Proactive Service Experience Workflows assignment groups

Add users to Proactive Service Experience Workflows assignment groups so that they have the necessary role and can be assigned to resolve network-initiated issues at the appropriate escalation level.

Before you begin
Role required: admin

Procedure

1. Navigate to **All** > **User Administration** > **Groups**.
2. Select the group name.
   The four assignment groups are as follows:
   - Network Coordinators
   - L1 Network Engineering
   - L2 Network Engineering
   - L3 Network Engineering
3. In the Group Members related list, select **Edit**.
4. Select one or more names in the Collection list.
5. Select **Add**.
6. Select **Save**.

Using Proactive Service Experience Workflows

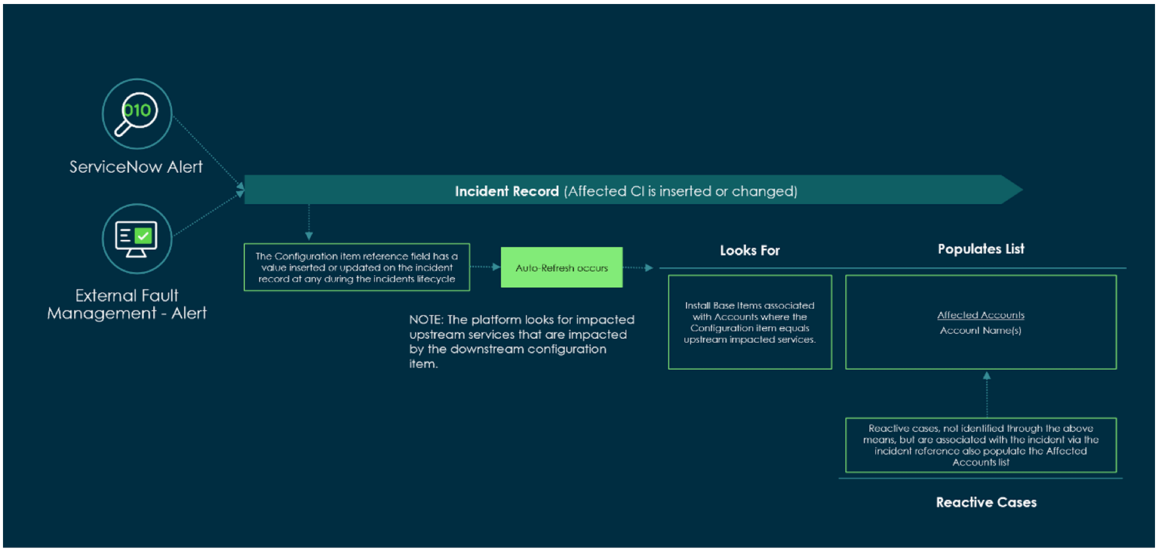
By using ServiceNow® Proactive Service Experience Workflows, you can help resolve network-initiated incidents and proactively notify impacted customers. This application enhances the Incident Management application for common SD-WAN service issues that are detected by network management systems.

About identifying affected accounts with Proactive Service Experience Workflows in Incident Management

An incident record is created when an event management system generates an alert and the affected accounts can be viewed in the Service Operations Workspace.

When the technical support engineer logs in to the Service Operations Workspace, the affected configuration item, services, and customers are listed in the Overview section. These details are automatically updated when the Configuration Item in the Incident record is updated. When the Configuration Item is updated, the **Refresh Impacted Services** script is automatically triggered and retrieves services that are experiencing an outage or degradation. The impacted services associated with the accounts are identified and updated. Additionally, if a CSM agent associates a case with the incident record, the Affected Account list is also updated. When the Affected Account list is updated, the customer impact is visible to the support teams working on the incident record.

The following diagram shows the steps involved in creating an incident record.



Note:
The Change Management workflow follows the same process. When a configuration item is updated in a change request record, the **Refresh Impacted Services** script is triggered and the affected accounts are retrieved. Since the configuration item field is set to read-only, you must ensure that this field is populated before the script is triggered. See Create a case from a change request for more details.

Create an incident in Proactive Service Experience Workflows

Create an incident record in Proactive Service Experience Workflows to document an issue that your customer is facing.

Before you begin

Role required: sn_ind_tsm_sdwan.PSEW_USER, admin

Procedure

1. Navigate to **Workspaces** > `Service Operations Workspace` > **Incidents** > **All**.
2. From the incident list view, select **New**.
3. On the form, fill in the fields.

Incident form

Field	Description
Short description	Brief description of the incident.
Description	Detailed explanation of the incident.
Number	Unique system-generated incident number.
Company	Customer account that faced a network issue.
Caller	User who contacted you about an issue.
Location	Location of the caller.
Channel	Communication method that is used to create the incident. The available options are: ◦ Chat ◦ Email

Field	Description
	○ Phone ○ Monitoring ○ Self-service ○ Virtual agent ○ Walk-in
State	State of the incident through several stages of resolution.
Impact	Measure of the effect of an incident or problem.
Urgency	Measure of how long the resolution can be delayed until an incident or problem has a significant business impact.
Priority	Based on the impact, urgency, and how quickly the resolution can be completed.
Service	Affected business service.
Service Offering	Service offering that consists of one or more service commitments that uniquely define the level of service for the availability, scope, pricing, and packaging options.
Configuration item	Affected configuration item.
Assignment group	Group that works on the incident.
Assigned to	User who works on this incident. If the **Assignment group** changes, the **Assigned to** field is cleared.
Additional comments	More information about the issue as needed. All users who can view the incidents can see the additional comments.
Work notes	Information about how to resolve the incident, or the steps that were taken to resolve it, if applicable.
Category and Sub Category	Type of issue. After selecting the category, select the subcategory, if applicable.

4. Select **Save**.

Result
The incident is created.

Create cases from an incident record in Proactive Service Experience Workflows

Create cases from records so that you can identify and solve network issues for your enterprise customers.

Before you begin
This task assumes that a workflow has already been triggered and an assignment group has been assigned.

Role required: sn_ind_tsm_sdwan.PSEW_USER

About this task

After a workflow in Proactive Service Experience Workflows triggers, you can identify the customers and systems that are affected by the network issue. You can then either automatically create the individual cases for the impacted customers or create a major case and child cases for a larger number of affected customers.

Procedure

1. Navigate to the *Service Operations Workspace*, and select **List** > **Incidents** > **Open**.
2. Select an incident from the list.
3. **Optional:** In an existing incident, assign the incident.
4. See the affected configuration items (CIs) by selecting the **Affected CIs** card.
5. See the impacted services by selecting the **Impacted Services/CIs** card and selecting **Refresh Impacted Services**.
6. See the affected accounts by selecting the **Affected Accounts** card and selecting **Identify Affected Accounts**.

   The ServiceNow® instance initiates an action to refresh the impacted services and to find the affected accounts.

7. Look for the names of the customers who are affected by selecting the **Affected Accounts** card and checking the Name column.
   Typically, the network coordinator creates cases so that the impacted customers are proactively notified of the network-initiated issues.
8. Generate proactive cases for the affected customers by selecting the Cases card and selecting **Generate Proactive Cases**.
   - If the number of affected accounts is less than the threshold, then this action creates one case for each affected account. Otherwise, this action first creates a major case and then creates child cases (one case for each affected account).
   - If you want to change the threshold, contact your administrator to change the value of the *sn_ind_tsm_core.major_case-affected_account_threshold* system property.
   - In the **Cases** tab, the major case is indicated by **[empty]** in the Account and Contact columns. Cases where that information is populated are child cases of that major case.
9. Create an ad-hoc case by selecting a case from the list and selecting **New**.
10. Notify a customer by selecting a case and selecting **Notify Customers**.
11. In the Notify Customers pop-up window, enter a descriptive note, and select **Notify**.

    A note is automatically inserted in the **Activity** field of the incident record and also in the selected cases record. If your customer updates the case with any message, it automatically synchronizes with the Incident record too.

    Note:
    By default, the Notify Customers functionality isn't active. As an admin, you must set the property value *proactive_workflows_for_providers.additional_comments_sync* to TRUE. Turn off the BR (business rule) *Update case worknote for comments change* to enable this functionality.

12. If you want to update the probable cause of the incident, select the **Cause** tab and save your message.

13. Resolve an incident by selecting **Resolve** on the incident record.
    In the Resolve pop-up window, enter the resolution code and resolution notes and select **Resolve**.

    Note:
    Only minor cases are automatically closed. For major cases, you must manually close all the related cases.

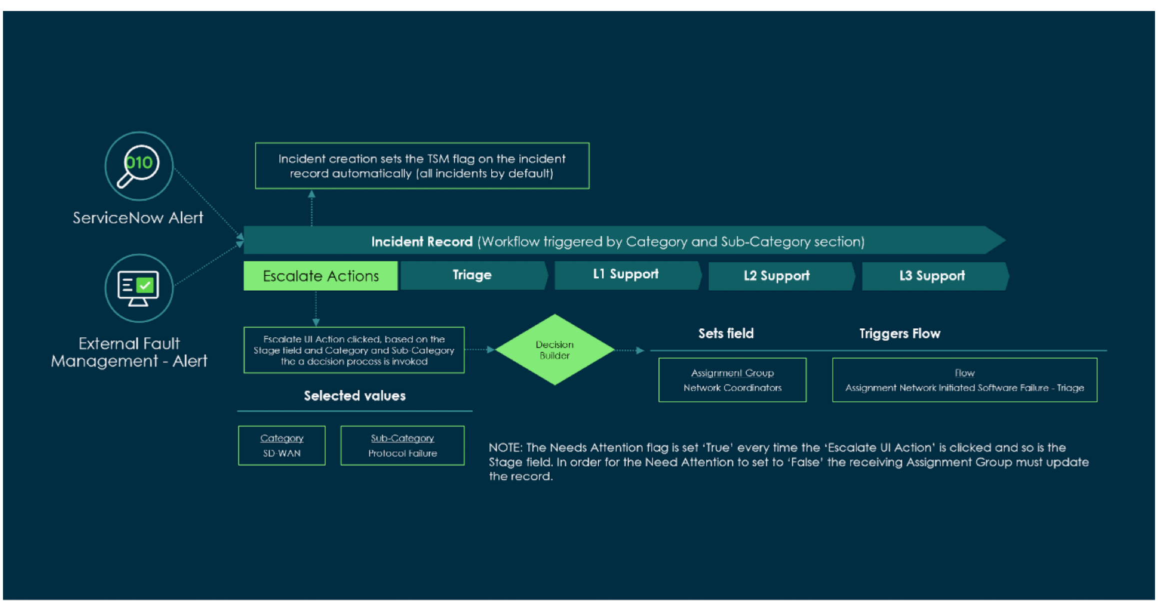
Result
When the incident is resolved, it triggers the auto-closure of related cases.

- If there’s no major case, all the related individual cases are resolved and are updated with the work notes. The following field values from the parent incident record are also populated in the related cases:
  - Resolution Notes
  - Resolution Code
  - Probable Cause
- If there’s a major case, the related cases don't get auto-resolved and a message is added to the work notes of the incident record, "There is a major case associated with this incident."The following field values from the parent incident record are populated in all the related major and child cases:
  - Resolution Notes
  - Resolution Code
  - Probable Cause

About escalating incidents

An escalation can be triggered when an incident is created with the appropriate category and sub category and the **Escalate UI** option is triggered within the Service Operations Workspace.

The following diagram provides a visual representation of the escalation flow.



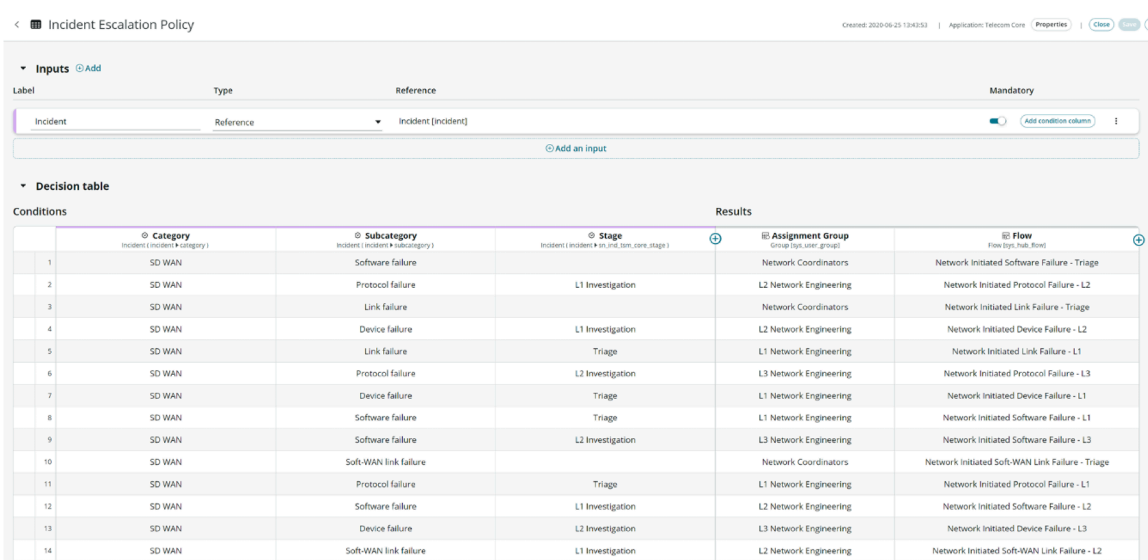
The following category and sub category values are available with the base system:

- Category: SD-WAN
- Sub category:
  - Link failure
  - Device failure
  - Protocol failure
  - Soft-WAN link failure
  - Software failure

The following values are available for the Stage field in the Incident table:

- Triage
- L1 investigation
- L2 investigation
- L3 investigation

Based on the defined conditions, such as current stage, category, and sub-category, the Incident Escalation Policy decision table determines the results and the next escalation stage if appropriate.



	Category Incident (incident ▸ category)	Subcategory Incident (incident ▸ subcategory)	Stage Incident (incident ▸ sn_ind_tsm_core_stage)	Assignment Group Group [sys_user_group]	Flow Flow [sys_hub_flow]
1	SD WAN	Software failure		Network Coordinators	Network Initiated Software Failure - Triage
2	SD WAN	Protocol failure	L1 Investigation	L2 Network Engineering	Network Initiated Protocol Failure - L2
3	SD WAN	Link failure		Network Coordinators	Network Initiated Link Failure - Triage
4	SD WAN	Device failure	L1 Investigation	L2 Network Engineering	Network Initiated Device Failure - L2
5	SD WAN	Link failure	Triage	L1 Network Engineering	Network Initiated Link Failure - L1
6	SD WAN	Protocol failure	L2 Investigation	L3 Network Engineering	Network Initiated Protocol Failure - L3
7	SD WAN	Device failure	Triage	L1 Network Engineering	Network Initiated Device Failure - L1
8	SD WAN	Software failure	Triage	L1 Network Engineering	Network Initiated Software Failure - L1
9	SD WAN	Software failure	L2 Investigation	L3 Network Engineering	Network Initiated Software Failure - L3
10	SD WAN	Soft-WAN link failure		Network Coordinators	Network Initiated Soft-WAN Link Failure - Triage
11	SD WAN	Protocol failure	Triage	L1 Network Engineering	Network Initiated Protocol Failure - L1
12	SD WAN	Software failure	L1 Investigation	L2 Network Engineering	Network Initiated Software Failure - L2
13	SD WAN	Device failure	L2 Investigation	L3 Network Engineering	Network Initiated Device Failure - L3
14	SD WAN	Soft-WAN link failure	L1 Investigation	L2 Network Engineering	Network Initiated Soft-WAN Link Failure - L2

The decision table is provided with the Proactive Service Experience Workflows application. You can modify the conditions that have been defined, and the results to suit your requirements. For more details on updating decision tables, see Decision Tables.

When an incident is escalated, the status of the Needs attention field is updated to **True**. The status can be changed to **False** by the owner of the Assignment Group field.

Note:
As a system administrator, you can configure the **Set Needs Attention False** business rule.

Escalate an incident in Proactive Service Experience Workflows

Escalate an incident to continue the investigation and diagnosis of that incident. By escalating an incident, you can ask for help from a more-experienced resource so that the issue is resolved more quickly.

Before you begin

This task assumes that you have been working on an incident and you must escalate it to the next escalation group.

> **Note:**
> Be sure that the administrator has assigned this role to the escalation groups. For information about how administrators assign roles, see Assign a role to a group.

Role required: sn_ind_tsm_core.noc_agent

Procedure

1. In the `Service Operations Workspace`, navigate to **List** > **Incidents** > **Open** and select an incident.
2. On the incident record form, from the drop-down list at the top-right corner, select **Escalate**.
3. In the Capture notes for the escalation pop-up window, enter a descriptive note and select **Escalate**.
   This action triggers the subflow for the next level of escalation group, and the Assignment Group automatically changes to the next escalation group.

Result

- The state of the incident task for the previous engineer is set to Closed Complete and the work note is logged.
- An incident task is created for the newly assigned user with the state set to Work in Progress.
- A work note in the activity stream provides instructions for the engineer at this level of escalation.
- The incident Stage is updated with the next escalation level.
- The Assignment Group is updated according to the escalation level.

Reviewing customer or partner accounts in Proactive Service Experience Workflows

Learn how your Technical Support teams (e,g. Cloud Ops, Server, or Network operations teams) can use the Operations Account 360 view in the Proactive Service Experience Workflows application to get insight about your customer's or partner's accounts.

As a technical support agent, you can collect information related to tasks, escalations, key customer data, and metrics associated with your customer's or partner's accounts in the Service Operations Workspace. With this data, you can track the following types of information:

- Who the customer or partner is and what products, services, assets, and configuration items have been sold to them.
- Who the key contacts are for both for the technology provider and customer or partner.
- What CSAT score is for the technology provider and customer or partner.
- How the technology provider and customer or partner are tracking from an SLA perspective for the month.
- What major incidents, cases, and escalations are affecting the accounts.

- How many tasks are being closed, by type, and how many are being opened on a rolling 12-week basis.
- Specific knowledge articles and catalog items developed for the account. With this information, your agents can gain the insights into what the customer or partner wants and what actions need to be taken.

The data visualized inside of Operations Account 360 view inside of Service Operations Workspace is derived from task records where the company value equals to the account selected when this view is launched. Knowledge Articles and Catalog Items are exception to this as.

Additionally, the Operations Account 360 View only works for company records with the class value equals to account. Company records with the class value of company shows the traditional default workspace view of Service Operations Workspace.

To learn more about getting the account insights, see Review an account by using the 360 View in Proactive Service Experience Workflows.

Review an account by using the 360 View in Proactive Service Experience Workflows

Review a customer or partner's account by using the Operations Account 360 view provided by the Proactive Service Experience Workflows application inside of Service Operations Workspace. You can track your data and tasks related to a customer's or partner's and then act to improve your delivery of service.

Before you begin

Role required: sn_ind_tsm_core_noc_agent

Procedure

1. Navigate to **Workspaces** > **Service Operations Workspace**.
2. From the Service Operations Workspace **Lists** tab, select **Accounts** > **All**.
3. In the Accounts list, select a customer account.

   Note:
   You can also access this view by selecting a company (account) name account inside the various incident lists or within the incident form in Service Operations Workspace.

4. In the Account Information page, in the Customer Summary section, review the general customer details for the selected account, such as Active status of the customer, Rank tier, and the number of employees.

   If this account has any escalations, you can view it by selecting **View Escalations**. In the Overview section, view the insights into account information.

Account Information page - Account Overview tab

Field	Description
Account Team Members	Team members of this customer. Select **View all** to see the list of all the team members.
Key Customer Contacts	Important contacts of this customer. Select **View all** to see the list of all the key customer contacts.

Field	Description
Single Score Cards	○ Contracts ○ Entitlements ○ CSAT **Note:** Results are from the assessments tied to the out-of-the-box Customer Satisfaction Survey provided by the Core CSM plugin. ○ Escalation Cases ○ Sold Products ○ Install Base ○ Assets ○ Configuration Items
On-going Technical Support Work	○ Closed Tasks ○ Weekly New Tasks vs Closed Tasks ○ Current Month Task SLA Achievement
Changes	Change requests raised by your account
Problems	Problems related to the account
Incidents	Incidents related to the account
Incidents SLA	Incident SLAs related to the account
Outages	Outages related to the account
Requests	Requests related to the account
Cases	Cases related to the account
Contextual Side-panel	○ Attachments ○ Templates ○ Account Assist **Note:** You can also search for Major Incidents, Major Cases, Knowledge, Articles, or Catalog Items.

5. In the Analytics page, use the dashboards to review operational data and monitor current process performance.
    - Analytics Snapshot
    - Core KPIs
    - Service Level
    - Proactive Service

For more information, see Account 360 Analytics dashboards.

6. In the Related Records page, the default lists provided are:
   - Users
   - Contacts
   - Account Addresses
   - Product Models
   - Vendor Catalog Items

Account 360 Analytics dashboards

The Analytics dashboards provided by Operations Account 360 view displays charts and summary data on metrics like proactive cases, account escalations, SLAs, channels used, core KPIs, and more.

To view the Analytics dashboards, navigate to **Workspaces** > **Service Operations Workspace** > **Lists** > **Accounts** > **All**. Open a customer account from the list and then select the **Analytics** tab.

The Analytics tab contains the additional tabs for each dashboard.

- Analytics Snapshot
- Core KPIs
- Service Level
- Proactive Service

End users and roles

End user roles and goals

End user and goal	Required role
Customer service agent: View case metrics like proactive cases, account escalations, SLA, channels used, core KPIs to understand the current performance of customer service at your organization.	sn_ind_tsm_core_noc_agent
Content administrator: Can edit the dashboard and manage users, groups, and roles for the dashboard.	pa_admin
Content creator: Can view the dashboard.	pa_viewer

Analytics breakdown

The Analytics dashboards use the Account selection breakdown. Select an account to exclusively view its data.

Analytics Snapshot dashboard

The Analytics Snapshot dashboard offers a comprehensive overview of key performance metrics and service-related indicators, presenting essential data at a glance.

Analytics Snapshot indicators

Customer account 360 analytics snapshot indicator

Indicator	Description
% Overall SLA achievement	Total percentage of SLAs met out of the total number of SLAs.
Total proactive cases created	Total proactive cases initiated by changes and incidents.
Number of open account escalation	Total number of account-related issues that have been escalated and are currently unresolved.
Outage duration – Type-wise distribution	Sum of the total duration of outages, categorized by their types. This visualization helps in understanding which types of outages are most frequent or have the longest durations, enabling targeted improvements and resource allocation.
% of cases created proactively	Percentage of customer service or support cases that were initiated proactively by the organization itself, rather than in response to customer inquiries or complaints.
CI vs Cases	Comparison of Configuration Items (CI) involved in service cases versus the total number of cases reported. Configuration Items can include any component essential for the delivery of IT services such as software, hardware, and network infrastructure.
Preferred channel used for communication	Identification of the most commonly used method of communication by customers within a given system or service. For example, incidents.

Core KPIs dashboard

The Core KPIs dashboard delivers actionable insights, enabling users to track and enhance the efficiency and quality of their services.

Core KPIs indicators

Customer account 360 core kpis indicators

Indicator	Description
% First contact rate	Percentage of customer inquiries or issues that are resolved during the first interaction with a service or support team.
% Incident re-open rate	Percentage of incidents that were initially marked as resolved but later required reopening due to unresolved issues or the emergence of related problems.

Customer account 360 core kpis indicators (continued)

Indicator	Description
Closed case with breached SLAs	Number of cases that were closed but failed to meet the predefined service level agreements (SLAs).
Avg re-assignment count for resolved incidents	Average number of times an incident is reassigned to different team members or teams before it is finally resolved.
Avg active case age	Average duration that cases remain open or active before they are resolved or closed.
Avg time to resolve case	Average amount of time taken to fully resolve a case from the moment it is opened until it is officially closed.
Avg time to fulfill	Average duration taken to completely fulfill a request from the time it is initiated until it is fully completed or closed.
Number of open incidents not updated in last 5 days	Number of incidents marked as New, In Progress, or On Hold, that have not received any updates or modifications within the past five days.
Number of open cases not updated in last 5 days	Number of active cases marked as New, Open, or Awaiting Info, that have not been updated or modified within the past five days.
Number of catalog tasks not updated in the last 5 days	Number of catalog tasks in an Open, Pending, or Work in Progress state that have not been updated in over five days.
Cases	Number of cases in a New, Open, or Awaiting Info state that have not been updated for more than seven days since their creation.
Incidents	Number of incidents in a New, In Progress, or On Hold state that have not been updated for more than seven days since their creation.
Request Items	Number of requested items in a Open, Pending, or Work in Progress state that have not been updated for more than seven days since their creation.
Approvals	Number of approvals in a Requested or More Information Required state that have remained unchanged for more than seven days since their creation.
Catalog Tasks	Number of catalog tasks in an Open, Pending, or Work in Progress state that were created more than seven days ago and have not been updated since.

Service Level dashboard

This dashboard displays metrics that provide users a summary of the effectiveness with which the managed services adhere to their Service Level Agreements (SLAs).

Service Level indicators

Customer account 360 service level indicators

indicator	Description
% Overall SLA achieved	Percentage of service level agreements (SLAs) that have been successfully met by a service provider.
% Incident SLA achieved	Percentage of incident-related service level agreements (SLAs) that have been successfully met by a service provider.
% Case SLA achieved	Percentage of case-related service level agreements (SLAs) that have been successfully met by a service provider.
% Request SLA achieved	Percentage of request-related service level agreements (SLAs) that have been successfully met by a service provider.
% Overall SLA breached	Percentage of service level agreements (SLAs) that were not met by a service provider. It assesses the instances where the agreed-upon time lines outlined in the SLAs were violated.
% Incident SLA breached	Percentage of incident-related service level agreements (SLAs) that were not met by a service provider.
% Case SLA breached	Percentage of case-related service level agreements (SLAs) that were not met by a service provider.
% Request SLA breached	Percentage of request-related service level agreements (SLAs) that were not met by a service provider.
% My team Overall SLA achieved	Percentage of service level agreements (SLAs) successfully met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Incident SLA achieved	Percentage of incident-related service level agreements (SLAs) successfully met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Case SLA achieved	Percentage of case-related service level agreements (SLAs) successfully met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.

Customer account 360 service level indicators (continued)

indicator	Description
% My team Request SLA achieved	Percentage of request-related service level agreements (SLAs) successfully met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Overall SLA breached	Percentage of service level agreements (SLAs) that were not met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Incident SLA breached	Percentage of incident-related service level agreements (SLAs) that were not met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Case SLA breached	Percentage of case-related service level agreements (SLAs) that were not met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
% My team Request SLA breached	Percentage of request-related service level agreements (SLAs) that were not met by a specific team. The data is filtered based on the assignment groups to which the logged-in user belongs to.
Average SLAs age	Average time span from start_time to end_time for all SLAs that are marked as either achieved or completed.
Opened SLAs	Total number of service level agreements (SLAs) that are in In progress or paused state.
Overdue SLAs	Number of open service level agreements (SLAs) with the **Has breached** field activated.
SLAs expiring today	Number of service level agreements (SLAs) that are scheduled to reach their deadline or expiration on the current day.
My team Average SLAs age	Average duration between start_time and end_time for all SLAs marked as achieved or completed within a specific team, filtered by the assignment groups associated with the logged-in user.
My team Opened SLAs	Total number of service level agreements (SLAs) that are either in progress or paused, specific to a team and filtered according to the assignment groups of the logged-in user.
My team overdue SLAs	Total number of service level agreements (SLAs) marked as breached within a specific

Customer account 360 service level indicators (continued)

indicator	Description
	team, filtered based on the assignment groups linked to the logged-in user.
My team SLAs expiring today	Total number of service level agreements (SLAs) within a specific team scheduled to reach their deadline or expire today, filtered based on the assignment groups linked to the logged-in user.

Proactive Service dashboard

The Proactive Service dashboard offers a detailed overview of the influence of incidents, changes, and key records on organizational operations and the extent to which it has transitioned towards a mature service delivery model.

Proactive Service indicators

Cusromer account 360 proactive service indicators

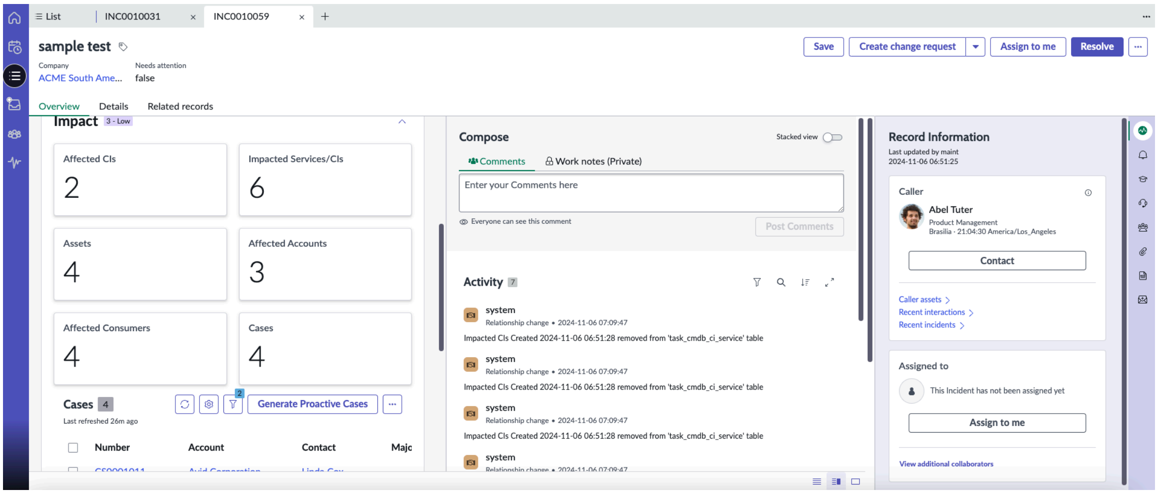
Indicator	Description
Proactive cases triggered by the incident	Number of cases where the proactive field is set to true and the Incident field is populated.
Proactive cases triggered by change	Number of cases where the proactive field is set to true and the Caused by Change field is populated.
Major cases triggered by the incident	Number of cases where the Major case state is set to Accepted and the Incident field is populated.
Total outage duration caused by change	Total duration of all outages associated with tasks identified by a task number starting with CHG.
Unplanned outages caused by the incident	Total number of outages classified as Outage with task numbers labeled as "Incident" type.
Planned outages caused by change	Total number of planned outages associated with task numbers categorized as Change Request.
Number of missed major case record SLAs	All breached SLAs associated with tasks labeled as Case and having an Accepted status in the major case state.
Number of problems created by case	All problems initially reported with the task type labeled as Case.
Number of problems created by the incident	All problems initially reported with the task type labeled as incident.

Auto-creation of cases and updates from incidents

Cases are created from the incidents.

A case is designated as a major case based on the value specified in the `major_case_affected_account_threshold` system property. This value can be modified by the administrator.

For more information to generate proactive cases, see Redirection to the right case type.



Depending on the threshold value, different flows are triggered to either create one major incident, or several individual cases. The case record is then populated. For example, in minor case scenarios, the following information is populated:

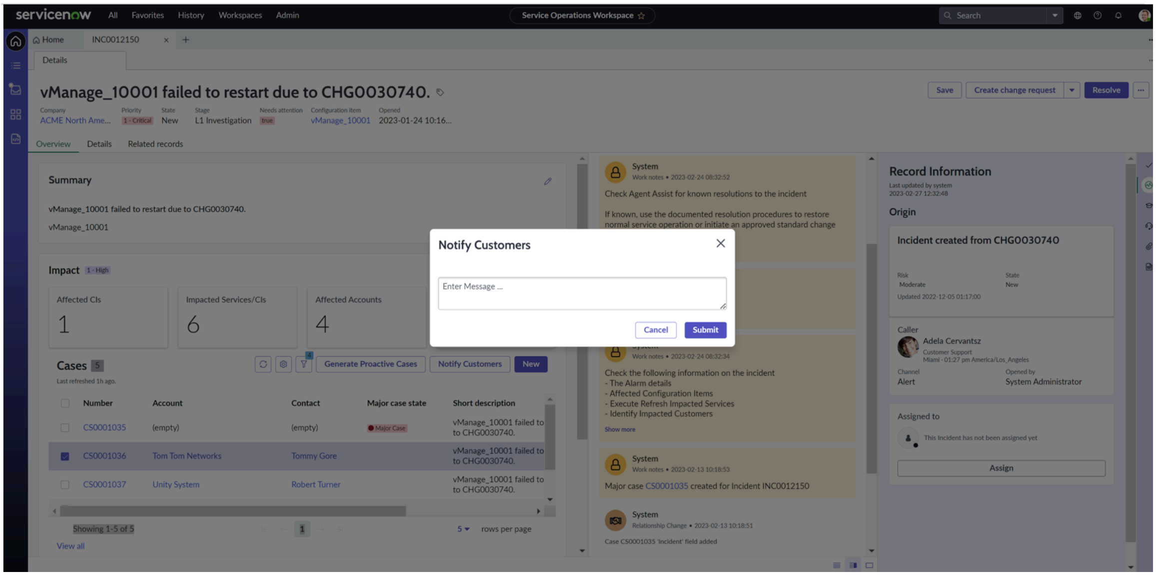
- Short description
- Description
- Proactive is true
- Channel
- Incident
- Account field

The administrator can specify the fields that must be passed to the case records from the parent incident record to suit their business needs.

Notify case information to customers

In the Service Operations Workspace, you can select one or more cases from the Cases section and select **Notify Customers**.

Enter your notification message and select **Submit**. The message is included under the Additional comments section with the case record and sent to the customer. When a customer responds to those comments either via an email, or from the CSM portal, these comments are copied to the incident record. The technical support engineer can view the response or any other feedback provided while reviewing the case.



Note:

To enable this feature, follow these steps:

- In the application navigator, type `sys_properties.list.`
- Search in the text field for the `proactive_workflows_for_providers.additional_comments_sync` system property.
- Select the system property to open the record.
- Enter **true** in the Value field and select **Update**.

To avoid additional comments from being copied to all cases related to the incident, deactivate the **Update case worknote for comments change** business rule in the incident table.

Setting major case threshold for auto generated cases

Set the threshold value for major cases generated from incidents in the system properties.

Before you begin

- Role required: admin
- Selected application scope: Proactive Service Experience Workflows

About this task

A default threshold value has been predefined to generate major cases from incidents. This value may be too low or your organization may not be using the CSM major case management feature. In such cases, you can modify the threshold value in the system properties after the Proactive Service Experience Workflows has been enabled.

Procedure

1. In the Application Navigator, type, `sys_properties.list`.
2. Search in the text field for `major_case_affected_threshold` system property.
3. Click the system property to open the record.
4. Change the threshold number in the Value field.

Note:
The lower the integer value, the higher number of cases needed to trigger a major case. If a higher number is specified, the inverse is true.

5. Click **Update**.

Redirection to the right case type

Create a proactive case from an incident in the Proactive Service Experience Workflows.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Workspaces** > **Service Operations Workspace**.
2. In Service Operations Workspace, navigate to **List** > **Incidents** > **All**.
3. Select the incident from the list.
4. In the **Overview** tab, expand the **Impact** section.
5. Select a **Cases** tile.
6. Select the **Generate Proactive Cases** button.
7. Select the appropriate service definition from the list.

   Note:
   The fibre broadband service definition as been shipped as a part of the demo data.

   For more information about service definition, see Service definitions.
8. Select the **Recommended Services**.

   The **Recommended Services** shows the service definitions that are linked to the **Impacted Services/CIs**.

   For more information about how to create record producer, see Record Producer.
9. Select **Create proactive cases**.

Diagnose and resolve a change request

As a customer service agent, review, diagnose, resolve, and close a change request for the service-related issue experienced by the customer.

Before you begin

Role required: sn_ind_tsm_sdwan.PSEW_USER

About this task

The change request progresses through several stages from start to closure. It begins with a PSEW user reviewing and verifying the problem. Next is the diagnosis tab, where system-specified tests are executed to identify the root cause. After the tests, the agent moves to the repair, creating a task to fix the identified issue. The PSEW user follows the instructions in the repair task to address the problem areas. Once the repair is complete, the change request is retested to confirm that the issue is resolved. Finally, the change request is resolved and closed based on the customer's feedback on the provided solution.

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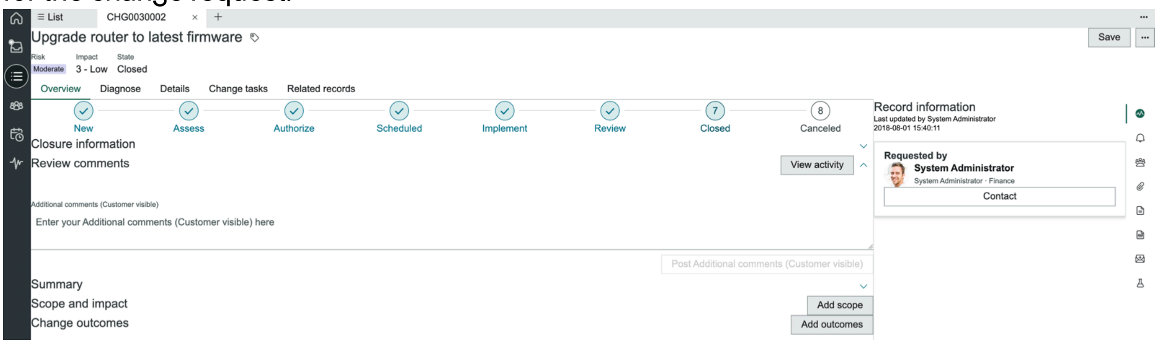
Procedure

1. Navigate to **Workspaces** > `Service Operations Workspace`.
2. Select the List icon.
3. Navigate to **Changes** > **Assigned to me**.
4. Open the change request that is in the New or Open state.
5. Review and verify the change request.

    a. In the **Overview** tab, expand the **Summary**, and then review and verify the general details for the change request.

    b. Expand the **Scope and impact** and review the remaining details of the change request.

    Scope and impact

Activity	Description
Affected CIs	Shows the affected configuration items (CIs).
Impacted Services/CIs	Shows the impacted services.
Assets	Shows the assets
Affected Accounts	Shows the affected accounts.
Affected Consumers	Shows the affected consumers
Cases	Shows the cases

    c. Expand **Assignment** to view the details.

    d. Expand **Schedule** to view the schedule.

    e. Expand **Risk evaluation** to view the risks.

    f. Expand **Change task** to view the details.

    The change request moves to the Diagnose stage.
6. Diagnose the change request to identify the root-cause of the problem.

    The decision table can be configured to control the visibility of the Diagnose and Run Diagnostics contextual panel tabs. For more information about decision tables, see Decision Tables.

a. To generate the test results, select **Run diagnostics** from the contextual panel.

b. In the run diagnostics panel, select **CI/Service** from the drop-down list.

   The drop-down list shows the configuration item and Affected CIs.

   To set up test definitions, see Setting up test definitions.

c. Expand the cards in the **Available test suite**.
   To set up test group, see Setting up a test group.

d. In the manual test, select single/multiple tests.
   In the automated test, selection of test isn't available. The subflow that is configured for the test group would be invoked.

e. Select **Configure**.

f. In the Configure tests, fill the test required characteristics form to activate the **Run test** button.

g. **Optional:** In the test, select an option either to **Run test** now or to **Schedule test** for later.

h. Select **Run test**.

i. In the diagnose tab **Test results** section, select **Refresh list** icon.

j. In the diagnose tab, expand the **Test results** and review the results of the tests conducted in the previous step, checking whether each test is passed or failed.

   The failed tests indicate that the issues causing the change request to be identified and need repair.

   The maximum number of rows to the group is limited to 20 rows. To configure the maximum number of rows more than 20 rows to the group, see Presentational List Usage.

k. **Optional:** Select the **View Details** icon for a specific test result to review its details.

l. **Optional:** Select the **Rerun test** icon for a specific test result to run it again.

m. Select **Continue**.

7. Repair the change request by creating a new or automated repair task.
   - Select **Generate automated task** to automatically create a repair task.
   - Select **Create repair task** to manually create a customize repair task.

   A Repair task is created for all failed test cases related to the diagnosed change request.

   a. Select the repair task that you want to work on.

   b. In the Resolution task form, review the task details to identify the failed test and then work on those tests to fix the case.

c. In the **Select** field, select an appropriate state from the list to update or close the repair task, such as Closed complete.
d. Select **Save** and close the resolution task.
e. Select **Continue**.

8. Review the details of the change request in the **Details** tab.
9. View the **Change tasks** tab.
10. View the change request records in the **Related records** tab.

Create a case from a change request

Create a case from a change request in Proactive Service Experience Workflows so that you can notify your customers about a service outage and its resolution after the change implementation is complete.

Before you begin

A change in workflow has been triggered. An assignment group with the planned start and end dates have already been set.

Role required: admin

About this task

After a change in workflow Proactive Service Experience Workflows is triggered, you can identify the customers and systems that are affected by the change request. You can then either automatically create the individual cases for the impacted customers or notify your customers about the outages.

Procedure

1. In `Service Operations Workspace`, navigate to **List** > **Changes** > **Open** and select a change record.
2. **Optional:** In an existing change record, assign the change request to a support engineer.
3. Expand the Scope and impact section and select the **Affected CIs** card.
4. See which services are impacted by selecting the **Impacted Services/CIs** card and then selecting **Refresh Impacted Services**.

   The instance initiates an action to refresh the impacted services and to find the affected accounts.
5. See the list of outages by selecting the **Outages** card.
6. See which accounts are affected by selecting the **Affected Accounts** card.
7. See which consumers have been affected by selecting the **Affected Consumers** card.
8. In the Details section, change the state of the Change record to **Authorize**.
   The cases for the affected customers are automatically created.
9. Select a case from the list of created cases and then select **New**.
10. Notify a customer by selecting the customer's case and selecting **Notify Customers**.
11. In the Notify Customers pop-up window, enter a descriptive note about the case, and select **Notify**.

    A note is inserted automatically in the **Activity** field of the change record and in the selected case records. If your customer updates the case with a message, the case automatically synchronizes with the change record.

Note:

By default, the Notify Customers functionality isn't active.
As an administrator, to make it active, you must set the *proactive_workflows_for_providers.additional_comments_sync* property value to TRUE and then select *Update case worknote for comments change*.

12. When the change manager authorizes the change record and the status changes to **Scheduled**, you can update the state by selecting **Implement**, selecting **Review**, and then saving the record.
13. Select the resolution code from the drop-down list, enter the resolution notes before closing the change request, and update the state by selecting **Close**.

About messages used in escalation workflows in Proactive Service Experience Workflows

Multiple messages that are used within the incident escalation flows are available with the base Proactive Service Experience Workflows application.

These messages provide instructions to technical support engineers to troubleshoot, escalate, and resolve incidents. The ones provided with the base system address common network initiated incidents, but can be modified for your troubleshooting processes.

Customize message files for Proactive Service Experience Workflows

Customize the messages that provide instructions to the network engineers that are working on network-initiated issues for different subcategories, levels of escalation, and personas in Proactive Service Experience Workflows.

Before you begin
Role required: admin

About this task
Each subflow in Proactive Service Experience Workflows references a message file that provides instructions for agents to use to troubleshoot, escalate, and resolve network-initiated incidents. You can use the default message text, or customize the text for your internal troubleshooting processes.

Procedure

1. Navigate to **All** > **System UI** > **Messages**.
2. Search for key values that contain `sd_wan`.
3. Select the record with the text that you want to customize.
4. In the **Message** field, provide instructions for that subflow's subcategory, persona, and level of escalation.
5. Select **Update**.

Diagnose and resolve an incident

As a customer service agent, review, diagnose, and resolve, and close an incident for the service-related issue experienced by the customer.

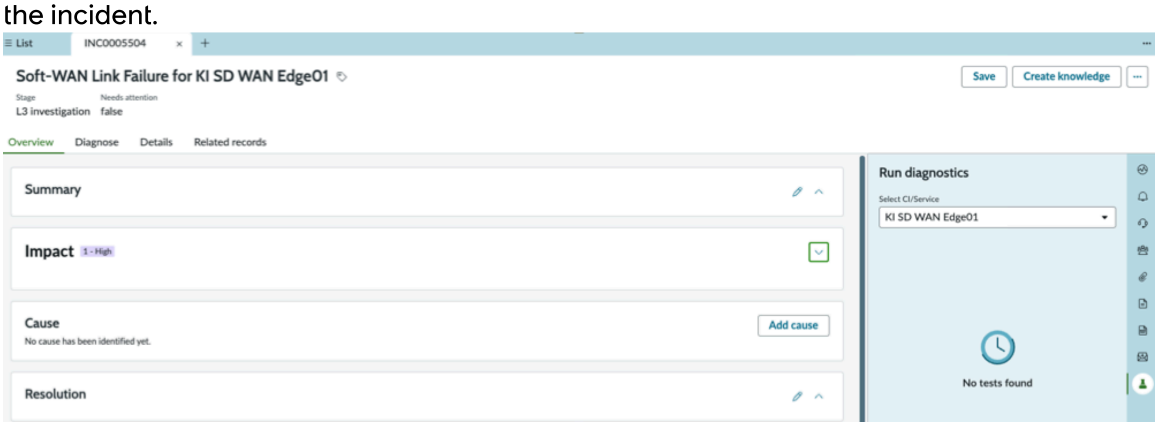
Before you begin
Role required: sn_ind_tsm_sdwan.PSEW_USER

About this task
The incident progresses through several stages from start to closure. It begins with a PSEW user reviewing and verifying the problem. Next is the diagnosis tab, where system-specified tests are executed to identify the root cause. After the tests, the PSEW user moves to the repair, creating a task to fix the identified issue. The agent follows the instructions in the repair task to address the problem areas. Once the repair is complete, the service is retested to confirm that the issue is resolved. Finally, the incident is resolved and closed based on the customer's feedback on the provided solution.

Procedure

1. Navigate to **Workspaces** > *Service Operations Workspace*.
2. Select the List icon.
3. Navigate to **Incidents** > **Assigned to you**.
4. Open an incident that is in the New or Open state.
5. Review and verify the incident.

   a. In the **Overview** tab, expand **Summary**, and then review and verify the general details for the incident.

   b. Expand **Impact** and review the remaining details of the incident.

Impact

Activity	Description
Affected CIs	Shows the affected configuration items (CIs).
Impacted Services/CIs	Shows the impacted services.
Assets	Shows the assets
Affected Accounts	Shows the affected accounts.
Affected Consumers	Shows the affected consumers
Cases	Shows the cases

   c. Expand **Cause**.

d. Expand **Resolution**.

e. Select **Continue**.

6. Diagnose the incident to identify the root-cause of the problem.

   The decision table can be configured to control the visibility of the Diagnose and Run Diagnostics contextual panel tabs. For more information about decision tables, see Decision Tables.

   a. To generate the test results, select **Run diagnostics** from the contextual panel.

   b. In the run diagnostics panel, select **CI/Service** from the drop-down list.

      The drop-down list shows the configuration item and Affected CIs.

   c. Expand the cards in the **Available test suite**.

      To setup test definitions, see Setting up test definitions.

      To setup test group, see Setting up a test group.

   d. In the manual test, select single/multiple tests.
      In the automated test, selection of test isn't available. The subflow that is configured for the test group would be invoked.

   e. Select **Configure**.

   f. In the Configure tests, fill the test mandatory characteristics form to activate the **Run test** button.

   g. **Optional:** In the test, select an option either to **Run test** now or to **Schedule test** for later.

   h. Select **Run test**.

   i. In the diagnose tab **Test results** section, select **Refresh list** icon.

   j. In the diagnose tab, expand the **Test results** and review the results of the tests conducted in the previous step, checking whether each test is passed or failed.

      The failed tests indicate that the issues causing the incident to be identified and need repair.

      The maximum number of rows to the group is limited to 20 rows. To configure the maximum number of rows more than 20 rows to the group, see Presentational List Usage.

   k. **Optional:** Select the **View Details** icon for a specific test result to review its details.

   l. **Optional:** Select the **Rerun test** icon for a specific test result to run it again.

   m. Select **Continue**.

7. Repair the incident by creating a new or automated repair task.
   - Select **Generate automated task** to automatically create a repair task.
   - Select **Create repair task** to manually create a customize repair task.

   A Repair task is created for all failed test cases related to the diagnosed incident.
   a. Select the repair task that you want to work on.
   b. In the Resolution task form, review the task details to identify the failed test and then work on those tests to fix the incident.
   c. In the **Select** field, select an appropriate state from the list to update or close the repair task, such as Closed complete.
   d. Select **Save** and close the resolution task.
   e. Select **Continue**.
8. Review the details of the incident in the **Details** tab.
9. View the incident-related records in the **Related records** tab.

Run diagnostics tests for a CI or a service

As a customer service agent, review, diagnose, resolve, and close a service case for the service-related issue experienced by the customer.

Before you begin

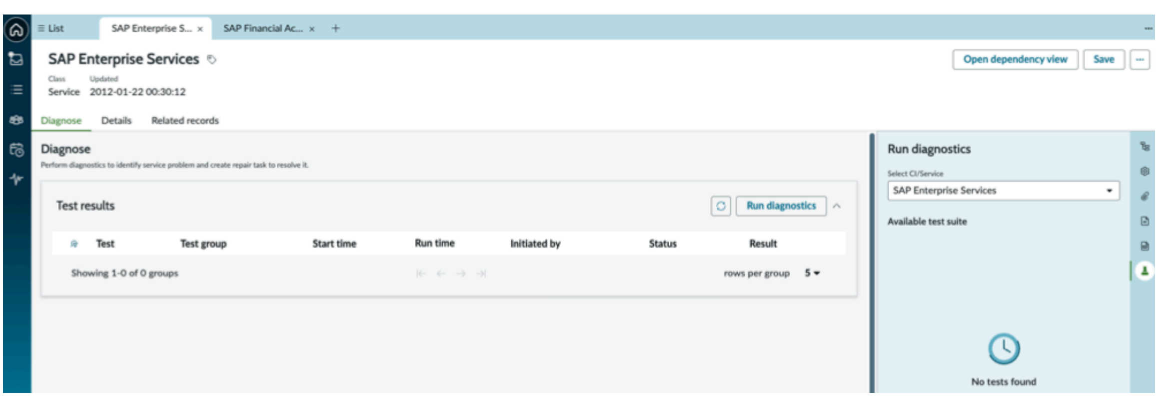
Role required: admin

About this task

This task helps you to understand how to execute relevant preconfigured diagnostics tests for a specific CI or a service, without any incident or case. This helps the agents to test a CI or Service standalone. If any issues are found, resolution shall follow the standard process like incident or case as applicable. This task doesn't enable the agent to create any repair or diagnostic task, but only help to run the required test on the fly without any case or incident.

Procedure

1. Navigate to **Workspaces** > *Service Operations Workspace*.
2. Select the List icon.
3. Navigate to **CMDB** > **Services**.
4. Open a service that is in the New or Open state.



5. Diagnose the service to identify the root-cause of the problem.

The decision table can be configured to control the visibility of the Diagnose and Run Diagnostics contextual panel tabs. For more information about decision tables, see Decision Tables.

a. To generate the test results, select **Run diagnostics** from the contextual panel.

b. In the run diagnostics panel, select **CI/Service** from the drop-down list.

   The drop-down list shows the current product inventory and all the child inventories.

   To set up test definitions, see Setting up test definitions.

c. Expand the cards in **Available test suite**.
   To set up test group, see Setting up a test group.

d. In the manual test, select single/multiple tests.
   In the automated test, selection of test isn't available. The subflow that is configured for the test group would be invoked.

e. Select **Configure**.

f. In the Configure tests, fill the test required characteristics form to activate the **Run test** button.

g. **Optional:** In the test, select an option either to **Run test** now or to **Schedule test** for later.

h. Select **Run test**.

i. In the diagnose tab, expand the **Test results** and review the results of the tests conducted in the previous step, checking whether each test is passed or failed.

   The maximum number of rows to the group is limited to 20 rows. To configure the maximum number of rows more than 20 rows to the group, see Presentational List Usage.

j. **Optional:** Select the **View Details** icon for a specific test result to review its details.

k. **Optional:** Select the **Rerun test** icon for a specific test result to run it again.

l. Select **Continue**.

6. Review the details of the service in the **Details** tab.
7. View the service-related records in the **Related records** tab.

Handling API notifications

Use the Telecommunications API notification to inform third-party systems about the incidents or cases that are created in a reactive or proactive way in the ServiceNow instance. The customer will receive notifications regarding updates on the incident.

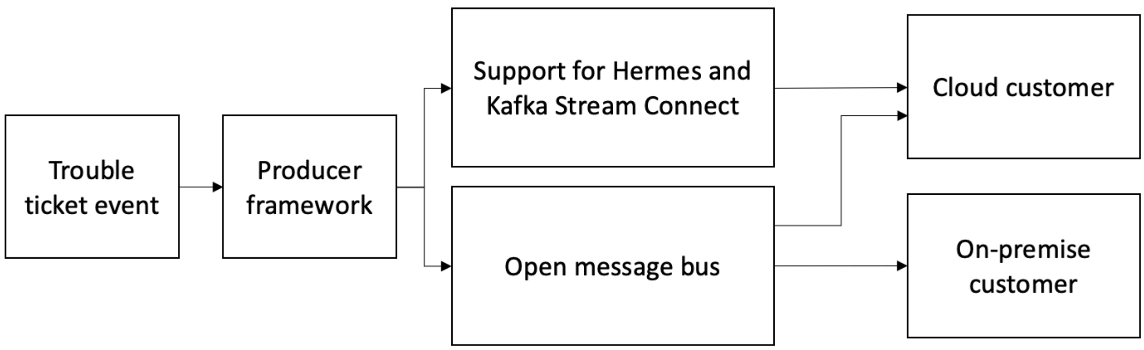
Introduction to API notifications

Trouble ticket in the TMF ecosystem is an incident that tracks and resolves customer-reported issues, network outages, or other problems. A trouble ticket incident can be created in either the reactive or proactive way. In the reactive approach, an incident is generated after conducting root cause analysis (RCA) on a case that is reported due to a system fault. In the proactive approach, an incident is generated after receiving alerts, enabling for the performance of RCA or service impact analysis (SIA) to evaluate the impact on the services. With the trouble ticket notification feature, you can send the details of the incident to the outbound systems.

API notification framework

The following diagram shows the components in the framework for the trouble ticket notification.

Trouble ticket notification data model



The trouble ticket notification uses a generic framework to send the outbound notifications to the external system. This framework supports two use cases:

1. Publish messages to Hermes Kafka using the Hermes messaging service. The cloud customers who use the Hermes Kafka can use this architecture to receive the notification.

   To learn more, see Producing outbound API notifications using Hermes.

2. Publish messages to open message bus. This use case is message-bus agnostic and therefore supports publishing the notification to any open message bus. Both cloud and on-premise customers can use this use case. To learn more, see Producing outbound API notifications using the open message bus.

Producing outbound API notifications using Hermes

Produce an outbound notification from the ServiceNow instance using the Hermes capability. Customers can consume the details of the message from the Kafka environment in their external system.

In this use case, the notifications are produced to the Hermes cluster from your ServiceNow instance. After replication from Hermes to Kafka is completed, customers can consume or pull the messages from their own Kafka.

- To learn more about Hermes Messaging Service, see Hermes Messaging Service.
- To learn more about Apache Kafka Stream Connect, see Using Stream Connect for Apache Kafka.

In the Yokohama release, the following events are supported for trouble ticket notification.

- Create Trouble Ticket Event
- Trouble Ticket State Change Event

- Trouble Ticket Attribute Change Event
- Create Trouble Ticket Event for Case

Prerequisites

Before producing an outbound notification, the customer must create the topic in the Hermes cluster. To learn more about creating a topic in Hermes, see Managing namespaces and topics in Hermes.

Workflow

The workflow for producing the outbound notification by using Hermes contains the following steps:

1. On the trigger of the trouble ticket event, the system invokes the appropriate business rule, and stamps the event type.

   To learn more about business rule that you must add to your ServiceNow instance, see Add a business rule for a new trouble ticket event.

2. The system pushes the Glide snapshot and event type in the staging table, which acts as a queue.
3. The producer framework picks the event and converts it to a TMF 688 complaint event payload.

   To learn more about the system properties that you must configure for the producer framework, see Using the producer framework for outbound notifications.

4. The system invokes the Producer V2 API of Stream Connect and produces the event on the Hermes Kafka topic.
5. The Stream Connect pushes the event in the Hermes Kafka cluster.
6. The customers can consume the message in their in-house Kafka.

Related topics

EventProcessorUtilOOB - Scoped

EventQueueProcessorOOB - Scoped

Producing outbound API notifications using the open message bus

Produce an outbound notification from the ServiceNow instance using the open message bus. Customers can consume the details of the notification from the message bus in their external system.

In this event-driven architecture, the notifications are produced to the open message bus from your ServiceNow instance. The framework contains topic synchronization and topic picker mechanisms. The topic synchronization mechanism synchronizes the topics that you have created in the ServiceNow instance with the open message bus. When the event occurs in the framework, the topic picker mechanism picks the relevant topic and publishes the message to the topic using a REST proxy. Customers can consume the outbound notification from the message bus in their external system.

In the Yokohama release, the following events are supported for trouble ticket notification.

- Create Trouble Ticket Event
- Trouble Ticket State Change Event

- Trouble Ticket Attribute Change Event
- Create Trouble Ticket Event for Case

Prerequisites

Before producing outbound notifications, it's necessary to create the egress topics on the Topic [sn_api_notif_mgmt_topic] table in the ServiceNow instance. When you create an egress topic, the system runs a business rule and attempts to synchronize the topic to the message bus based on configuration. To learn more about manually creating a topic in the Topic table, see Create a topic. The system synchronizes only the egress topic with the message bus in the external system. The **user_created** field in the associated topic record is set to true.

Alternatively, you can create the topics on the message bus in your external system and push them into the Topic table in ServiceNow instance. The customers invoke the `Event Management Topic Open API` endpoint, which stores the topic in the Topic [sn_api_notif_mgmt_topic] table of ServiceNow instance. The **user_created** field in the associated topic record is set to false. To learn more about the methods that are used when processing the `Event Management Topic Open API` endpoint, see Event Management Topic Open API.

Workflow

The workflow for producing the outbound notification by using the open message bus contains the following steps:

1. On the trigger of the trouble ticket event, the system invokes the appropriate business rule, and stamps the event type.

   To learn more about the business rule that you must add to your ServiceNow instance, see Add a business rule for a new trouble ticket event.

2. The system pushes the Glide snapshot and event type in the staging table, which acts as a queue.
3. The producer framework picks the event and converts it to a TMF 688 complaint event payload.

   To learn more about the producer framework, see Using the producer framework for outbound notifications.

4. The topic picker mechanism determines the topics, which are compatible with the event type. Topic picker performs the following steps to check the compatibility of the topics:
   a. The System scans the topics that have the **Type** field set as **Egress** in the topic table.
   b. The system checks the header query and content query of all egress topics and matches the compatibility with the event payload.

   To learn more details about how to customize the existing topic picker mechanism, see OpenMessageBusEventPublisherOOB - Scoped.
5. The system sends the list of compatible topics and event payload to the spoke selector.
6. The spoke selector, which the customer has configured, invokes the REST step that is configured for each topic and sends to the message bus REST Proxy in the external system.

   To learn more about the method for sending messages to the spoke selector, see OpenMessageBusEventPublisherOOB - Scoped and Configure the Producer Event Notification Framework to use the Open Message Bus.

7. The customers can consume the message in their message bus REST Proxy.

Related topics

- EventProcessorUtilOOB - Scoped
- EventQueueProcessorOOB - Scoped
- Handling the external events using Telecommunications API notification

Using the producer framework for outbound notifications

The producer framework picks the event from the ServiceNow instance and sends the outbound notification to the external system. You can consume the details of the notification from the messaging service that is installed in your external system.

System properties

You must configure the system properties to use the producer framework for outbound notification. The following table explains the list of system properties that are set for the scheduled jobs.

Producer framework system properties

Property	Description	Type
sn_api_notif_mgmt.event.log	Level of logging to be written to the debug logs. You can select the following logging levels: • **emerg**: Total failure. • **alert**: System corruption of a database, for example. • **crit**: Typically used for hardware errors, for example. • **err**: Any errors. • **warning**: Any warnings • **notice**: Possible action required but not essential. • **Info**: No action required. • **debug**: Generally not used except for capturing everything for fault-finding. Default value: **err**	String
sn_api_notif_mgmt.publisher_message_bus_configuration	Defines whether messages are published using the Hermes Messaging Service, the Open Message Bus, or both message buses. You can use the following values:	String

Producer framework system properties (continued)

Property	Description	Type
	• **openMessageBus** • **hermes** • **both** Default value: **openMessageBus**	
sn_api_notif_mgmt.inboundqueue.maxrecords	Maximum number of records that the scheduler will pull from the inbound queue for one scheduler run. This value is used in conjunction with the *sn_api_notif_mgmt.inboundqueue.batch.limit* parameter. • Default value: **200** • Other possible values: As needed For example, if the batch limit is set to 50 and the maxrecords is set to 200, and if the number of records that are in the inbound queue is 130, then the scheduler would pull three different batches of records in a single run; two with 50 records and one with 30 records. If the number of records in the inbound queue is 220, the scheduler would pull four batches of 50 records and the remaining 20 records would not be processed until the next time the scheduler runs. When setting this value, you must also consider the time that it will take for the scheduler to process multiple batches and set the sn_api_notif_mgmt.schedule.max.runtime value accordingly.	Integer
sn_api_notif_mgmt.inboundqueue.batch.limit	Number of records that the scheduler pulls and processes from the inbound queue at one batch.	Integer

Producer framework system properties (continued)

Property	Description	Type
	• Default value: **200** • Other possible values: As needed	
sn_api_notif_mgmt.glide.mutex.script.max_spins	Maximum number of attempts to acquire a mutex lock in the inbound queue records. • Type: Integer • Default value: **100** • Other possible values: As needed	Integer
sn_api_notif_mgmt.schedule.max_runtime	The maximum time, in milliseconds, that the scheduled job can run before it fails and reports an error. • Type: Integer • Default value: **90000** • Other possible values: As needed	Integer
sn_api_notif_mgmt.glide.mutex.script.spin_wait	Maximum Time, in milliseconds, to wait between attempts to acquire a mutex lock on the records in the inbound queue. • Type: Integer • Default value: **100** • Other possible values: As needed	Integer

Producer framework workflow

When the system pushes an event to the staging table, the following steps take place as part of the producer framework mechanism:

1. The scheduler picks a number of records at a preconfigured interval and then sends Glide snapshots to the event processor.
2. The system converts the Glide snapshot to a TMF 688 complaint event payload based on the event type.

   To learn more about the methods used to define and generate the TMF-compliant payloads for trouble ticket events, see TopicAPIUtilsOOB - Scoped.

3. The system checks whether the notification configuration is intended for Hermes Kafka or the open message bus.

   To learn more about configuring the producer event notification framework, see Producer Event Notification Framework developer guide.

Related topics

Producing outbound API notifications using Hermes

Producing outbound API notifications using the open message bus

Deactivate API notification

Disable the business rules related to the incident and case tables to stop receiving trouble ticket notifications. Customers can disable the business rules if they don't want to leverage the trouble ticket notification capability.

Before you begin
Role required: admin

Procedure

1. Navigate to **All** > **System Definition** > **Business Rules**.
2. Select the following business rules, and deselect the **Active** check box.
   - Create Trouble Ticket Event
   - Trouble Ticket State Change Event
   - Trouble Ticket Attribute Change Event
   - Create Trouble Ticket Event for Case

Proactive Service Experience Workflows reference

Reference topics provide additional information about Proactive Service Experience Workflows.

Domain separation and Proactive Service Experience Workflows

Domain separation is supported for Proactive Service Experience Workflows. With Proactive Service Experience Workflows, you can quickly restore normal service operation when network-initiated incidents occur and proactively identify and notify the customers that are impacted by those incidents. Domain separation enables you to separate data, processes, and administrative tasks into logical groupings called domains. You can control several aspects of this separation, including which users can see and access data.

Support level: Standard

- Includes **Basic** level support.
- Business logic: The service provider (SP) creates or modifies processes per customer. The use cases reflect proper use of the application by multiple SP customers in a single instance.
- The instance owner must configure the minimum viable product (MVP) business logic and data parameters per tenant as expected for the specific application.

Sample use case: An admin must be able to make comments required when a record closes for one tenant, but not for another.

For more information on support levels, see Application support for domain separation.

Introduction to Proactive Service Experience Workflows

Proactive Service Experience Workflows (TAW) is a series of workflows that enhance the Incident Management application and its integration with customer workflow processes, such as Case Management and Field Service Management. That means that Proactive Service Experience Workflows doesn't require any additional domain separation support because the foundation applications already provide that support. To learn more, see Proactive Service Experience Workflows.

Related topics

Domain separation for service providers

Components installed with PSEW

Components installed with PSEW.

The main components are as follows:

- Flows and subflows
- Escalation stages
- Decision tables
- Messages
- Business rule
- Client scripts
- System properties
- Roles
- Assignment groups
- Service Operations Workspace

Flows and subflows

A workflow is triggered when an incident is created with the SD-WAN category and one of these five subcategories:

- Link Failure
- Device Failure
- Protocol Failure
- Soft-WAN Link Failure
- Software Failure

Each category has subflows for each assignment group and a level of escalation for a total of 27 subflows. These subflows are a starting point created primarily for network operations outages, but can be reused and extended for other use cases.

Escalation stages

The five stages of escalation are as follows:

- Triage
- L1 investigation
- L2 investigation
- L3 investigation
- Resolution

Proactive Service Experience Workflows uses these stage values to trigger the appropriate decision in the Incident Escalation Policy [sys_hub_flow] decision table. This table triggers the correct subflow during incident escalation. During each stage of escalation, an incident task is created and maintained for that assignment group. The incident information synchronizes to the incident task from a business rule and includes the following:

- Short description
- Priority
- State
- Work notes that the assigned person in the assignment group adds to the incident
- Message content that is embedded in the incident by the workflow

Decision tables

Based on the defined condition, Workflow Studio works with the Incident Escalation Policy [sys_hub_flow] decision table to determine which subflow to generate at certain escalation points.

Messages

Each subflow in Proactive Service Experience Workflows is associated with a message file that provides instructions for agents to use to troubleshoot, escalate, and resolve network-initiated incidents. For more information about how to customize the default instructions for your internal troubleshooting processes, see Customize message files.

Business rules

The `Sync to tsm incident task` business rule determines the information that synchronizes from the incident to the incident task, including:

- Short description
- Priority
- State
- Assignment group
- Assignee
- Work notes that the assigned person in the assignment group adds to the incident

Roles

The `sn_ind_tsm_core.noc_agent` role is available with the Proactive Service Experience Workflows application. This role when added, ensures that the technical support agent can see the relevant information between ITSM and CSM applications. This role includes the following:

- itil
- wm_initiator
- wm_read
- sn_customerservice.case_viewer
- sn_customerservice.customer_data_viewer

Several assignment groups are included with this role and other groups can also have the admin role. The `sn_ind_tsm_sdwan.ticket_integrator` role can be used for trouble tickets created from the TMF 621 Open API use cases.

Assignment groups

Workflows involve network-related personnel, including network coordinators and engineers. All assignment groups have the base `sn_ind_tsm_sdwan.PSEW_USER` system role.

Note:
These assignment groups are a starting point, created primarily for network operation support.

Network coordinator

The network coordinator's tasks and responsibilities are as follows:

- Manage and triage incidents from the network management systems
- Assess the impact and define the incident priority
- Refresh the impacted services and create cases for the affected customers
- Correlate incidents with the open incidents or change requests using Agent assist
- Assign incidents and coordinate with network engineering

L1- Network engineer

The L1 - network engineer's tasks and responsibilities are as follows:

- Troubleshoot network incidents
- Engage Field Service agents, third-party vendors, and OEMs to resume normal service operation
- Trigger the Change Management and Problem Management processes

L2 - Network engineer

The L2 - network engineer's tasks and responsibilities are as follows:

- Troubleshoot network incidents
- Engage Field Service agents, third-party vendors, and OEMs to restore normal service operation
- Trigger the Change Management and Problem Management processes to introduce beneficial change or perform root cause analysis

L3 - Network engineer

The L3 - engineer's tasks and responsibilities are as follows:

- Troubleshoot network incidents
- Engage Field Service agents, third-party vendors, and OEMs to restore normal service operation
- Trigger the Change Management and Problem Management processes to introduce beneficial changes or perform root cause analysis

Technology Product Support Case application

The Technology Product Support Case application enables technology companies to provide support for digital products and services.

- Role required: admin
- Plugins required: The following plugins must have been installed:
  - Customer Service Case Types (com.snc.csm_case_types)
  - Customer Service Install Base Management (com.snc.install_base)
  - Customer Service Case Action Status(com.snc.csm_action_status)
  - playbook for Customer Service Problem Management (com.sn_csm_playbook)
  - Customer Service Problem Management agent workspace (com.snc.uib.csm_agent_workspace)
  - Customer Service with Service Management(com.sn_cs_sm)
  - Customer Service with Request Management(com.sn_cs_sm_request)
  - Customer Service Case Digest (com.sn_csm_case_digest)
  - Product Catalog Management Core (com.sn_prd_pm)
  - Service Test Management (com.sn_st_mgmt)

The Technology Product Support Case application includes the following features:

- A case type dedicated to technology product support case needs.
- A record page and a playbook experience for CSM Configurable Workspace that agents can use to research and resolve customer issues.
- A portal experience that agents and customers can use to report issues and communicate with each other.

Technology Product Support Case application features

Feature	Description
Case type	The Technology Product Support case type includes the tables, roles, SLAs, and other processes and data needed to resolve technology issues.
Record page	The Technology Product Support record page provides a simplified case view that enables agents to research and resolve technology cases.
Playbook	The Technology Product Support process page includes a playbook that provides step-by-step guidance for resolving technology cases. This playbook guides agents through the

Technology Product Support Case application features (continued)

Feature	Description
	case flow and provides the contextual information to complete each stage and the associated activities.
Playbook stages and activities	The Technology Product Support playbook includes stages and activities that assist agents in researching and resolving technology cases.
Record producer	The Technology Product Support Case application includes a record producer that customers can use to create cases from the Customer Service Portal.

Application information

The Technology Product Support Case application (sn_tech_product_support) is available from the ServiceNow Store.

Request apps on the Store

Visit the ServiceNow Store website to view all the available apps and for information about submitting requests to the store. For cumulative release notes information for all released apps, see the ServiceNow Store version history release notes.

Technology Product Support case type

The Technology Product Support case type enables technology companies to provide support for digital products and services.

A case types represents the processes and the data that are needed to resolve a specific type of customer issue. The Technology Product Support case type includes the table, roles, SLAs, email notifications, and other items needed to resolve technology issues.

The Technology Product Support Case application (sn_tech_product_support) includes the Technology Product Support case type. To view a list of available case types, navigate to **Customer Service** > **Case Types** > **Manage Case Types**.

The Technology Product Support case type includes the following items.

Technology Product Support case type items

Item	Description
Tables	The Technology Product Support Case application includes the Tech Product Support Case [sn_tech_product_support_case] table. This table extends the Case table and can be extended. For a detailed description of the Tech Product Support Case table, including field descriptions, see Tech Product Support Case table.
Roles	Roles control access to features and capabilities in the Technology Product Support Case application, menu, and modules.

Technology Product Support case type items (continued)

Item	Description
Case states	Technology product support cases follow a specific life cycle and move through a series of states from creation to closure.
State flows	State flows are customized transitions from one state to another, such as when an agent moves a technology product support case from Work in Progress to Awaiting Info.
List views	The Technology Product Support Case application includes list views for CSM/FSM Configurable Workspace and for Core UI that appear in the application navigator.
Special handling notes	Special handling notes bring important information to an agent's attention.
Service definitions	Service definitions enable customers to quickly discover and request the services they need and agents to create cases of the right type to support those requests.
Email notifications and email templates	Email notifications are sent to the contact and, in some cases, to users on the case watch list for specific actions. The system uses email templates to create these notifications.
Provider notifications	Provider notifications for agents are sent following updates to technology product support cases.
Service level agreement (SLA) definitions	An SLA definition includes the timing, conditions, workflows, and other information required to create and progress task SLAs.
Record producer	A record producer is a specific type of catalog item that allows end users to create task-based records from a service catalog. The Technology Product Support Case application includes the following record producer: **Create a Technology Product Case**.
Case action status	The case action status feature enables agents to easily identify cases that need attention.
Field indicators and highlights	The Technology Product Support case type uses field indicators and field highlights to indicate information about cases.
Auto close cases	Cases in the Resolved state can be closed automatically if customers do not take any action.

Roles

User roles available with the Technology Product Support Case application address the diverse skill sets needed to resolve complex technical issues. These roles enable users to research technical issues, collaborate with development teams, and implement advanced troubleshooting techniques.

Technology Product Support Case application roles and descriptions

Role	Description	Contains roles
Customer [sn_tech_support.customer]	Users with this role: • Can view technology product support cases in the Customer Service Portal. • Have write access to the **Steps to reproduce** field.	• sn_customerservice.customer • sn_tech_support.creator • sn_tech_support.writer
Customer admin [sn_tech_support.customer_admin]	Users with this role: • Can view technology product support cases in the Customer Service Portal. • Have write access to the **Steps to reproduce** field.	• sn_customerservice.customer_admin • sn_tech_support.creator • sn_tech_support.writer
Partner [sn_tech_support.partner]	Users with this role: • Can view technology product support cases in the Customer Service Portal. • Have write access to the **Steps to reproduce** field.	• sn_customerservice.partner • sn_tech_support.creator • sn_tech_support.writer
Partner admin [sn_tech_support.partner_admin]	Users with this role: • Can view technology product support cases in the Customer Service Portal. • Have write access to the **Steps to reproduce** field.	• sn_customerservice.partner_admin • sn_tech_support.creator • sn_tech_support.writer
Agent [sn_tech_support.agent]	An agent role for the Technology Product Support Case application.	• sn_customerservice_agent • sn_incident_write • sn_problem_write • sn_request_write • sn_change_write • sn_tech_support.writer • sn_tech_support.creator • sn_tech_support.navigation_menu
Creator [sn_tech_support.creator]	Users with this role can create technology product support cases.	

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Technology Product Support Case application roles and descriptions (continued)

Role	Description	Contains roles
Developer [sn_tech_support.developer]	A developer role for the Technology Product Support Case application.	• sn_customerservice.case_task_agent • sn_incident_write • sn_problem_write • sn_request_write • sn_change_write • sn_tech_support.viewer • sn_tech_support.navigation_menu
Report viewer [sn_tech_support.report_viewer]	Provides report viewer access to Technology Product Support cases.	
Viewer [sn_tech_support.viewer]	Provides read-only access to technology product support cases.	
Writer [sn_tech_support.writer]	Provides write access to technology product support cases.	sn_tech_support.viewer
Major case manager [sn_tech_support.major_case_manager]	Users with the major case manager role can: • Create major cases • Approve or reject major case candidates • Add or remove child cases from major cases • Add or remove impacted accounts or consumers For more information, see Major issue management overview.	• sn_majorissue_mgt.major_issue_manager • sn_incident_write • sn_problem_write • sn_request_write • sn_change_write • sn_tech_support.writer • sn_tech_support.creator • sn_tech_support.navigation_menu
Resource manager [sn_tech_support.resource_manager]	Users with this role can assign technology product support cases to agents.	• sn_customerservice_agent • sn_incident_write • sn_problem_write • sn_request_write • sn_change_write • sn_tech_support.writer • sn_tech_support.creator • sn_tech_support.navigation_menu

Technology Product Support Case application roles and descriptions (continued)

Role	Description	Contains roles
Navigation menu [sn_tech_support.navigation_menu]	Provides access to the Technology Product Support Cases menu and modules in the application navigator.	

Case states

A Technology Product Support case can be in any of the following case states.

Technology Product Support case states

State	Description
Draft	A case that is being created but is not yet submitted.
New	A case moves from Draft to New when it is submitted or when the case intake is completed.
Work in Progress	An agent accepts an assigned case or selects the **Assign to me** action and sets the state to Work in Progress. If a customer rejects a proposed solution, the case returns to the Work in Progress state.
Awaiting Info	The agent requests additional information from the customer.
Solution Proposed	The agent proposes a solution to the customer.
Closed	The customer accepts the proposed solution or the agent selects the **Close case** action. The case can also be auto closed if there is no response from the customer within a specified about of time. The case record is read-only when the state is Closed.
Cancelled	A case that has been cancelled by a user.

State flows

State flows are customized transitions from one state to another. State flows include triggers and can be configured to perform different actions during transitions to specific states.

From state	To state	Trigger
Draft	New	Agent actions: • **Submit Case** • **Finish case intake**
New	Work in Progress	Agent actions:

From state	To state	Trigger
		• **Assign to me**: assigns the case to the logged in user. • **Accept**: AWA - assigns the case to the user who accepts.
New / Work in Progress	Awaiting Info	Selecting the **Request Information** action changes the state from New or Work in Progress to Awaiting Info.
Awaiting Info	Work in Progress	The agent selects **Information Received** or the customer updates the case comments.
Work in Progress	Solution Proposed	The agent selects **Propose Solution**.
Solution Proposed	Work in Progress	The agent or customer selects **Reject solution**.
Solution Proposed	Closed	The agent or customer selects **Accept Solution** or the case is auto closed.

List views

The Technology Product Support Case application includes list views for CSM/FSM Configurable Workspace and for Core UI. These views are displayed in the application navigator.

Technology Product Support Case list views

User interface	Description
CSM/FSM Configurable Workspace	Technology Product Support Cases • Assigned to me • Work in Progress • Solution Proposed • Closed • Unassigned • Escalated • All
Core UI	Technology Product Support Cases • Draft • Work in Progress • Solution Proposed • Unassigned

Technology Product Support Case list views (continued)

User interface	Description
	• Escalated • All

Special handling notes

Special handling notes bring important information to an agent's attention. You can configure special handling notes to appear based on one or more conditions, such as a specific account, contact, or product.

The Technology Product Support Case application includes a configuration for special handling notes. Navigate to **Special Handling Notes** > **Configuration** to view the configuration for the Tech Product Support Case table [sn_tech_product_support_case]. This configuration includes the following related fields:

- Account
- Contact
- Product
- Install Base
- Assigned to

Users can create special handling notes by navigating to **Special Handling Notes** > **Special Handling Notes** and selecting **New**. For more information, see the following topics:

- Special handling notes
- Configure special handling notes
- Create a special handling note

Service definitions

The Technology Product Support Case application includes the following service definitions. These definitions belong to the Technology Support category and are associated with the Create a Technology Product Case catalog item.

- Question
- Service Request
- Something is Broken
- Performance Issue

For more information, see Service definitions and Service definition categories.

Email notifications and email templates

Email notifications are sent to the contact and, in some cases, to users on the case watch list for the following actions. The system uses email templates to create these notifications.

Email notifications and templates

Notification	Action	Email template
Tech Case opened for customer	An agent opens a case for a contact. The notification is sent to the contact and to users in the watch list.	case.opened.for.customer
Tech Case commented for customer	An agent adds a customer-visible comment to a case. The notification is sent to the contact and to users in the watch list.	case.commented.for.customer
Tech Case awaiting info for Customer	An agent requests more information for a case from the contact. The notification is sent to the contact and to users in the watch list.	tech.case.awaiting.info
Tech Case closed for customer	An agent closes a case. The notification is sent to the contact and to users in the watch list.	case.closed.for.customer
Tech Case cancelled for customer	An agent cancels a case. The notification is sent to the contact and to users in the watch list.	tech.case.cancelled
Tech Case solution accepted for customer	An agent accepts a solution on behalf of the customer. The notification is sent to the contact.	tech.case.solution.accepted.for.customer
Tech Case solution rejected for customer	An agent rejects a solution on behalf of the customer. The notification is sent to the contact.	tech.case.solution.rejected.for.customer
Tech Case resolved for customer	An agent resolves a case for a customer. The notification is sent to the contact.	case.resolved.for.customer
Tech Case resolved - customer_watchlist	An agent resolves a case for a customer.	case.resolved.for.customer.watchlist

Email notifications and templates (continued)

Notification	Action	Email template
	The notification is sent to the users in the watch list.	

To access a list of email notifications, navigate to **System Notification** > **Email** > **Notifications**.

To access a list of email templates, navigate to **System Notification** > **Email** > **Templates**.

Provider notifications

Provider notifications for agents are sent on the following updates to technology product support cases. Notifications appear in the bell icon in the CSM Configurable Workspace header. To access a list of provider notifications, navigate to **System Notification** > **Provider** > **Notifications**.

Provider notifications

Case update	Notification
A case is assigned to an agent	Tech Case assigned to notification
Case comments or work notes are updated	Tech Case comments/notes added
The proposed solution is accepted or rejected	Tech Case solution accepted/rejected
The case is cancelled	Tech Case cancelled notification

SLA definitions

The Technology Product Support Case application includes the following SLA definitions.

Technology product support SLAs

SLA type	Description
First Response Time - P2 (8 Hours) First Response Time - P3-P4 (2 Days)	The first response time is the time between the customer submitting a case and receiving a response. The first response time is defined by case priority. • P2 cases: response time is 8 business hours. • P3 and P4 cases: response time is 2 business days. This SLA is fulfilled when the customer receives a response in one of the following ways:

Technology product support SLAs (continued)

SLA type	Description
	• The agent updates the **First response** field. • The agent posts a comment in the activity stream. • The agent uses the **Compose Email** action to send an email. For the playbook experience, this SLA is fulfilled when the initial response is posted in the activity stream.
Ongoing Response Time - P2 (8 Hours) Ongoing Response Time - P3-P4 (2 Days)	The ongoing response time begins after the first response time SLA is fulfilled and continues until the agent sends the next update to the customer. The ongoing response time SLA is defined by case priority: • P2: response time is 8 business hours. • P3 and P4: response time is 2 business days. ThIs SLA is fulfilled when the agent updates the additional comments in the activity stream. Once completed, the ongoing response SLA is reset and the default ongoing response is applied again. This SLA is paused when the case is in the Awaiting Info state and is restarted when the customer responds to the request for information. This SLA is stopped when the agent proposes a solution for a case. If the customer rejects the solution and the case moves back to work in progress, a new ORT SLA instance is started.
Case Resolution - P2 (14 days) Case Resolution - P3-P4 (28 days)	The resolution time is the maximum amount of time in which a customer can expect a solution to be provided. This is the time between the customer submitting a case and accepting a solution (or a case being automatically closed). The case resolution SLA is defined by case priority: • P2: resolution time 14 days. • P3 and P4: resolution time is 28 days.

Technology product support SLAs (continued)

SLA type	Description
	This SLA is paused when the case is in the Awaiting Info state and is restarted when the customer responds to the request for information. This SLA is stopped when the agent proposes a solution for a case. If the customer rejects the solution and the case moves back to work in progress, this SLA resumes.

Record producer

The Technology Product Support Case application includes a record producer that customers can use to create cases from the Customer Service Portal. The **Create a Technology Product Case** record producer is available for users with the following roles:

- sn_tech_support.customer
- sn_tech_support.customer_admin

To create a case from the Customer Service Portal using this record producer:

1. Select **Requests** > **Request Something**.
2. Select the **Support** category.
3. Select the **Create a Technology Product Case** catalog item.
4. Fill in the fields on the record producer. For field definitions, see the Create a Technology Product Case record producer fields table below.
5. Select **Submit**.

The **Create a Technology Product Case** record producer includes the following fields.

Create a Technology Product Case record producer fields

Field	Description
Issue Type	Select the type of issue for the case: • Something is broken • Performance issue • Service request • Question
Account	Auto filled with the account of the logged-in user.
Contact	Auto filled with the name of the logged-in user.
Affected Instances	Add the affected instances to this list.
Sold Product	Select a product from the list of available products. This list includes the sold products for the logged-in user.

Create a Technology Product Case record producer fields (continued)

Field	Description
Product Component	Select a product component from the list of available product components.
Short Description	Provide a brief description of the issue.
Description of the issue	Provide a more detailed description of the issue.
Describe the Business Impact	Describe the impact that this issue is having on your business.
Steps to reproduce	Add the steps to reproduce the issue.
Contact Timezone	Displays the timezone of the user in the **Contact** field.
Add attachments	Add any attachments to the case.

Case action status

The case action status feature enables agents to easily identify cases that need attention. Visual indicators in the **Action status** column on case lists highlight case status.

- A blue indicator highlights cases that need attention, such as cases that have been updated by customers or internal users and are waiting for input or review.
- A red indicator highlights cases that are blocked, such as cases that have open related task records or are waiting for customer feedback.

In addition to the colored indicators, the **Action status** column also displays a brief status message, such as Needs Attention.

When a case is in the Awaiting Info state and the customer, or a customer contact who has access to the case, responds to the request for information:

- The **Action status** field is updated to Customer Responded.
- The **Needs attention** field is enabled.

For more information, see the following topics:

- Administering case action status
- Case action status (CSM Configurable Workspace)

Field indicators and highlights

The Technology Product Support case type uses field indicators and field highlights to indicate information about cases. These indicators and highlights appear on columns that are displayed in the list view.

Field indicators and highlights for technology product support cases

Column	Description
Priority	The **Priority** field uses the following colors to highlight the case priority: • Red: 1 - Critical • Orange: 2 - High

Field indicators and highlights for technology product support cases (continued)

Column	Description
	• Purple: 3 - Moderate • Green: 4 - Low
Action status	The **Action status** field uses the following colors to highlight the following actions: • Red: Blocked internally: • Blue: Needs attention
State	The **State** field uses the following colors to highlight the case state: • Draft: Yellow • New: Green • Work in progress: Purple • Closed: Light green • Solution proposed: Gray
Escalated cases and accounts	Field indicators and field highlights appear on the **Short description** field for escalated cases and on the **Name** field for escalated accounts. • Red: High severity • Orange: Medium severity For more information, see Administering case and account escalation.

Automatically close technology product support cases

The Auto Close Resolved Cases feature is available with the technology product support case type. Cases in the Resolved state can be closed automatically if customers do not take any action.

Note:
This feature is active by default.

A case can remain in the Resolved state for 10 days before it is automatically closed. System administrators can change this default value in the **Auto Close Resolved Cases** Flow Designer flow.

Customers receive the following notifications before a case is automatically closed:

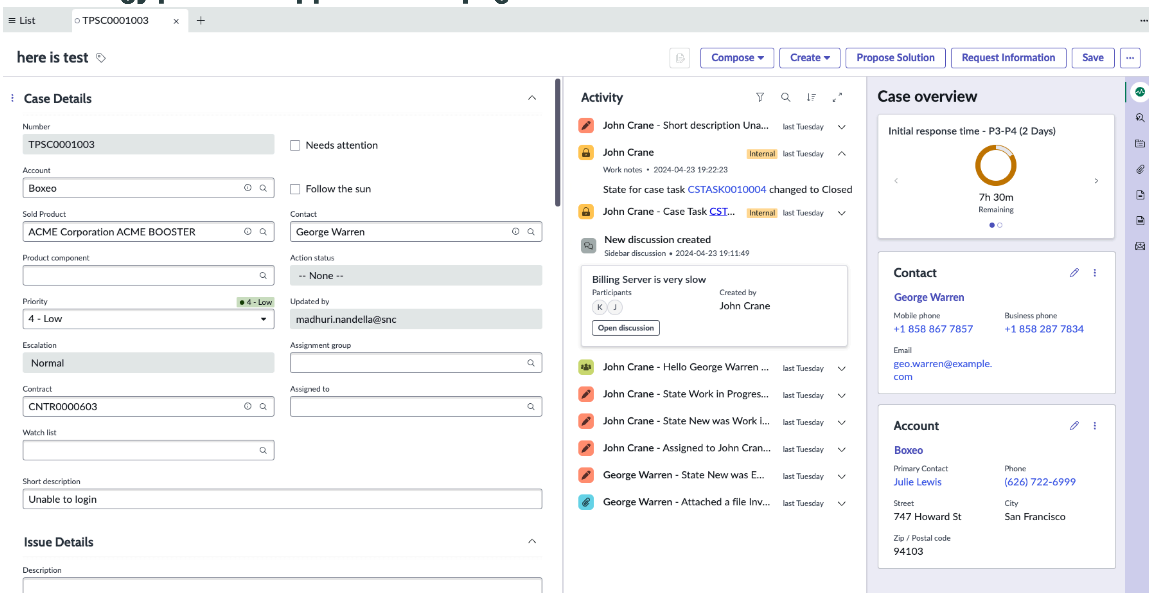
- First notification: sent after 3 days
- Second notification: sent after 5 days
- Third notification: sent after 8 days

For more information, see Automatically close customer service cases.

Technology Product Support record page

The Technology product support record page provides a simplified case view in CSM Configurable Workspace that enables agents to research and resolve technology cases.

Technology product support record page



The Technology product support record page focuses on the essential functionality that agents need:

- Looking up and verifying customer information
- Scanning the activity stream
- Viewing related information
- Searching for knowledge articles

The Technology product support record page is included with the Technology Product Support Case application (sn_tech_product_support).

Technology product support record page variant

The Technology product support record page variant is included with the Technology Product Support Case application. A page variant is a version of a page that has unique settings. This page variant includes the following settings.

Technology product support record page variant settings

Setting	Description
Active	Enabling the **Active** check box makes the page variant available to the selected audience. The technology product support record page is active by default. The active setting combined with the page order determines the page that CSM Configurable Workspace uses to display record information. For more information, see Set record page order.

Technology product support record page variant settings (continued)

Setting	Description
Order	Each record page has an order which indicates the page priority. The lower the number, the higher the priority. The default order for the Technology product support record page variant is -1000.
Conditions	Conditions determine when a page variant is displayed. The Technology product support record page has the following condition: **table=sn_tech_product_support_case** This condition limits the use of the page variant to records from the Tech Product Support Case [sn_tech_product_support_case] table.
Audience	The audience determines who can see the page variant. The Technology product support record page variant audience doesn't specify any user roles so all users can see this variant.

To access the settings for this page variant:

1. Navigate to **All** > **Now Experience Framework** > **UI Builder**.
2. Select the **CSM/FSM Configurable Workspace** experience.
3. In the Record section of the Pages and variants list, select **Technology product support record page**.
4. Select **Settings** at the top of the page.

Technology product support record page components

The Technology product support record page includes the following components.

Technology product support record page components

Component	Description
Form heading	The form heading displays the case short description and also includes the action bar and record tags.
Record tags	Agents can create multiple tags for a record and then use the tags to group and organize records. For more information, see Group and find records using tags in workspace.
Action bar	The action bar contains the actions available to users while working on case records. The specific actions are determined by factors such as the user role, case state, and other attributes.
Modeless dialogs	Modeless dialogs are windows that overlay the main window content. Agents can use these windows to create and post

Technology product support record page components (continued)

Component	Description
	comments and work notes to the activity stream and to compose and send emails.
Account and contact lookup components	Agents can use the account and contact lookup components to do the following: • Search for an account or contact. • Create an account or contact. • Link or unlink an account or contact. • Edit and save a linked account or contact record. • Select a reference field on a lookup card, such as a contact name, to open the reference in a subtab. • Select an email address on a lookup card to open a draft email in the email composer in a subtab. • Select a phone number on a lookup card to call. The account and contact lookup components display information in record cards. These cards display account and contact information and provide quick access to customer details such name, email, and phone.
Workspace form view	The Workspace form view includes the following sections: • Case Details • Issue Details • Initial Response • Technical Action Plan • Other Case Details • Related Records • Notes • Closure Information These sections can be expanded and collapsed to display the fields within each section. The Workspace form view also includes a menu with additional form actions, such as personalizing the form, exporting data, and copying the URL. For more information about the fields that appear in these sections, see Tech Product Support Case table.
Case summarization component	The case summarization component appears above the activity stream. When an agent opens a case record, the component is collapsed and in the default state. Agents can use this component to do the following:

Technology product support record page components (continued)

Component	Description
	• Summarize case details. • Post the summary to the activity stream. • Refresh the summary. **Note:** The case summarization component requires the Now Assist for Customer Service Management (CSM) application to be activated and configured.
Activity stream component	The activity stream component displays a list of activities occurring on a case record. This list can be collapsed to provide a quick view of case activities or expanded to provide more detail about individual activities. The Technology product support record page uses modeless dialogs for composing comments, work notes, and emails.
Contextual side panel	The contextual side panel component includes different tools that agents can use to research and resolve customer issues. The contextual side panel in the Technology product support record page includes the following tabs. • Activity Stream • Recommended Actions search • Related Items • Attachments • Templates • Response Templates • Email Templates For more information, see the following sections: • Contextual side panel component • Recommended Actions search component • Related items component

Actions available in the action bar

The following actions are available on the Technology product support record page action bar. The specific actions that are available are determined by factors such as the user role, case state, and other attributes.

Technology product support record page actions

Action	Description
In-progress Actions	Provides a list of minimized modeless dialogs and includes a badge that displays the number of items in the list. From

Technology product support record page actions (continued)

Action	Description
	this list, an agent can select an item to open the minimized comment, work note, or email.
Submit Case	Moves the case from the Draft state to the New state.
Assign to me	Assigns the case to the logged-in user and moves the case to Work in Progress.
Accept	Assigns the case to the logged-in user and moves the case to Work in Progress.
Request Information	The agent requests information from the customer. Selecting this action moves the case state to Awaiting Information.
Information Received	The agent acknowledges that information was received from the customer. Selecting this action moves the case state to Work in Progress.
Propose Solution	The agent proposes a solution to the customer.
Accept Solution	The agent can accept the proposed solution on behalf of the customer. Selecting this action moves the case to Closed.
Reject Solution	The agent can reject the proposed solution on behalf of the customer. Moves the case to Work in Progress.
Save	Saves changes to the case record.
Cancel	Cancels changes to the case record.
Compose	Compose comments, work notes, and emails in modeless dialogs.
Create	Create records such as work orders, incidents, and requests.
More Actions	Perform additional actions such as proposing a major case or reporting a knowledge gap.

Modeless dialogs

The Technology product support record page uses modeless dialogs to create comments, work notes, and email messages. The following actions are available from the **Compose** button in the form header:

- **Compose > Comment**: Opens the Compose a comment modeless dialog.
- **Compose > Work note**: Opens the Compose a work note modeless dialog.
- **Compose > Email**: Opens the Compose email modeless dialog.

The following rules apply to modeless dialog visibility:

- One modeless dialog of each type (comment, work note, or email) can be active at a time.
- One modeless dialog can displayed at a time while the other two are minimized.
- Minimized modeless dialogs appear in the In-progress Actions menu in the action bar. This menu displays a badge that shows the number of minimized modeless dialogs.
- If an agent opens a second modeless dialog while the first modeless dialog is displayed, the system minimizes the first modeless dialog.

Agents can do the following:

- Select the In-progress Actions menu to see a list of minimized modeless dialogs. Each entry in the list includes the title and category of the minimized item.
  - For email, the title is the email subject.
  - For comments and work notes, the title is the first line of text.
- Select an item from the list to open the minimized modeless dialog.

Closure behavior for comments, work notes, and email:

- Posting a comment or work note to the activity stream closes the modeless dialog.
- Saving the record posts a comment or work note to the activity stream closes the modeless dialog.
- Sending an email closes the modeless dialog. The system adds the email to the activity stream and to the Emails related list.

Discard behavior for comments and work notes:

- Closing a work note or comment modeless dialog discards the text. The system displays a Close Dialog pop-up window and asks the agent to confirm the action.
  - Selecting **Continue** confirms the action, discards the text, and closes the window.
  - Selecting **Cancel** or the Close Dialog button cancels the action. The modeless dialog remains open and the text remains in the dialog.
- The text is discarded in the modeless dialog and on the form field.

Agents can use response templates from the contextual side panel to copy text into the modeless dialogs.

Agents can apply templates to emails in a modeless dialog:

- Select a template from the Email Templates tab in the contextual side panel and then select **Apply Template**. The contents of the template is added to the modeless dialog.
- If a modeless dialog is minimized, display the dialog before applying the template.

Agents can also toggle the **Rich text editor** button in the email modeless dialog to show or hide the TinyMCE formatter.

For more information, see Modeless dialogs.

Account and contact lookup components

The account and contact lookup components enable agents to do the following:

- Look up an account or contact by name, phone number, or email address. As the agent types characters in the search box, matching information appears in record cards below the search box.
- Select an account or contact after searching by selecting the desired record card. The selected record card replaces the lookup component.
- Create a new account or contact by selecting the **+** icon on the lookup component, filling in the fields for the account or contact, and selecting **Save**. A record card for the new account or contact replaces the lookup component.

Agents can perform the following actions from a record card:

- Remove a linked account or contact from a case record by selecting the more actions icon and then selecting **Unlink**. Then save the form to apply this change.
- Edit and save a linked account or contact record by selecting the pencil icon, editing the information for the account or contact, and selecting **Save**.
- Select a reference field on a lookup card to open the referenced record in a subtab.
- Select an email address on a lookup card to open the email composer in a subtab.
- Select a phone number on a lookup card to make a phone call.

Case summarization component

The case summarization component provides agents with a summary of a customer service case, including the issue and the actions taken. Agents can generate summaries to understand the case context and post summaries to the case work notes.

The case summarization component appears above the activity stream on the Technology product support record page variant. Upon first opening a case, the component is collapsed and in the default state.

Using this component, agents can:

- Select **Summarize** to create a summary of the case details.
- Select **Share to work notes** to copy the summary text to the activity stream.
  - Review the summary text in the Share to work notes pop-up window and modify the text as needed.
  - Select **Save to work notes** on the pop-up window to add the text to the activity stream.
- Select the refresh icon in the component footer to refresh the text and get the latest summary.

Note:
If the case doesn’t contain enough text to summarize, the system displays the following message: "This case doesn't have the minimum number of words required for summarization yet."

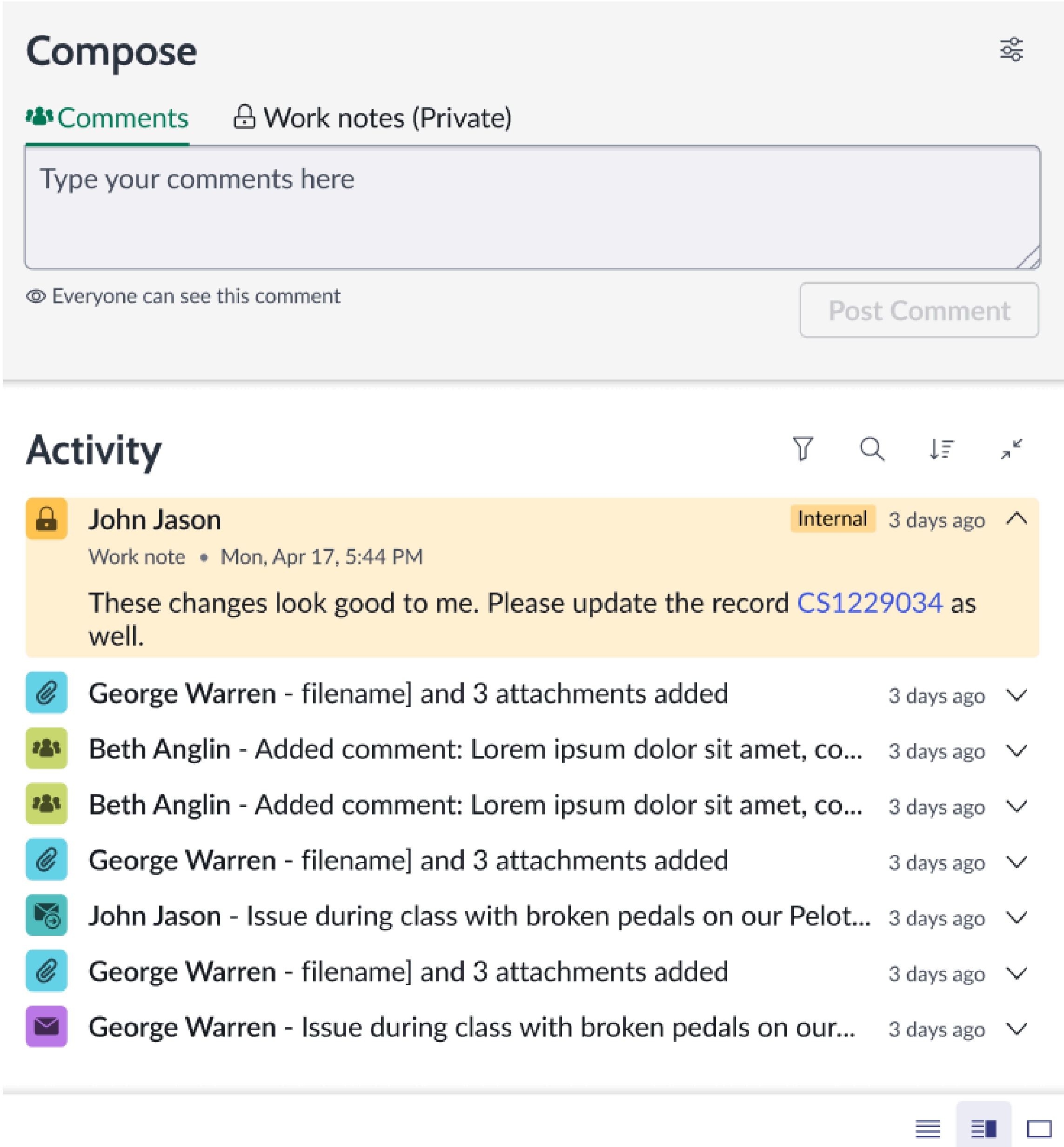
To use the case summarization component with the Technology product support record page variant, activate the Now Assist for Customer Service Management (CSM) application and configure the case summarization skill in the Now Assist Admin console. For more information, see:

- Activate Now Assist for Customer Service Management (CSM)
- Configure the case summarization skill in the Now Assist Admin console.

Activity stream component

The activity stream component displays a list of the activities occurring on a case record. The activities in the list can be collapsed or expanded. When collapsed, the agent can quickly scan the list to get an overview of case activities. When expanded, the agent can see detailed information on individual activities.

Technology product support record page activity stream component



The activities in the activity stream are represented by tiles that use icons and colors to indicate the activity type:

- Comment
- Work note
- Attachment
- Field change
- Email sent or email received
- Chat discussion

When collapsed, each activity in the list includes:

- A tile that represents the activity type.
- The name of the user responsible for the activity.
- A brief one-line summary of the activity.

- A badge that indicates if an activity is internal or external.
- A relative timestamp.
- An expand button that the agent can use to see a detailed summary of the activity.

When expanded, each activity also includes:

- A full date and timestamp.
- An action label that describes the type of activity.
- For comments and work notes, the full text of the comment or work note.
- For field updates, the field name and the updated field value.
- For emails, detailed message information.
- For attachments, a small preview of the attached file.
- For chats, a sidebar chat card.

The activity stream uses modeless dialogs for composing comments, work notes, and emails. Use the **Compose** button in the action bar to create these items.

- **Compose > Comment**: Opens the Compose a comment modeless dialog.
- **Compose > Work note**: Opens the Compose a work note modeless dialog.
- **Compose > Email**: Opens the Compose email modeless dialog.

Contextual side panel component

The contextual side panel component includes different tools that agents can use to research and resolve customer issues. The contextual side panel in the Technology product support record page includes the following tabs.

Technology product support record page tabs in the contextual side panel

Tab	Description
Activity stream	The activity stream component displays a list of the activities occurring on a case record.
Recommended Actions search	The Recommended Actions tab includes AI search functionality. Agents can use AI search to find relevant resources or resolutions for customer issues. The search feature displays an initial set of search results based on the text in the case short description. This initial set of results includes knowledge articles. Agents can also enter different search keywords and repeat the search. From the list of search results, agents can do the following: • Select a source to see search results of that type. • Filter the list of search results. • Sort the list of search results. • Open the search results in full view in a record subtab. • Take the following actions:

Technology product support record page tabs in the contextual side panel (continued)

Tab	Description
	◦ View and attach article ◦ Perform other actions such as reading articles in full view, flagging articles, or marking articles as helpful or unhelpful. • View successful actions by selecting the Actions history icon. For more information, see Use AI search in Recommended Actions to resolve cases. **Note:** Using Recommended Actions in the contextual side panel requires the Recommended Actions application (sn_cs_nb_action) which is included with the CSM Configurable Workspace application.
Related Items	The Related Items tab provides access the case-related lists. The Technology product support record page incorporates related list functionality into the contextual side panel. These lists appear in an accordion format that agents can expand and collapse as needed. An indicator displays the number of records available in a related list. When expanded, the records in a related list are displayed in card format.
Attachments	The Attachments tab provides access to case-related attachments. From this tab, agents can view and download attachments.
Templates	The Templates tab provides access to available form templates which enable agents to automatically populate fields on new records. Agents can manually apply a template when creating a record such as an incident or change.
Response Templates	The Response Templates tab provides access to available response templates. These templates contain reusable messages that agents can copy to provide quick and consistent messages to customers.
Email Templates	The Email Templates tab provides access to available email templates. These templates contain default values for fields that agents can add to email messages. These default values can include the recipients (email addresses in the To, Cc, and Bcc fields), the sender, the subject of the email, and text to include in the message body.

Recommended Actions search component

The Recommended Actions component appears as a tab in the contextual side pane and provides agents with an AI search capability. Agents can search for information, review and attach knowledge articles, and attach similar cases.

By default the AI search configuration searches on the case short description.

For knowledge articles, an agent can view an article and attach the article to the current case. After attaching an article, the article is displayed in the Attached Knowledge list of the Related Records tab.

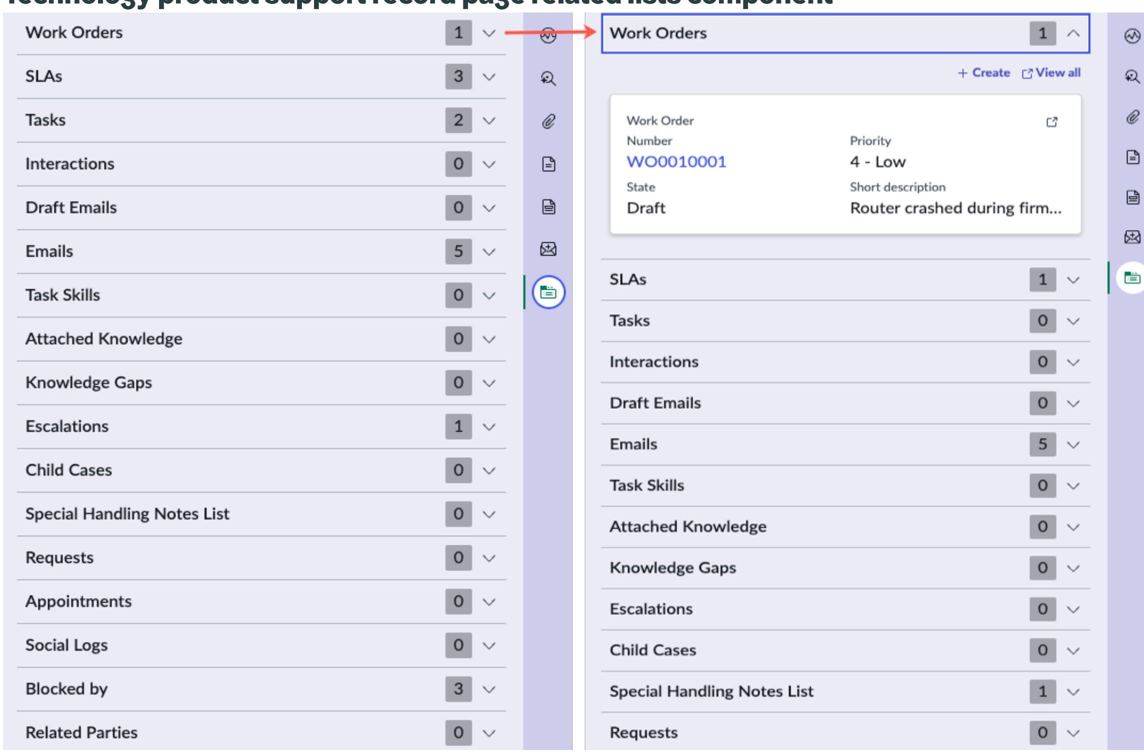
- Selecting **Review and attach article** displays the article in the contextual side panel.
- Selecting **Attach this article** attaches the knowledge article to the current case.

Note:
Using Recommended Actions in the contextual side panel requires the Recommended Actions application (sn_cs_nb_action) which is included with the CSM Configurable Workspace application.

Related Items component

The Technology product support record page incorporates related items functionality into the contextual side panel. The Related Items tab provides agents with access to the case-related lists. These lists are displayed in an accordion format that agents can expand and collapse as needed.

Technology product support record page related lists component



An indicator displays the number of records available in a related list. When expanded, the records in a related list are displayed in card format. If a related list is empty, agents can select Create one in the list to create a record.

The related items component in the contextual side panel includes the following related lists:

- Affected Install Base Items
- Tasks
- SLAs
- Special Handling Notes List
- Escalations

- Child Cases
- Change Requests
- Blocked By
- Related Parties
- Attached Knowledge
- Knowledge Gaps
- Emails
- Draft Emails
- Task Skills
- Work Orders

Related lists include the following actions:

- **Create**: Opens an empty record in a subtab that the agent can use to create a new item.
- **View all**: Opens a list of records in a subtab.
- **Show more**: Is displayed for lists that have more than five items.

The items in an expanded list are displayed as cards. An expanded list shows one card for each item in the list.

- Agents can open an item in a subtab.
- If a list has more than five items, it includes an **Show more** option.

Creating a case

Agents can create a technology product support case by selecting **Create case** from the More Actions menu in the action bar.

Creating a case opens a service selector modal and displays the services defined for the Technology Product Support case type. From this modal, agents can:

- Search for a service.
- Select a service.
- Select **Create case**.

The system creates the case and displays the new case record.

Note:
This action is active by default for the Technology product support record page.

Using Now Assist for CSM to generate resolution notes for a case

Agents can automatically generate the resolution notes for a case, propose the resolution to the customer, and add the resolution information to the case record by using the resolution notes generation skill in the Now Assist for Customer Service Management (CSM) application.

Selecting the **Propose Solution** UI action on a case record displays the Propose Solution modal. If the **Resolution notes** field on the case record is empty, the resolution notes that generation skill adds the information to this field in the modal. For more information, see Generate the resolution notes for a case by using Now Assist for Customer Service Management (CSM).

> **Note:**
> The resolution notes that generation skill requires a minimum of 200 words in the case record to generate the resolution notes. If the resolution notes can't be generated, the system displays a message below the **Resolution notes** field.

To use the resolution notes generation skill with the Technology product support record page variant:

- Activate Now Assist for Customer Service Management (CSM).
- Configure the resolution notes generation skill in the Now Assist Admin console.
- Configure the Propose Solution UI action and declarative action.

Tech Product Support Case table

The Technology Product Support Case application adds the Tech Product Support Case (sn_tech_product_support_case) table.

Tech Product Support Case table fields

Field	Description
Account	The name of the contact's company. This field is filled in automatically if the information is available in the contact record.
Action status	Identifies cases that need attention or that are blocked.
Additional comments	Customer-viewable comments. Each comment is inserted into the **Activity** field when the user selects the Post button.
Assigned to	The assigned agent. If a group is selected in the **Assignment group** field, the assigned agent must belong to this group.
Assignment group	The assigned customer service agent group.
Channel	The method by which the customer initiated contact and the case was opened. For example, chat or email.
Closed	The date and time that the case was closed.
Closed by	The name of the user who closed the case.
Close notes	Additional notes made by the user who closes the case.
Company	The name of the company for this case.
Contact	The name of the customer contact for this case.
Contract	The contract number associated with this case.
Created	The date and time that the case was created.
Created by	The name of the user who created the case.
Entitlement	The entitlement associated with this case. The available entitlements are filtered by the settings in the **Account**, **Contract**, **Product**, **Asset** fields.
Follow the sun	A check box to indicate that a case should be handed-off at the end of the work day for global follow-up.
Initial response	The first response sent by the agent to the customer.

Tech Product Support Case table fields (continued)

Field	Description
Install base	The Install base field helps you track which products and services have been purchased by a customer, how they have been installed or provisioned, along with the detailed configuration for each installed item.
Issue summary	A summary of the case based on the agent's understanding of the reported issue.
Knowledge	If checked, the system automatically creates a draft knowledge article when the case is closed.
Last action plan updated	Indicates when the technical action plan was last updated.
Last action plan updated by	The user who last updated the technical action plan.
Needs attention	If enabled, the case record needs attention. For example, cases that have been updated by customers or internal users and are waiting for input or review.
Next steps	Stores the next steps to be taken toward case resolution.
Number	The auto generated case number.
Opened	The date and time that the case was opened.
Opened by	The name of the user who created the case.
Parent	The parent record for the case.
Partner	The name of the partner company.
Partner Contact	The name of the partner contact for this case.
Priority	The assigned priority for the case: • 1 - Critical • 2 - High • 3 - Moderate • 4 - Low
Product	The product model of the asset. A model is a specific version or configuration of an asset. The product can be one of the following types: Application model or Service Product model. Application models and Service Product models can have multiple components. They can also have multiple application, software, and software license combinations.
Product component	Displays a list of the child components for the product selected in the **Product** field. Users with the admin role can configure product components using the following related lists:

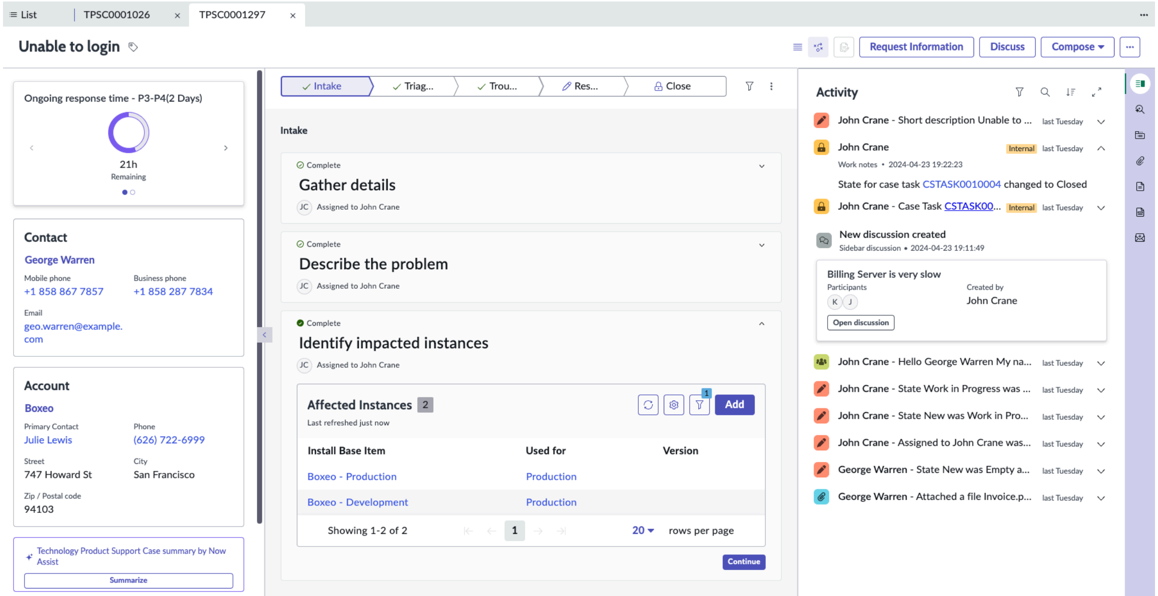
Tech Product Support Case table fields (continued)

Field	Description
	• Service Model form > Model Components related list • Application Model form > Model Components related list
Resolution code	Choice list indicating the resolution states for the case. This field is mandatory when an agent proposes a solution for a case.
Resolution notes	Details about how the case was closed. This field is mandatory if a customer service agent or agent manager closes a case. If a customer closes a case, it is not mandatory.
Resolved	The date and time that the case was resolved.
Resolved by	The agent to whom the case is assigned when the case is resolved.
Root cause code	The reason that the case was created.
Short description	A brief description of the issue or problem.
Sold Product	The product that the case is being created for.
Steps to reproduce	Includes details of the steps to follow to reproduce the issue.
Updated	The date and time that the case was updated.
Updated by	The name of the user who last updated the case.
Watch list	Users who receive notifications about this case when additional comments are added or if the state of a case is changed to Resolved or Closed.
Work notes	Information about how to resolve the case, or steps taken to resolve it, if applicable. Internal users who have been added to the Work notes list receive the Case work notes added notification containing the work notes when added.
Work notes list	Users who receive notifications about this case when work notes are added.

Technology Product Support Case playbook

The Technology Product Support Case playbook provides step-by-step guidance for resolving technology cases.

Technology Product Support Case playbook



A playbook visualizes a workflow in a simple, task-oriented view and guides the agent through sequences of tasks.

- A stage in a playbook is a grouped sequence of activities.
- An activity in a stage represents an individual task for an agent to complete. Stages can also include automated activities, such as sending a notification to a customer when a stage or activity is complete.

The **Technology product support process page** provides access to the playbook in CSM Configurable Workspace.

For detailed information about the stages and activities, see Technology product support case playbook stages and activities.

Technology product support process page variant

The Technology product support process page variant is included with the Technology Product Support Case application (sn_tech_product_support). A page variant is a version of a page that has unique settings. This page variant includes the following settings.

Technology product support process page variant settings

Setting	Description
Active	Enabling the **Active** check box makes the page variant available to the selected audience. The technology product support process page is active by default. The active setting combined with the page order determines the page that CSM Configurable Workspace uses to display record information. For more information, see Set record page order.
Order	Each record page has an order which indicates the page priority. The lower the number, the higher the priority.

Technology product support process page variant settings (continued)

Setting	Description
	The default order for the Technology product support process page variant is -100.
Conditions	Conditions determine when a page variant is displayed. The Technology product support process page has the following condition: **table=sn_tech_product_support_case** This condition limits the use of the page variant to records from the Tech Product Support Case [sn_tech_product_support_case] table.
Audience	The audience determines who can see the page variant. The Technology product support playbook variant audience includes the Technology Support Agent.

To access the settings for this page variant:

1. Navigate to **All** > **Now Experience Framework** > **UI Builder**.
2. Select the **CSM/FSM Configurable Workspace** experience.
3. In the Record section of the Pages and variants list, select **Technology product support process page**.
4. Select **Settings** at the top of the page.

Technology product support process page components

Technology product support process page variant includes the following components.

Technology product support playbook components

Component	Description
Form heading	The form heading displays the case short description and also includes the action bar and record tags.
Record tags	Agents can create multiple tags for a record and then use the tags to group and organize records. For more information, see Group and find records using tags in workspace.
Action bar	The action bar contains the actions available to users while working on case records. The specific actions are determined by factors such as the user role, case state, and other attributes.
SLA component	A service level agreement (SLA) defines a set amount of time for a task to reach a certain condition. This ensures that tasks resolved according to the expectations set for customers.

Technology product support playbook components (continued)

Component	Description
	For more information, see SLA definitions.
Account and contact lookup components	Agents can use the account and contact lookup components to do the following: • Search for an account or contact. • Create an account or contact. • Link or unlink an account or contact. • Edit and save a linked account or contact record. • Select a reference field on a lookup card, such as a contact name, to open the reference in a sub-tab. • Select an email address on a lookup card to open a draft email in the email composer in a sub-tab. • Select a phone number on a lookup card to make a call. The account and contact lookup components display information in record cards. These cards display account and contact information and provide quick access to customer details such name, email, and phone.
Case highlights component	The case highlights component displays important details about the case including the case number and priority.
Case summarization component	The case summarization component appears in the left side panel. When an agent opens a case record, the component is collapsed and in the default state. Agents can use this component to do the following: • Summarize case details. • Post the summary to the activity stream. • Refresh the summary. The case summarization component requires that the Now Assist for Customer Service Management (CSM) application is installed and the case summarization skill has been configured.
Playbook	The Technology product support process page includes a horizontal playbook that guides the agent through the following stages: • Intake • Triage • Troubleshoot • Resolve • Close

Technology product support playbook components (continued)

Component	Description
	For more information about the playbook, see Technology Product Support Case playbook stages and activities.
Contextual side panel	The contextual side panel component includes different tools that agents can use to research and resolve customer issues. The contextual side panel in the Technology product support process page includes the following tabs. • Activity stream • Recommended Actions • Related Items • Attachments • Templates • Response Templates • Email Templates For more information, see the following sections: • Activity stream component • Recommended Actions / Search component • Related Items component
Modeless dialogs	Agents can use modeless dialogs to create comments, work notes, and email messages.
Workspace form view	The Technology product support process page provides agents with the option to toggle between the playbook stages and activities and the record details. When viewing record details, the Technology product support process page uses the Workspace form view, which includes the following sections: • Case Details • Issue Details • Initial Response • Technical Action Plan • Other Case Details • Related Records • Notes • Closure Information These sections can be expanded and collapsed to display the fields within each section. The Workspace form view also includes a menu with additional form actions, such as personalizing the form, exporting data, and copying the URL.

Technology product support playbook components (continued)

Component	Description
	For more information about the fields that appear in these sections, see Tech Product Support Case table.

Action bar

The following actions are available on the Technology product support process page action bar. The specific actions that are available are determined by factors such as the user role, case state, and other attributes.

- **Record details**: Select this icon to view the record details.
- **Playbook details**: Select this icon to view the playbook stages and activities.
- **In-progress Actions**: Provides a list of minimized modeless dialogs and includes a badge that displays the number of items in the list. From this list, an agent can select an item to open the minimized comment, work note, or email.
- **Request Information**: The agent requests information from the customer. Selecting this action moves the case state to Awaiting Information.
- **Information Received**: The agent acknowledges that information was received from the customer. Selecting this action moves the case state to Work in Progress.
- **Discuss**: starts a Sidebar discussion. For more information about using the Sidebar feature, see Exploring Sidebar.
- **Compose**: Compose comments, work notes, and emails in modeless dialogs.
- **Save**: Saves changes to the case record.
- **Accept Solution**: The agent can accept the proposed solution on behalf of the customer. Moves the case to Closed.
- **Reject Solution**: The agent can reject the proposed solution on behalf of the customer. Moves the case to Work in Progress.
- **More Actions**: enables users to take additional actions such as proposing a major case or reporting a knowledge gap.

Account and contact lookup components

The account and contact lookup components enable agents to do the following:

- Look up an account or contact by name, phone number, or email address. As the agent types characters in the search box, matching information appears in record cards below the search box.
- Select an account or contact after searching by selecting the desired record card. The selected record card replaces the lookup component.
- Create a new account or contact by selecting the **+** icon on the lookup component, filling in the fields for the account or contact, and selecting **Save**. A record card for the new account or contact replaces the lookup component.

Agents can perform the following actions from a record card:

- Remove a linked account or contact from a case record by selecting the more actions icon and then selecting **Unlink**. Then save the form to apply this change.
- Edit and save a linked account or contact record by selecting the pencil icon, editing the information for the account or contact, and selecting **Save**.

- Select a reference field on a lookup card to open the referenced record in a subtab.
- Select an email address on a lookup card to open to open the email composer in a subtab.
- Select a phone number on a lookup card to make a phone call.

Case summarization component

The case summarization component provides agents with a summary of a customer service case, including the issue and the actions taken. Agents can generate summaries to understand case context and post summaries to the case work notes.

The case summarization component appears in the left side panel on the Technology product support process page variant. Upon first opening a case, the component is collapsed and in the default state.

Using this component, agents can:

- Select **Summarize** to create a summary of the case details.
- Select **Share to work notes** to copy the summary text to the activity stream.
  - Review the summary text in the Share to work notes popup window and modify the text as needed.
  - Select **Save to work notes** on the popup window to add the text to the activity stream.
- Select the refresh icon in the component footer to refresh the text and get the latest summary.

Note:
If the case does not contain enough text to summarize, the system displays the following message: "This case doesn't have the minimum number of words required for summarization yet."

To use the case summarization component with the Technology product support process page variant, activate the Now Assist for Customer Service Management (CSM) application and configure the case summarization skill in the Now Assist Admin console. For more information, see:

- Activate Now Assist for Customer Service Management (CSM)
- Configure the case summarization skill in the Now Assist Admin console.

Contextual side panel component

The contextual side panel component includes different tools that agents can use to research and resolve customer issues. The contextual side panel in the Technology product support process page includes the following tabs.

Technology product support process page tabs in the contextual side panel

Tab	Description
Activity stream	The activity stream component displays a list of the activities occurring on a case record.
Recommended Actions search	The Recommended Actions tab includes AI search functionality. Agents can use AI search to find relevant resources or resolutions for customer issues. The search feature displays an initial set of search results based on the text in the case short description. This initial set

Technology product support process page tabs in the contextual side panel (continued)

Tab	Description

	of results includes knowledge articles. Agents can also enter different search keywords and repeat the search.
	
	From the list of search results, agents can do the following:
	• Select a source to see search results of that type.
	• Filter the list of search results.
	• Sort the list of search results.
	• Open the search results in full view in a record sub-tab.
	• Take the following actions:
	  ○ View and attach article
	  ○ Link to case
	  ○ Perform other actions such as reading articles in full view, flagging articles, or marking articles as helpful or unhelpful.
	• View successful actions by selecting the Actions history icon.
	
	For more information, see Use AI search in Recommended Actions to resolve cases.
	
	Note:
	Using Recommended Actions in the contextual side panel requires the Recommended Actions application (sn_cs_nb_action) which is included with the CSM Configurable Workspace application.

Related Items	The Related Items tab provides access the case related lists. The Technology product support playbook incorporates related list functionality into the contextual side panel. These lists appear in an accordion format that agents can expand and collapse as needed. An indicator displays the number of records available in a related list. When expanded, the records in a related list are displayed in card format.
Attachments	The Attachments tab provides access to case-related attachments. From this tab, agents can view and download attachments.
Templates	The Templates tab provides access to available form templates which enable agents to automatically populate fields on new records. Agents can manually apply a template when creating a new record such as an incident or change.
Response Templates	The Response Templates tab provides access to available response templates. These templates contain reusable messages that agents can copy to provide quick and consistent messages to customers.

Technology product support process page tabs in the contextual side panel (continued)

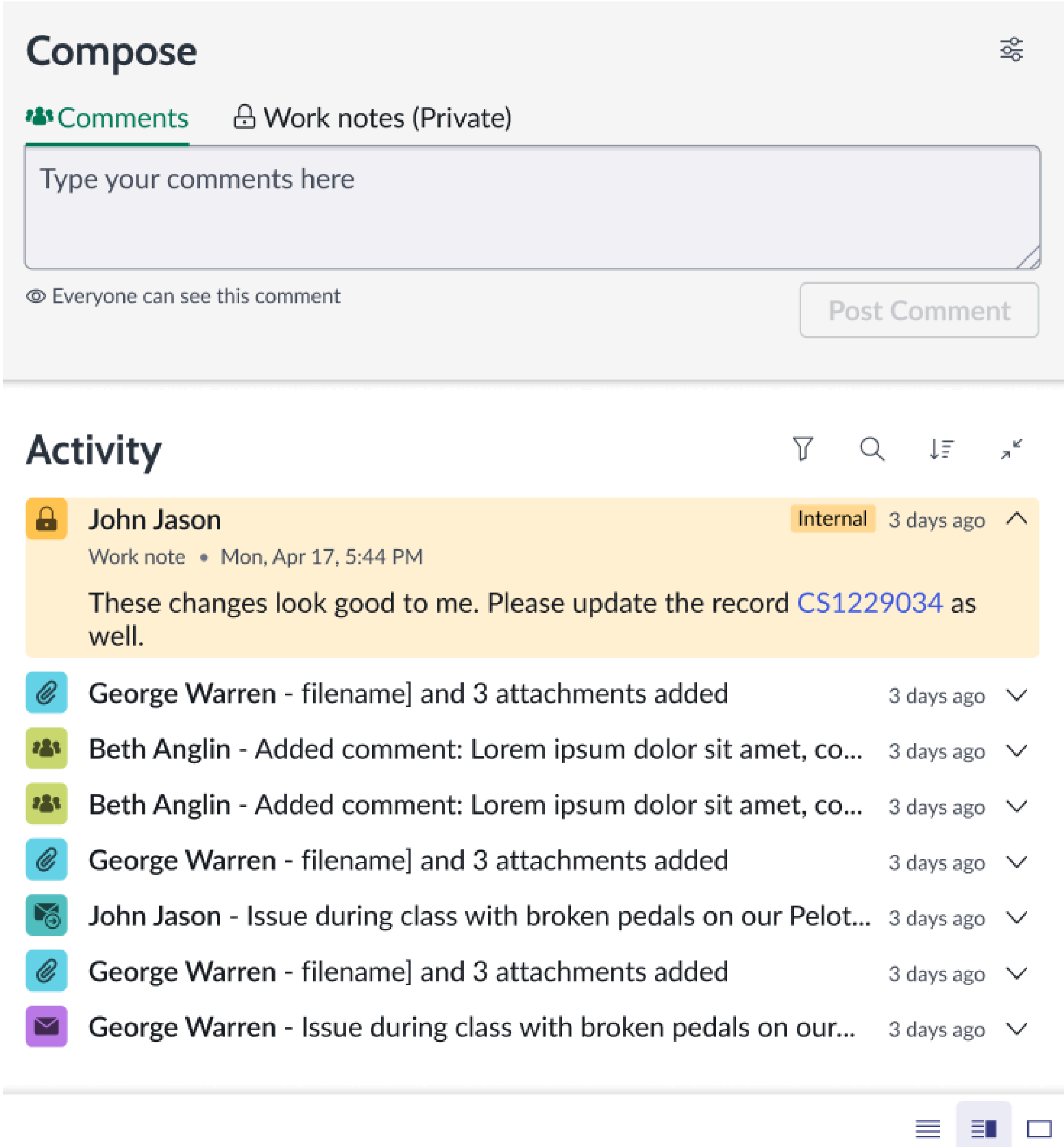
Tab	Description
Email Templates	The Email Templates tab provides access to available email templates. These templates contain default values for fields that agents can add to email messages. These default values can include the recipients (email addresses in the To, Cc, and Bcc fields), the sender, the subject of the email, and text to include in the message body.

Activity stream component

The Technology product support process page includes the activity stream in the first tab of the contextual side panel.

The activity stream component displays a list of the activities occurring on a case record. The activities in the list can be collapsed or expanded. When collapsed, the agent can quickly scan the list to get an overview of case activities. When expanded, the agent can see detailed information individual activities.

Technology product support playbook activity stream component



The activities in the activity stream are represented by tiles that use icons and colors to indicate the activity type.

- Comment
- Work note
- Attachment
- Field change
- Email sent or email received
- Chat discussion
- Custom icon

When collapsed, each activity in the list includes:

- A tile that represents the activity type.
- The name of the user responsible for the activity.

- A brief one-line summary of the activity.
- A badge that indicates if an activity is internal or external.
- A relative timestamp.
- An expand button that the agent can use to see a detailed summary of the activity.

When expanded, each activity also includes:

- A full date and time stamp.
- An action label that describes the type of activity.
- For comments and work notes, the full text of the comment or work note.
- For field updates, the field name and the updated field value.
- For emails, detailed message information.
- For attachments, a small preview of the attached file.
- For chats, a sidebar chat card.

The activity stream uses modeless dialogs for composing comments, work notes, and emails. Use the **Compose** button in the action bar to create these items.

- **Compose > Comment**: opens the Compose a comment modeless dialog.
- **Compose > Work note**: opens the Compose a work note modeless dialog.
- **Compose > Email**: opens the Compose email modeless dialog.

Recommended actions search component

The Recommended Actions search component appears as a tab in the contextual side panel and provides agents with an AI search capability. Agents can search for information, review and attach knowledge articles, and attach similar cases.

By default the AI search configuration searches on the case short description.

For knowledge articles, an agent can view an article and attach the article to the current case. After attaching an article, the article is displayed in the Attached Knowledge list of the Related Records tab.

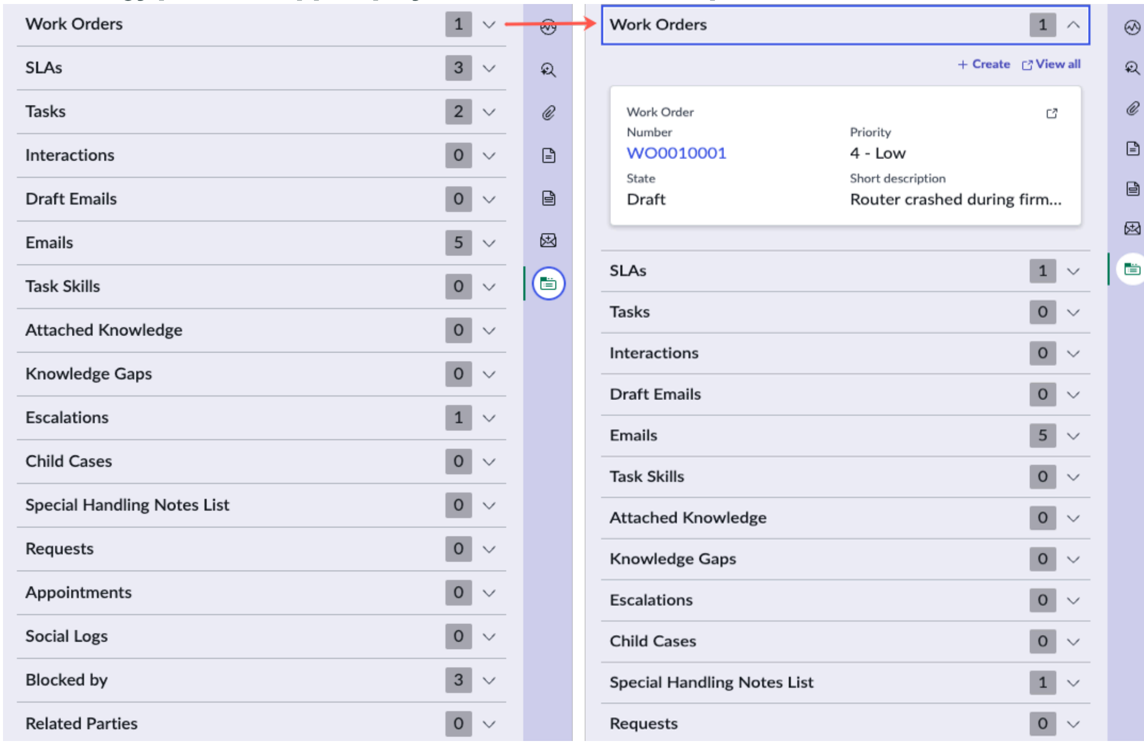
- Selecting **Review and attach article** displays the article in the contextual side panel.
- Selecting **Attach this article** attaches the knowledge article to the current case.

Note:
Using Recommended Actions in the contextual side panel requires the Recommended Actions application (sn_cs_nb_action) which is included with the CSM Configurable Workspace application.

Related Items component

The Technology product support playbook incorporates related list functionality into the contextual side panel. The Related Items tab provides agents with access to the case related lists. These lists are displayed in an accordion format that agents can expand and collapse as needed.

Technology product support playbook related lists component



An indicator displays the number of records available in a related list. When expanded, the records in a related list are displayed in card format. If a related list is empty, agents can select Create one in the list to create a record.

The related items component in the contextual side panel includes the following related lists:

- Affected Install Base Items
- Tasks
- SLAs
- Special Handling Notes List
- Escalations
- Child Cases
- Change Requests
- Blocked By
- Related Parties
- Attached Knowledge
- Knowledge Gaps
- Emails
- Draft Emails
- Task Skills
- Work Orders

Related lists include the following actions:

- **Create**: opens a blank record in a sub tab that the agent can use to create a new item.
- **View all**: opens a list of records in a sub tab.
- **Show more**: is displayed for lists that have more than five items.

The items in an expanded list are displayed as cards. An expanded list shows one card for each item in the list.

- Agents can open an item in a sub-tab.
- If a list has more than five items, it includes a **Show more** option.

Modeless dialogs

The Technology product support playbook uses modeless dialogs to create comments, work notes, and email messages. The following actions are available from the **Compose** button in the form header:

- **Compose > Comment**: opens the Compose a comment modeless dialog.
- **Compose > Work note**: opens the Compose a work note modeless dialog.
- **Compose > Email**: opens the Compose email modeless dialog.

The following rules apply to modeless dialog visibility:

- One modeless dialog of each type (comment, work note, or email) can be active at a time.
- One modeless dialog can displayed at a time while the other two are minimized.
- Minimized modeless dialogs appear in the In-progress Actions menu in the action bar. This menu displays a badge that shows the number of minimized modeless dialogs.
- If an agent opens a second modeless dialog while the first modeless dialog is displayed, the system minimizes the first modeless dialog.

Agents can do the following:

- Select the In-progress Actions menu to see a list of minimized modeless dialogs. Each entry in the list includes the title and category of the minimized item.
  - For email, the title is the email subject.
  - For comments and work notes, the title is the first line of text.
- Select an item from the list to open the minimized modeless dialog.

Closure behavior for comments, work notes, and email:

- Posting a comment or work note to the activity stream closes the modeless dialog.
- Saving the record posts a comment or work note to the activity stream closes the modeless dialog.
- Sending an email closes the modeless dialog. The system adds the email to the activity stream and to the Emails related list.

Discard behavior for comments and work notes:

- Closing a work note or comment modeless dialog discards the text. The system displays a Close Dialog pop-up window and asks the agent to confirm the action.
  - Selecting **Continue** confirms the action, discards the text, and closes the window.
  - Selecting **Cancel** or the Close Dialog button cancels the action. The modeless dialog remains open and the text remains in the dialog.
- The text is discarded in the modeless dialog and on the form field.

Agents can use response templates from the contextual side panel to copy text into the modeless dialogs.

Agents can apply templates to emails in a modeless dialog:

- Select a template from the Email Templates tab in the contextual side panel and then select **Apply Template**. The contents of the template is added to the modeless dialog.
- If a modeless dialog is minimized, display the dialog before applying the template.

Agents can also toggle the **Rich text editor** button in the email modeless dialog to show or hide the TinyMCE formatter.

For more information, see Modeless dialogs.

Update action plans

Agents can update a case action plan multiple times during the case resolution process. For example, an agent can update the plan before transferring the case to another agent.

The Related work activity in the Troubleshoot stage of the playbook includes an **Update action plan** declarative action that the agent can use to make updates. Selecting this action takes the agent back to the Update action plan activity. After updating the plan and selecting **Save**, the system posts the action plan to the activity stream and returns the agent to the Related Work activity.

A new filter set (Action Plan) is available in the activity stream. Agents can use this filter set to view only the action plan fields.

Creating a case

Agents can create a technology product support case by selecting **Create case** from the More Actions menu in the action bar.

Creating a case opens a service selector modal and displays the services defined for the Technology Product Support case type. From this modal, agents can:

- Search for a service.
- Select a service.
- Select **Create case**.

The system creates the case and launches the playbook associated with the service definition. For more information, see Associate a playbook with a service definition.

Note:
This action is active by default for the Technology product support process page.

Using Now Assist for CSM to generate resolution notes for a case

Agents can automatically generate the resolution notes for a case by using the resolution notes generation skill in the Now Assist for Customer Service Management (CSM) application.

When the playbook transitions to the Resolve stage, the resolution notes generation skill adds the information to the **Resolution notes** field in the Propose resolution activity.

Note:
The resolution notes generation skill requires a minimum of 200 words in the case record to generate the resolution notes. If the resolution notes cannot be generated, the system displays a message below the **Resolution notes** field.

To use the resolution notes generation skill with the Technology product support process page variant:

1. Activate Now Assist for Customer Service Management (CSM).
2. Configure the resolution notes generation skill in the Now Assist Admin console.

Technology Product Support Case playbook stages and activities

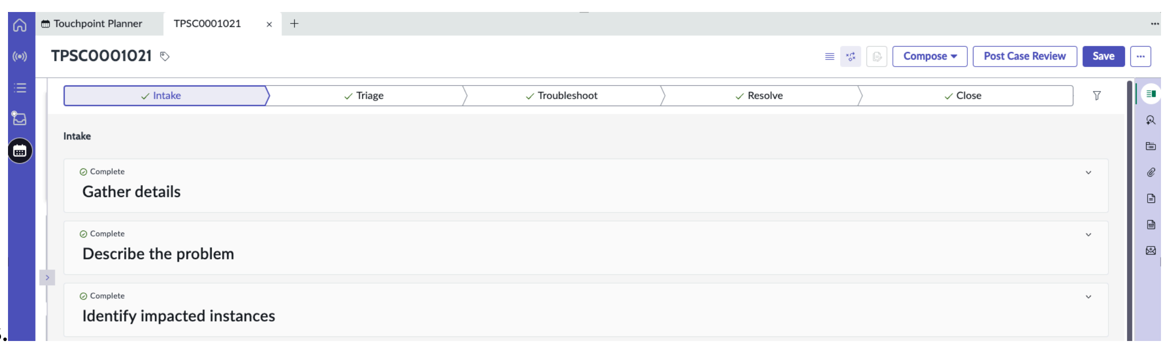
The Technology Product Support Case playbook includes stages and activities that assist agents in researching and resolving technology cases.

When an agent creates a technology product support case, the system opens a service selector modal and displays the services defined for the Technology Product Support case type.

The agent selects a service and then selects **Create** to create a case. The system creates the case and launches the Technology Product Support Case playbook. This playbook includes the stages and activities described in the following sections.

Intake stage

During the intake stage, an agent gathers information about the customer, the issue, and the impacted instances.



Intake stage activities

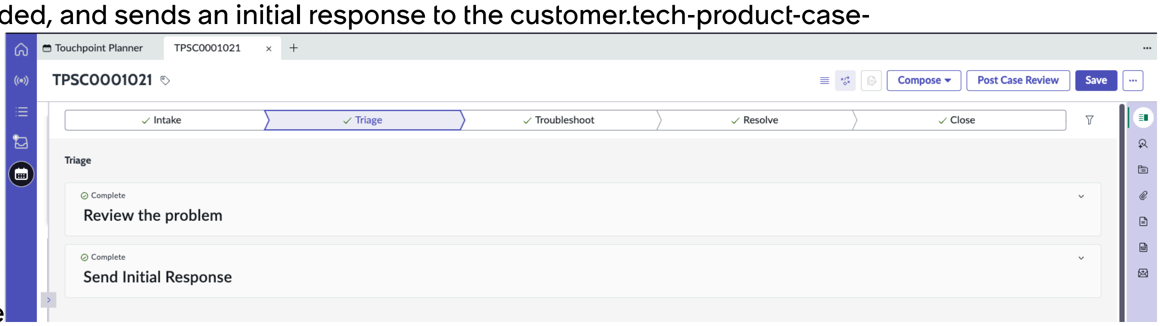
Activity	Description
Gather details	The agent gathers information about the account and contact and the product and adds a short description. Select **Continue** to save the information and move to the next activity.

Intake stage activities (continued)

Activity	Description
Describe the problem	The agent describes the issue type and the details and adds a case description and steps to reproduce. The agent can also add users to the watch list and add attachments. Select **Continue** to save the information and move to the next activity.
Identify impacted instances	The agent adds the impacted instances from a list of instances that belong to the account. Select **Continue** to save the information and move to the first activity in the Triage stage.

Triage stage

During the triage stage, the agent reviews the case information, makes changes as needed, and sends an initial response to the customer.tech-product-case-resolve



Triage stage activities

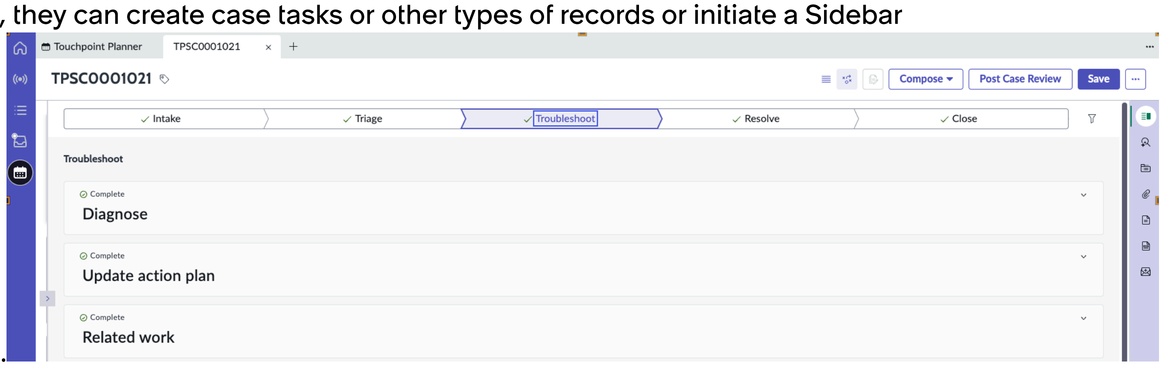
Activity	Description
Review the problem	The agent can review information about the customer issue, including the affected instances selected in the Intake stage and the sold product or product component. In addition to reviewing information, the agent can update the list of affected instances and the attachments. The following actions are available: • **Assign to me**: The agent can select this action to self-assign the case. • **Accept**: The agent can select this action to accept the assigned case. Once the case is assigned, the agent can select **Continue** to save the information and move to the next activity.

Triage stage activities (continued)

Activity	Description
Send initial response	The agent can send a response to the customer by entering text in the **Initial response** field. If desired, the agent can use a template from the Response Templates tab in the contextual side panel. The agent can also enter text in the **Work notes** field to capture internal information. After entering text in these fields, the agent can: • Select **Save** to save the information in the fields without sending it to the customer. • Select **Send and Continue** to send the initial response to the customer, post the work notes, and move to the Troubleshoot stage.

Troubleshoot stage

During the troubleshoot stage, the agent investigates the customer's issue and updates their findings in the action plan. The agent can leverage tools such as search or recommended actions as part of the investigation. If the agent needs assistance, they can create case tasks or other types of records or initiate a Sidebar discussion.



Troubleshoot stage activities

Activity	Description
Diagnose	The decision table is provided with the Technology Product Support Case application. You can modify the conditions that have been defined, and the results to suit your requirements. To enable the diagnostic activity in the troubleshoot stage, select the case category in the decision table as Issue, the diagnostic activity field is field is updated to True.

Troubleshoot stage activities (continued)

Activity	Description
	The status can be changed to False by the agent. For more details on updating decision tables, see Decision Tables. The agent can view and do the following actions in these tabs: • **Available test** 1. In the **Available tests** tab, open a list of records showing the tests waiting to be run. The system automatically suggests one or more tests relevant to the details described in the service problem case to diagnose the issue. These tests are the test definitions defined when configuring Customer Service Problem Management. For more information, see Setting up test definitions. **Note:** To avoid conflicts, the system allows only one test to run at a given time. This is true even if you have multiple client test runner windows open. 2. Select **Run** in front of the test that you want to execute to diagnose the problem. 3. In the test dialog box, select an option either to run the test now or to schedule it for later, and then select **Run test**. • **Test results** 1. Select the **Test results** tab and review the results of the tests conducted in the previous step, checking whether each test is passed or failed. The failed tests indicate that issues causing the service problem are identified and needing repair. A Repair task is created for all failed test cases related to the diagnosed service problem. For each unique service and test specification, only one repair task is created. The agent can then work on it and close this repair task.

Troubleshoot stage activities (continued)

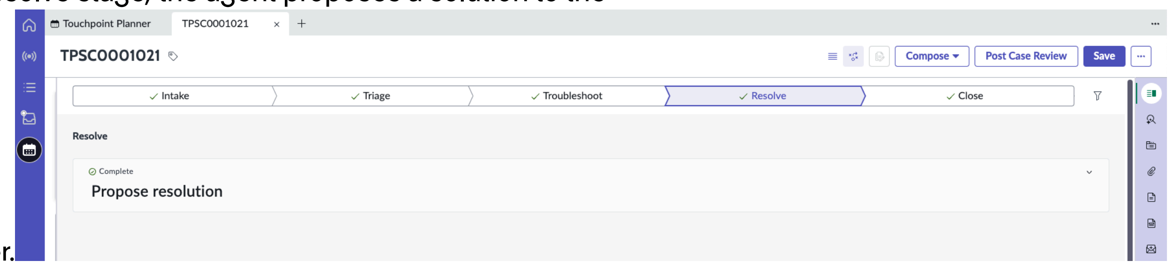
Activity	Description
	2. Select the **View Details** icon for a specific test result to review its details. 3. Select the **Rerun test** icon for a specific test result to run it again. • **Diagnostic tasks** If needed, the agent can create the diagnostic tasks manually and view the diagnostic tasks.
Update action plan	The agent investigates the issue and adds information to the following fields: • Issue summary • Actions taken • Next steps Selecting the **Update and continue** action: • Saves the information in the action plan. • Posts the information to the activity stream. • Moves the agent to the Related work activity.
Related work	The agent can see the action status of the case, if available, and can update the **Needs attention** field. The Related work activity includes a Recommended Actions card, **Talk to an expert**, that agents can use if they need assistance. • Select **Start discussion** to initiate a Sidebar conversation. • Select **Dismiss** to close the card. The Related work activity shows lists of related case records. The agent can expand these related record lists and view the record cards or create records. • **Update action plan**: returns the agent to the Update action plan activity so they can update information. • **Continue**: completes the Troubleshoot stage and moves the agent to the Resolve stage. • **Create repair tasks**: Create a repair task and assign to the agent.

Troubleshoot stage activities (continued)

Activity	Description
	The Related work activity includes **Resolution Tasks**, that agents can use If the test fails and manually create the resolution task to solve the issue. The agent can expand these **Resolution Tasks** lists and view the list of resolution tasks or create one.

Resolve stage

In the Resolve stage, the agent proposes a solution to the customer.



Resolve stage activities

Activity	Description
Propose resolution	The agent updates the following fields: • **Root cause code** • **Resolution code** • **Cause** • **Resolution notes** The agent can also enable the **Add resolution notes to comments** check box to add the resolution information to the case activity stream. **Note:** If the Now Assist for Customer Service Management (CSM) application is installed and the resolution notes generation skill has been configured, the **Resolution notes** field is automatically populated. For more information, see Using Now Assist for CSM to generate resolution notes for a case. • **Propose resolution**: Completes the activity and moves to the Close stage. The case state changes to Solution Proposed. • **Save**: Saves the information in the activity.

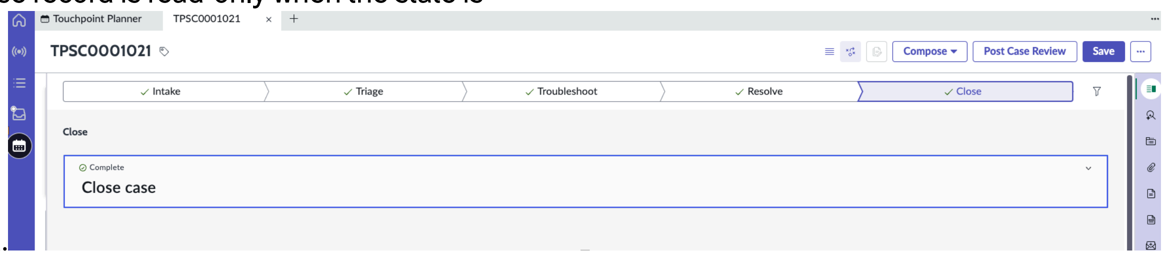
Close stage

A case can be closed in the following ways:

- The customer accepts the proposed solution.
- The agent accepts the proposed solution on behalf of the customer.
- The agent closes the case.
- The system auto closes the case after it remains in the Solution Proposed state for a certain number of days.

In the Close stage, the agent updates the case with a summary of the issue and provides any additional comments or work notes.

The case record is read-only when the state is Closed.



Close stage activities

Activity	Description
Close case	The agent updates the following fields: • Issue summary • Root cause code • Resolution notes • Add resolution notes to comments • Additional comments • Work notes • **Accept Solution**: Saves the changes and posts the content in the **Additional comments** and **Work notes** fields to the activity stream. The case state changes from Solution Proposed to Closed. • **Reject Solution**: Saves the changes and posts the content in the **Additional comments** and **Work notes** fields to the activity stream. The case state changes from Solution Proposed to Work in progress. • **Save**: Saves the changes to the activity. After the case is closed, the agent can select **Create Post Case Review** to open a post case review record in a sub-tab.

Save and Continue actions

When a stage is in progress, the **Continue** action saves the information in the stage and moves the agent to the next activity in the flow. This can be the next activity within a stage or the first activity in the next stage.

When a stage is complete, the **Save** action is also available. This action saves the information in the stage but does not move the agent to the next stage. The **Save** action enables agents to update information in completed stages.

Displaying Recommended Actions in playbook activities

Recommended actions can be configured to appear inside playbook activities. By default, the **Talk to an expert** recommendation appears in the Related work activity in the Troubleshoot stage.

The Technology Product Case Troubleshoot recommended actions rule:

- Provides the recommendation for an agent to discuss a case issue with an expert. This recommendation.
- Includes the following actions:
  - **Start discussion**: starts a Sidebar discussion.
  - **Dismiss**: dismisses the recommendation card.

For more information, see Recommended Actions.

Integrating Technology Product Support Case with southbound external systems

In Proactive Service Experience Workflows, you can submit outbound service test run requests to various external systems by integrating the application with the external southbound systems.

Overview of southbound external systems

When the tests are executed, requests are sent to the southbound test and diagnostics systems. These systems then determine the test outcomes and identify any failures.

Using this integration, a Communications Service Provider (CSP) can do the following tasks:

- Trigger outbound requests for one or more service test runs by using the TeleManagement Forum (TMF) 653 Open POST order API.
- Share updates with the external systems about the inflight changes to the existing test runs that have outbound requests.
- Manage the inbound response of the outbound requests for the test run.
- Manage the errors and exceptions for the outbound requests and inbound responses.

How the integration works

The integration process for with the external service test management systems is as follows:

1. As the administrator, you activate the Test Specification Open API to capture the test runs from the service problem case.

   To learn more, see Service Test Management Open API.

2. The integration now begins:

a. The test manager creates the test run in the test run table.

For more information on setting up test definitions, see Setting up test definitions.

b. The generated payload is sent to the endpoint of the external fulfillment system.

For more information on configuring external system endpoints by creating an integration request, see Workflow Studio flow integrations.

Note:

- If the test run is configured as hierarchical in the decision table, the system sends all the child service test runs in the hierarchy to the external system that is configured in the application spoke selector.
- If the test run is configured as non-hierarchical in the decision table, the systems send only the individual test run to the external system that is configured in the application spoke selector.

To learn more about spokes, see Building spokes using Spoke Generator.

3. If the fulfillment request is successful, a response is received from the external system and is captured in the Test Run table (sn_st_mgmt_test).

Note:
The customer must fill the id field of the test measure definition.

Create a technology product support case from the Customer Service Portal

Customers can create a technology product case to report an issue about the service from the Customer Service Portal.

Before you begin

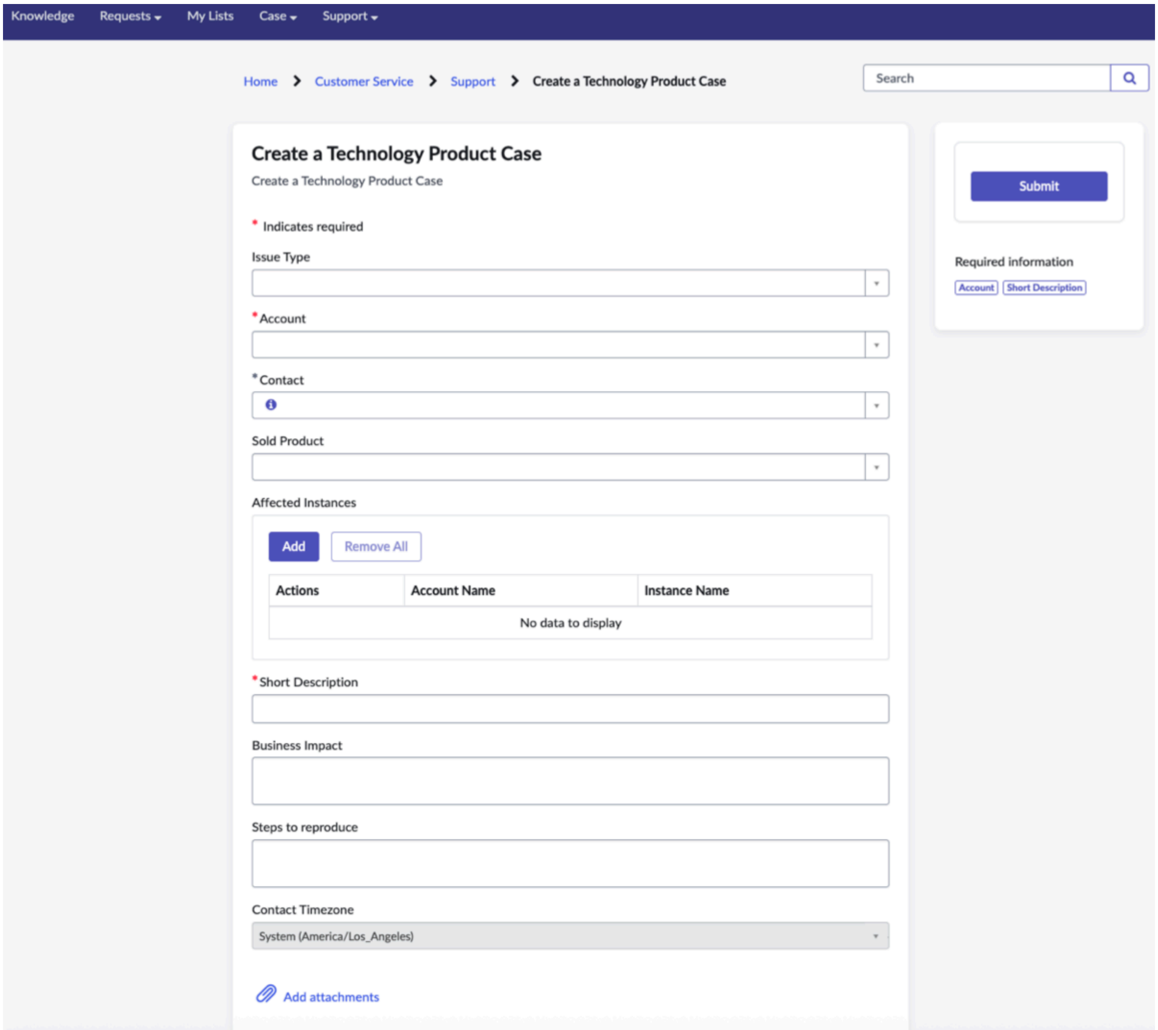
Role required: sn_tech_support.agent

Procedure

1. Go to the Customer Service Portal by accessing your instance URL and adding a /csm suffix.
2. On the home page, select **Get help**.
3. In the **Categories**, select a **Support** category from the list.
4. Select **Create a Technology Product Case**.

   Case form as been created using a record producer. For more information about how to create record producer, see Record Producer.

5. On the form, fill in the fields.



Technology Product Case

Field	Description
Issue Type	Select the type of issue for the case: ○ Performance Issue ○ Question ○ Service Request ○ Something is Broken
Account	This account is default to logged-in user account
Contact	Auto-filled with the name of the logged-in user.
Sold Product	Select a product from the list of available products. This list includes the sold products for the logged-in user.
Affected Instances	Add the affected instances to this list.
Short description	Description of the issue or problem.

Field	Description
Business Impact	Impact that this issue is having on your business.
Steps to reproduce	Add the steps to reproduce the issue.
Contact Timezone	Displays the time zone of the user in the Contact field.

6. Select **Submit**.
   When the service problem case is submitted, the stage is automatically set to **Verify** and state as **New**.

Diagnose and resolve a technology product support case

As a customer service agent, review, diagnose, resolve, and close a case for the service-related issue experienced by the customer.

Before you begin

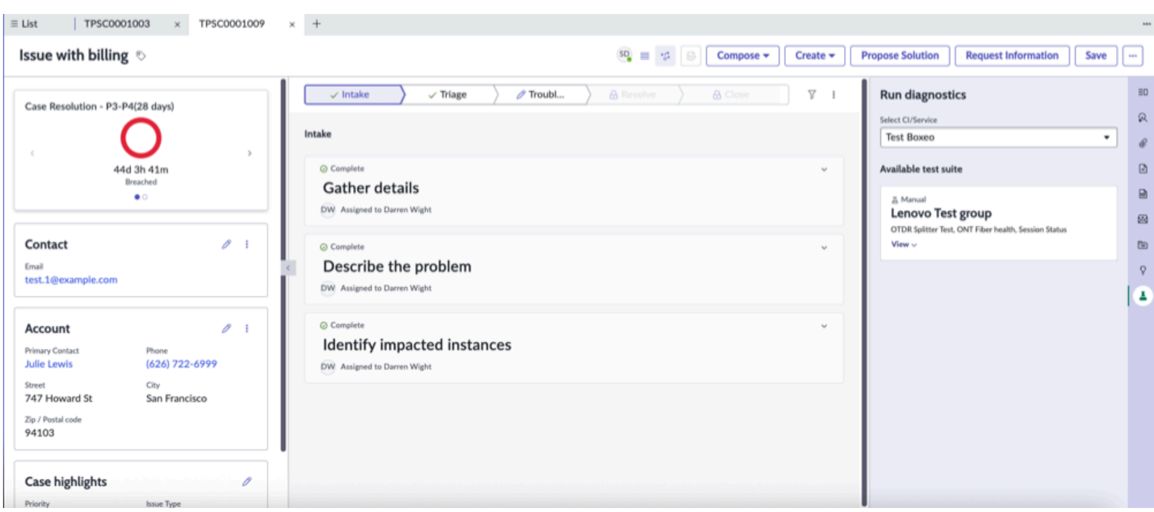
Role required: sn_tech_support.agent

About this task

The technology product support case progresses through several stages from start to closure. It begins with a support agent reviewing and verifying the problem. Next is the diagnosis tab, where system-specified tests are executed to identify the root cause. After the tests, the support agent moves to the repair stage, creating a task to fix the identified issue. The agent follows the instructions in the repair task to address the problem areas. Once the repair is complete, the case is retested to confirm that the issue is resolved. Finally, the case is resolved and closed based on the customer's feedback on the provided solution.

Procedure

1. Navigate to **Workspaces** > **CSM/FSM Configurable Workspace**.
2. Select the List icon.
3. Navigate to **Technology Product Support Case** > **Assigned to me**.
4. Open the technology product support case that is in the New or Open state.



5. Review and verify the technology product support case.

a. In the **Intake** tab, expand the **Gather details**, and then review and verify the general details for the technology product support case.

b. Expand the **Describe the problem** and review the details of the technology product support case.

c. Expand the **Identify impacted instances** and review the affected instances.

d. Select **Continue**.

> **Note:**
> Before the state is moved to close, the fields in the technology product support case form can be edited from the case highlights card.

The technology product support case moves to the Triage stage.

6. Review the case information.

a. In the **Triage** tab, expand the **Review the problem** and review the details of the problem and affected instances.

b. Expand the **Send Initial Response** and review the initial response.
The technology product support case moves to the Troubleshoot stage.

7. Diagnose the technology product support case to identify the root-cause of the problem.

a. To generate the test results, select **Run diagnostics** from the contextual panel.

b. In the run diagnostics panel, select **CI/Service** from the drop-down list.

c. Expand the cards in the **Available Test Suite**.

To set up test definitions, see Setting up test definitions.

To set up test group, see Setting up a test group.

d. In the manual test, select single/multiple tests.
In the automated test, selection of test isn't available.

e. Select **Configure**.

f. In the Configure tests dialog box, fill the test required characteristics form to activate the **Run test** button.

g. **Optional:** In the test dialog box, select an option either to run the test now or to schedule it for later.

h. Select **Run test**.

i. In the diagnose tab, expand the **Test results** and review the results of the tests conducted in the previous step, checking whether each test is passed or failed.

The failed tests indicate that the issues causing the technology product support case to be identified and need repair.

The maximum number of rows to the group is limited to 20 rows. To configure the maximum number of rows more than 20 rows to the group, see Presentational List Usage.

j. **Optional:** Select the **View Details** icon for a specific test result to review its details.

k. **Optional:** Select the **Rerun test** icon for a specific test result to run it again.

l. Select **Continue**.

m. **Optional:** In the **Diagnostic tasks** tab, select **Create** to create manually the diagnostic tasks.

The case moves to the Repair stage.

8. Repair the case by creating a new or automated repair task.
   - Select **Generate automated task** to automatically create a repair task.
   - Select **Create repair task** to manually create a customize repair task.

   A Repair task is created for all failed test cases related to the diagnosed cases.

   a. Select the repair task that you want to work on.

   b. In the Resolution task form, review the task details to identify the failed test and then work on those tests to fix the service problem.

   c. In the **Select** field, select an appropriate state from the list to update or close the repair task, such as Closed complete.

   d. Select **Save** and close the resolution task.

   e. Select **Continue**.

   The case moves to the Resolve stage.
9. In the **Resolve** stage, review the proposed resolution for the case.
10. Close the technology product support case.

    a. Go to the Close stage and fill in the fields.

Close case form

Field	Description
Issue summary	Summary of the issue.
Resolution code	Code value that explains how the case is resolved. For example, Fixed by Support/ Guidance provided.
Resolution notes	Summarizes the resolution of technology product support case.
Add resolution notes to comments	Option to make the resolution notes available to anyone who can view the case activity stream.
Additional comments (Customer visible)	Comments related to the service problem case, if any. These comments are visible to your customer who can access this case.

Field	Description
Work notes	Information about state transitions.

b. Select **Accept Solution** or **Reject Solution** based on the customer feedback.

Result

The technology product support case is resolved and closed successfully.

Customer Service Problem Management

Efficiently identify and resolve service problems experienced by the customers with the ServiceNow® Customer Service Problem Management (CSPM) application. Telecommunications, Media, and Technology (TMT) service providers can streamline their service management processes and ensure a seamless experience for their customers by leveraging this application.

Get started

Explore Learn about how service providers use Customer Service Problem Management	Configure Plan and configure your implementation.
Use Use Customer Service Problem Management as an agent to diagnose and resolve service problems.	Reference Get details about domain separation and components installed with Customer Service Problem Management.

Troubleshoot and get help

- Ask questions and explore other resources for Customer Service Problem Management in the ServiceNow Community
- Search the Known Error Portal for known error articles
- Contact Customer Service and Support

Exploring Customer Service Problem Management

Learn how you, as a service provider, can use the Customer Service Problem Management (CSPM) application to streamline the resolution process for handling service-related problems experienced by your customers.

Request apps on the Store

Visit the ServiceNow Store website to view all the available apps and for information about submitting requests to the store. For cumulative release notes information for all released apps, see the ServiceNow Store version history release notes.

Customer Service Problem Management (CSPM) offers a step-by-step process to address customer issues. The process starts with verifying the customer's problem as defined in the service problem case. The system then automatically suggests relevant diagnostic tests to check the service quality and troubleshoot the problem effectively. After identifying the root cause, the application helps generate a repair task based on the test outcomes, leading to a successful resolution. This streamlined process simplifies problem solving for customer service agents, enabling faster resolution and improved efficiency, which in turn enhances customer satisfaction.

If customers experience an issue with their internet service, they can report it to create a case for resolution. The case is then routed to the CSPM application, which analyzes the issue and suggests the relevant diagnostic tests to identify the root cause of the problem. The system then assigns the case to an agent who runs these tests and examines the results. Based on the findings, the agent takes necessary actions to fix the problem and restore the internet service for the customer.

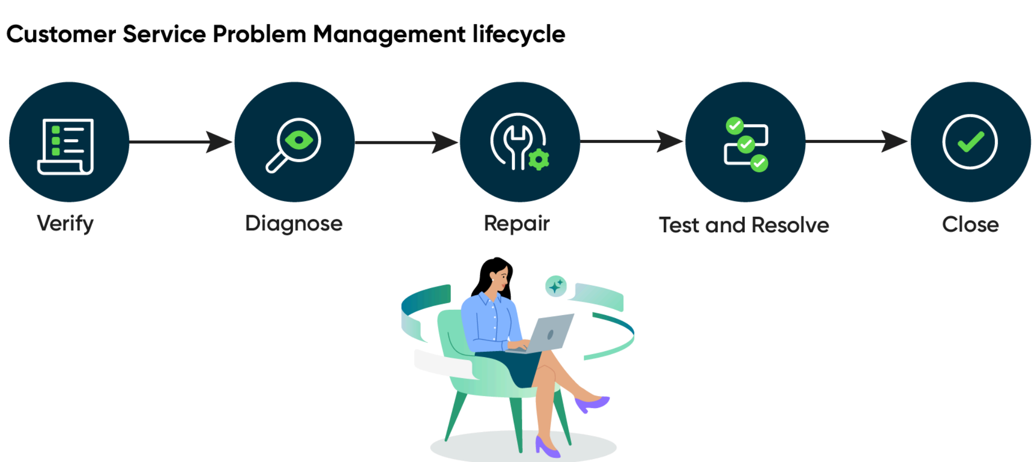
Customer Service Problem Management data model

Customer Service Problem Management (CSPM) provides a framework that enables you to follow a structured approach to handle and resolve customer-reported issues. The framework ensures a seamless and satisfactory customer experience.

CSPM follows the TeleManagement Forum (TMF) defined framework to manage service problems. These problems arise when customers experience service disruptions, or when the network operations center (NOC) team identifies network faults and raise complaints, such as service disruptions, errors, or other issues. The CSPM application focuses on the test diagnostic capability to resolve service problems. This includes conducting relevant tests to diagnose the root cause of the problem and then suggesting resolutions based on the test results.

Customer Service Problem Management data model life cycle

CSPM enables a service-related problem to move through the various stages of Service Problem Management's life cycle to get



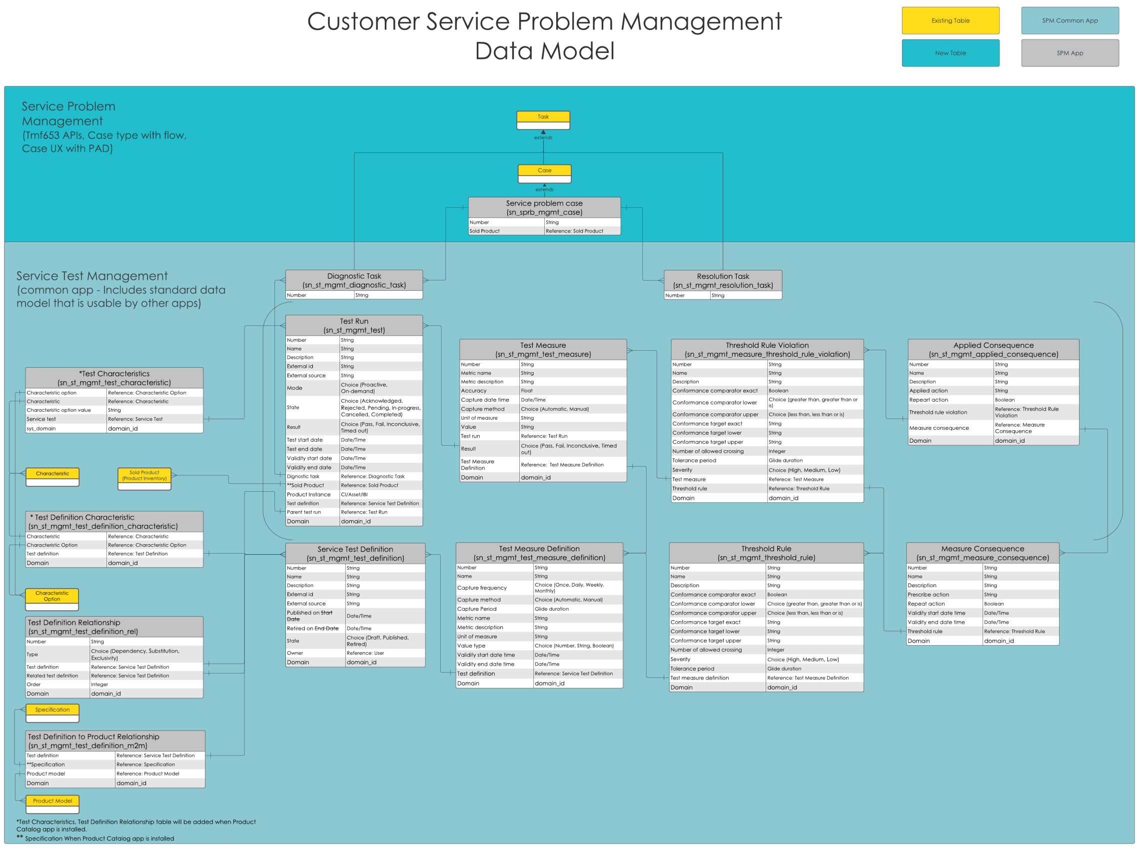
resolved.

Life cycle of the CSPM data model

Stage	Description
Verify	Verify the case created for a service problem experienced by the customer. This includes reviewing the details provided in the case. If necessary, the agent can also modify the service based on the problem. Based on these details, the system suggests the diagnostic tests.
Diagnose	System-derived test specifications, defined during the initial setup. These specifications are crucial for diagnosing the root cause of service problems. Agents can run these tests immediately or schedule them for a later time. Additionally, the system enables agents to view and run these tests.
Repair	Based on the diagnostic test results, the system generates the repair tasks to fix the problem.
Test and Resolve	Service problem fulfillment coordination that follows the fulfillment flow.
Close	Final step in the Service Problem Management life cycle.

Customer Service Problem Management data model

The following diagram shows the applications, tables, and their relationships that build the CSPM data



model.

The CSPM data model uses a combination of these tables to store data:

- Tables that are from the Service Test Management application includes the following tables:
  - Test Definition
  - Test Measure Definition
  - Test Definition Characteristics
  - Test Definition Relationship
  - Specification to Test Definition Relationship
  - Threshold Rule
  - Measure Consequences
  - Diagnostic Task
  - Resolution Task
- Table that is from the Customer Service Problem Management application includes, service problem case.

The Customer Service Problem Management (CSPM) data model relies on Northbound and Southbound APIs to manage and execute test processes.

Northbound APIs play a critical role during the design phase by creating and managing essential components like test definitions, characteristics, measures, and thresholds. These APIs enable the CSPM system to define the specifications and parameters for each test, such as the test type and scope, which are then used to generate unique test runs with identifiers, such as external IDs or sys_id. After these test definitions are established, Northbound APIs facilitate the creation of test runs based on these predefined specifications. If a test requires further breakdown into smaller tasks, the Northbound APIs handle this decomposition. For more information, see Service Test Management Open API.

Southbound APIs come into the picture when it's time to execute the tests. For example, if the test involves running a speed test, it isn't conducted directly on your system but instead on an external device, such as a router or another network component. The Southbound APIs are responsible for sending these test instructions to the external systems where the tests are to be performed. For more information, see Integrating Customer Service Problem Management with southbound external systems.

Overall, Northbound APIs are used to design and set up the tests within the CSPM application, while Southbound APIs handle the execution of these tests on external systems. This two-tiered approach promotes a seamless flow from test definition to execution across different platforms.

Configuring Customer Service Problem Management

With Customer Service Problem Management (CSPM) define the tests to diagnose the service problems. Implement targeted solutions based on test results to resolve those problems.

The configuration of CSPM requires setting up the following applications to manage service problems from detection through resolution:

Customer Service Problem Management

Streamlines how service-related issues are handled. It enables customer service agents to either initiate a case or access the existing ones that are created in response to the issues experienced by customers. This application serves as a central hub for tracking, managing, and resolving customer issues.

Service Test Management

Enables you to define and manage various tests that help diagnose service problems. By using this application, service teams can confirm that they have robust testing procedures in place, which are critical for identifying the root causes of issues and implementing timely solutions.

As an administrator, follow these steps to configure the Customer Service Problem Management:

- Activate the Customer Service Problem Management application.
- Define Test definitions. For more information, see Setting up test definitions.

Activate Customer Service Problem Management

Activate the Customer Service Problem Management plugin (sn_sprb_mgmt) for Customer Service Problem Management if you have the admin role. The application includes demo data and activate related ServiceNow® Store applications and plugins if they aren't already installed.

Before you begin

Ensure that the application and all of its associated ServiceNow Store applications have valid ServiceNow entitlements. For more information, see Get entitlement for a ServiceNow product or application.

- Role required: admin
- Plugins required: The following plugins must have been installed:

- Service Test Management (sn_st_mgmt)
- Customer Service (com.sn_customerservice)
- Customer Service Case Types (com.snc.csm_case_types)
- Playbook Experience Core (com.glide.playbook_experience.config)
- ServiceNow Integration Hub Starter Pack Installer (com.glide.hub.integrations)
- playbook for Customer Service Problem Management (sn_csm_playbook)
- Application spoke selector (sn_appss)
- Telecommunications, Media, and Technology Core (sn_tmt_core)
- Product Inventory Advanced (sn_prd_invt)
- Telecommunication Open APIs (com.sn_tmf_api)

About this task

The following items are installed with Customer Service Problem Management:

- Roles
- Tables
- Properties

For more information, see Components installed with Customer Service Problem Management and Customer Service Problem Management properties.

Procedure

1. Navigate to **All** > **System Applications** > **All Available Applications** > **All**.
2. Find the Customer Service Problem Management application (sn_sprb_mgmt) using the filter criteria and search bar.

   You can search for the application by its name or ID. If you can't find the application, you may have to request it from the ServiceNow Store.

   Visit the ServiceNow Store website to view all the available apps and for information about submitting requests to the store. For cumulative release notes information for all released apps, see the ServiceNow Store version history release notes.
3. In the Application installation dialog box, review the application dependencies.

   All dependent plugins and applications that are included, or must be installed are listed in the dialog box.
4. **Optional:** If demo data is available and you want to install it, select **Load demo data**.

   (Optional) Demo data comprises sample records that describe application features for common use cases. Load demo data when you first install the application on a development or test instance.

   > **Important:**
   > If you don't load the demo data during installation, it's unavailable to load later.
5. Select **Install**.

Setting up a test group

Define tests for a particular service type, product model, or inventory to troubleshoot the service-related problems.

Test group includes relationships and measure consequences. These entities enable the system to trigger relevant tests for the service problem that help to identify the root-cause of the problem. You can define these entities for each test based on your requirements. The test group contains multiple test definitions.

Customers can set up Test groups as either manual or automated:

- For manual types, one or more Test definitions must be attached to the Test group.
- For automated types, you must create a Sub flow with a list of steps and add it to the group.
- If customers want test diagnostics to run automatically and provide results directly to the agent, they can create a flow with specific trigger conditions. When a task meets these conditions, the flow runs automatically and displays the test results for the task. This may affect system performance.
- The demo subflow with the demo data for the automated test group is provided. This demo flow can be used as a reference for creating subflow for new automated test groups.

Create a test group

Create a test group to combine various tests that can assist in troubleshooting issues encountered by specific types of services or product models. For instance, grouping a speed test and a ping test together can effectively help in diagnosing internet-related problems.

Before you begin
Role required: sn_st_mgmt.test_def_creator

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Groups** > **All**.
2. Select **New**.
3. On the form, fill in the fields.

Service Test Groups

Field	Description
Number	Auto-generated ID for the test group.
Name	Name of the test group.
State	State of the test group. **Draft** Unpublished draft service test group that is assigned when you first create the group record. **Published** Published service test group that is assigned when you formally publish it for use.

Field	Description
	The service test group and the related tables can't be modified in the published state. **Retired** Service test group that is retired.
Execution Type	Execution type of the test group. **Manual** The test definitions can be mapped to the test group in the related list. **Automated** A subflow has to be created and mapped to the automated test group.
Description	Description for the test group.

4. Select **Submit**.

Associate a test group with a specifications or product model

Establish a relationship between test groups and their respective specifications or product model to determine the tests that must be executed for a given inventory. This relationship confirms that the appropriate tests are identified and executed based on the defined specifications. Without this association, the system can't accurately assign the necessary tests for each inventory item.

Before you begin

Role required: sn_st_mgmt.test_def_creator

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Groups** > **All**.
2. Select the test group that you want to open.
   Only the published test groups are displayed in the list.
3. In the Specification or product model to Test Group Relationship related list, define a relationship by selecting **New**.
4. On the form, fill in the fields.

Specification to Test Group Relationship

Field	Description
Specification	Name of the specification.
Product model	Name of the inventory.
Test Group	Auto-populated name of the test group for which you're specifying a relationship.

5. Select **Submit**.

Publish a test groups

Publish the test groups to ensure that agents only see the approved versions of test groups for execution. This also helps maintain consistency and control over both current and future test versions.

Before you begin

You must ensure that the characteristic and its options are added to the test group for successful publishing and operation of the tests.

Role required: sn_st_mgmt.test_def_manager

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Groups** > **All**.
2. Select the test group that you want to publish.
3. Select **Publish**.

Result

The test group is published and its state changes from Draft to Published.

Setting up test definitions

Define tests for a particular service type, product model, or inventory to troubleshoot the service-related problems.

Test definition includes characteristics, relationships, test measures definitions, measure consequences, and threshold rules. These entities enable the system to trigger relevant tests for the service problem that help to identify the root-cause of the problem. You can define these entities for each test based on your requirements.

A service test definition outlines the parameters to be configured and the metrics to be measured for a given service test. These parameters are defined in the test definition. They can be set during execution to run the tests that measures the service problem effectively. This structured approach ensures that the test is done correctly and collects all the data needed to identify the problem of the service.

Create a test definition

Create a test definition to define tests that can help troubleshoot a problem encountered by a particular type of service or product model. For example, use a speed test to troubleshoot the internet-related issues.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select **New**.
3. On the form, fill in the fields.

Service Test Definition

Field	Description
Number	Auto-generated ID for the test definition.

Field	Description
Name	Name of the test definition.
Owner	Name of the person who is responsible for maintaining this definition.
State	State of the test definition. **Draft** Unpublished draft service test definition that is assigned when you first create the definition record. **Published** Published service test definition that is assigned when you formally publish it for use. The service test definition and the related tables cannot be modified in the published state. **Retired** Service test definition that is retired. **Archived** Service test definition is no longer used in diagnosing process.
Published on	Date on which the test definition is published.
Retired on	Date on which the test definition is retired.
Description	Description for the test definition.

4. Select **Submit**.

Define a characteristic for the test definition

Add a characteristic for a test to determine the properties that are required to run and evaluate the test.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.
3. In the Test Definition Characteristics related list, add a characteristic by selecting **New**.
4. On the form, fill in the fields.

Test Definition Characteristics

Field	Description
Characteristic	Service or product characteristic of the test that help determine the effectiveness of the defined characteristic. For example, if you select download speed characteristics for the speed test definition, the system tests the downloading speed to troubleshoot the issue raised due to internet outage.
Characteristic option	Characteristic options for a characteristic.
Test definition	Auto-populated name of the test definition for which you're defining the characteristics.

5. Select **Submit**.

Define the relationship between the test definitions

Define relationships for a test definition to connect and associate it with other test specifications. This process ensures comprehensive testing coverage and that the tests are aligned with the testing goals.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.
3. In the Test Definition Relationships related list, define a relationship by selecting **New**.
4. On the form, fill in the fields.

Test Definition Relationship

Field	Description
Number	Auto-generated ID for the test specification.
Test definition	Auto-populated name of the test definition for which you're defining a relationship.
Related test definition	Name of the other test definition that you want to connect this test with. **Note:** Ensure that the selected test definition is different from the one for which the relationship is being established. The association between the test definitions should be unique and either in a published or draft state.

Field	Description
Type	Type of relationship defined in with the related test definition, such as dependency.
Order	Order in which this test is executed.

5. Select **Submit**.

Define the relationship between test definition and specifications or product model

Establish a relationship between test definitions and their respective specifications or product model to determine the tests that must be executed for a given inventory. This relationship ensures that the appropriate tests are identified and executed based on the defined specifications. Without this association, the system can't accurately assign the necessary tests for each inventory item.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.
3. In the Specification or product model to Test Definition Relationship related list, define a relationship by selecting **New**.
4. On the form, fill in the fields.

Specification to Test Definition Relationship

Field	Description
Specification	Name of the specification.
Product model	Name of the inventory.
Test Definition	Auto-populated name of the test definition for which you're specifying a relationship.

5. Select **Submit**.

Define test measure definitions for a service test

Define unique test metrics, such as parameters and criteria to run the test on a given service during testing. These metrics help promote that the service meets the desired standards and requirements to provide a satisfactory user experience.

Before you begin

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.

3. In the Test Measure Definitions related list, define test measures for the service by selecting **New**.
4. On the form, fill in the fields.

Test Measure Definition

Field	Description
Number	Auto-generated ID for the test measure definition
Name	Name of the test measure definition.
Metric name	Unique name for the metric definition.
Value type	Type of characteristic value. Data type: String
Unit of measure	Measurable value used to calculate the performance of a service, such as seconds, minutes, days, and more.
Test definition	Auto-populated name of the test specification for which you're defining this test measure.
Capture frequency	Frequency at which test metrics record is refreshed. For example, once, daily, weekly, or monthly.
Capture method	Method to capture the frequency, such as automatic or manual.
Capture period	Period of the capture to calculate the duration, such as days and hours.
Validity start date time	Valid date and time on which the test takes effect.
Validity end date time	Valid date and time on which the test takes expires.
Metric description	Description of the test metrics.

5. Select **Submit**.

Define threshold rules for a test measure definition

Set rules or criteria to evaluate the results of test measures. These rules establish thresholds that determine the acceptable performance and quality metrics for a service under evaluation. If test measure results exceed or fall below these thresholds, it indicates a deviation from expected performance levels.

Before you begin
Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.
3. In the Threshold Rules related list, define a threshold rule for a test measure by selecting **New**.
4. On the form, fill in the fields.

Threshold Rule

Field	Description
Number	Auto-generated ID for the test measure definition.
Name	Name of the threshold rule.
Test measure definition	Name of the test measure definition for which you're defining threshold rules.
Conformance comparator exact	Option to determine if the service under testing meets the defined criteria.
Conformance target exact	Option to determine if the service or system behaves as expected under specified conditions. This field appears only if the **Conformance comparator exact** option is selected.
Conformance comparator lower	Lower range of the threshold for comparing the test measure results.
Conformance comparator upper	Upper range of the threshold for comparing the test measure results.
Severity	Severity of this rule.
Tolerance period	Specified time interval during which crossing occurrences are enabled without triggering any immediate consequences or actions.
Number of allowed crossing	Number of occurrences of a threshold crossing that are allowed within a certain time frame before any consequences are triggered.
Conformance target lower	Lower boundary that determines if a specific limit is crossed or no longer crossed. **Note:** This value must be greater than the upper limit defined in the **Conformance target upper**.
Conformance target upper	Upper limit that determines if the threshold is crossed or no longer crossed.

Field	Description
	Note: This value must be less than the lower limit defined in the Conformance target lower.
Description	Description of the threshold rule.

5. Select **Submit**.

Define measure consequences for the threshold rules

Set actions or responses to trigger when the test measure results fall outside the predefined acceptable limits.

Before you begin
Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to open.
3. In the Threshold Rules related list, select a threshold rule for which you want to define consequences.
4. In the Test Measure Consequences related list, define consequences for the threshold rules by selecting **New**.
5. On the form, fill in the fields.

Measure Consequences

Field	Description
Number	Auto-generated ID for the measure consequences.
Name	Name of the measure consequence for the threshold rule. For example, send a warning to the system.
Prescribed action	Action that is taken when the threshold rule falls outside its prescribed limit.
Repeat action	Option to repeat the action until the desired result achieves.
Threshold rule	Name of the threshold rule for which you're defining the measure consequences.
Validity start date time	Valid date and time on which the test takes effect.
Validity end date time	Valid date and time on which the test expires.

Field	Description
Description	Description of the threshold rule consequence.

6. Select **Submit**.

Publish test definitions

Publish the test definitions to ensure that agents only see the approved versions of test definitions for execution. This also helps maintain consistency and control over both current and future test versions.

Before you begin

You must ensure that the characteristic and its options are added to the test definition for successful publishing and operation of the tests.

Role required: admin

Procedure

1. Navigate to **All** > **Service Test Management** > **Test Definitions** > **All**.
2. Select the test definition that you want to publish.
3. Select **Publish**.

   Note:
   After you publish a test definition, you can't change or delete it.

Result

The test definition is published and its state changes from Draft to Published.

Integrating Customer Service Problem Management with southbound external systems

If you have a Customer Service Problem Management subscription, you can submit outbound service test run requests to various external systems by integrating the Customer Service Problem Management application with the external southbound systems.

Overview of southbound test

When the tests are executed, requests are sent to the southbound test and diagnostics systems. These systems then determine the test outcomes and identify any failures.

Using this integration, a Communications Service Provider (CSP) can do the following tasks:

- Trigger outbound requests for one or more service test runs by using the TeleManagement Forum (TMF) 653 Open POST order API.
- Share updates with the external systems about the inflight changes to the existing test runs that have outbound requests.
- Manage the inbound response of the outbound requests for the test run.
- Manage the errors and exceptions for the outbound requests and inbound responses.

How the integration works

The integration process for CSPM with the external service test management systems is as follows:

1. As the administrator, you activate the Test Specification Open API to capture the test runs from the service problem case.

   To learn more, see Service Test Management Open API.

2. The integration now begins:

   a. The test manager creates the test run in the test run table.

   b. The generated payload is sent to the endpoint of the external fulfillment system.

      For more information on configuring external system endpoints by creating an integration request, see Workflow Studio flow integrations.

      Note:

      - If the test run is configured as hierarchical in the decision table, the system sends all the child service test runs in the hierarchy to the external system that is configured in the application spoke selector.
      - If the test run is configured as non-hierarchical in the decision table, the systems send only the individual test run to the external system that is configured in the application spoke selector.

      To learn more about spokes, see Building spokes using Spoke Generator.

3. If the fulfillment request is successful, a response is received from the external system and is captured in the Test Run table (sn_st_mgmt_test).

   Note:
   The customer must fill the id field of the test measures.

Using Customer Service Problem Management

By using Customer Service Problem Management, you can help diagnose and resolve the service problem cases identified in customer complaints.

Customer Service agents can use the CSM/FSM Configurable Workspace or Customer Service Portal to create and resolve a service problem case. The case is a single source of truth to track and have visibility into the customer raised issues. The configurable workspace provides a multi-stage process to get started with the case.

Create a service problem case from the workspace

Create a service problem case for a customer raised issue so that an agent can work on it and resolve the service-related problem.

Before you begin

Role required: sn_sprb_mgmt.agent

Procedure

1. Navigate to **All** > **Workspaces** > **CSM/FSM Configurable Workspace**.
2. Select the List icon.
3. Navigate to **Service Problem Case** > **All**.
4. Select **New**.
5. On the service definition page, select the **Telecom Services Support** from the list.

6. Select the applicable service definitions from the list.

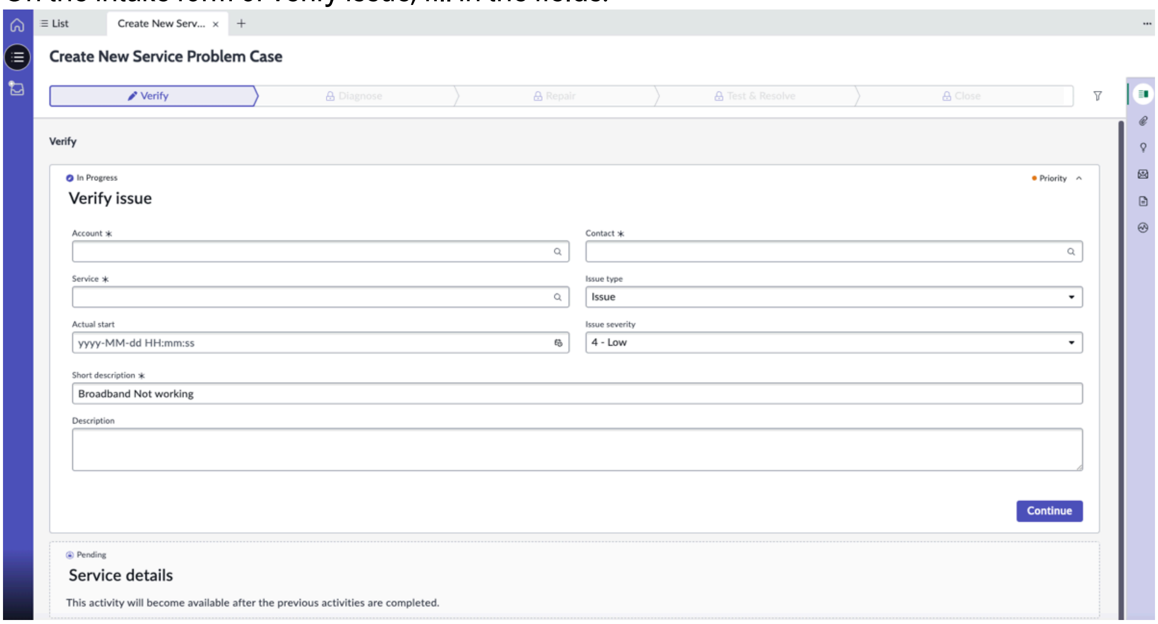
   Note:
   The fibre broadband service definition as been shipped as a part of the demo data.

   For more information about service definition, see Service definitions.

7. Select **Create case**.

   In service definition, when you select **Create case** a playbook record generator form appears. Fill the playbook record generator form. For more information about the playbook record generator, see Set up a record generator for case type.

8. On the intake form of verify issue, fill in the fields.



Service Problem Case

Field	Description
Account	The name of the company associated with this case. If you select a contact in the Contact field, this field is auto-filled if the account information is available in the contact record.
Contact	Name of the customer contact for this case.
Service	Name of the affected service for this case.
Short description	Description of the customer issue or problem.
Actual start	Actual start date of the issue.
Issue type	Types of issues ◦ Question ◦ Issue ◦ Feature

Field	Description
Issue severity	Imported severity on the issue. Values 1–4.
Description	Brief description of the customer issue or problem.

9. Select **Continue**.

Create a service problem case from the Customer Service Portal

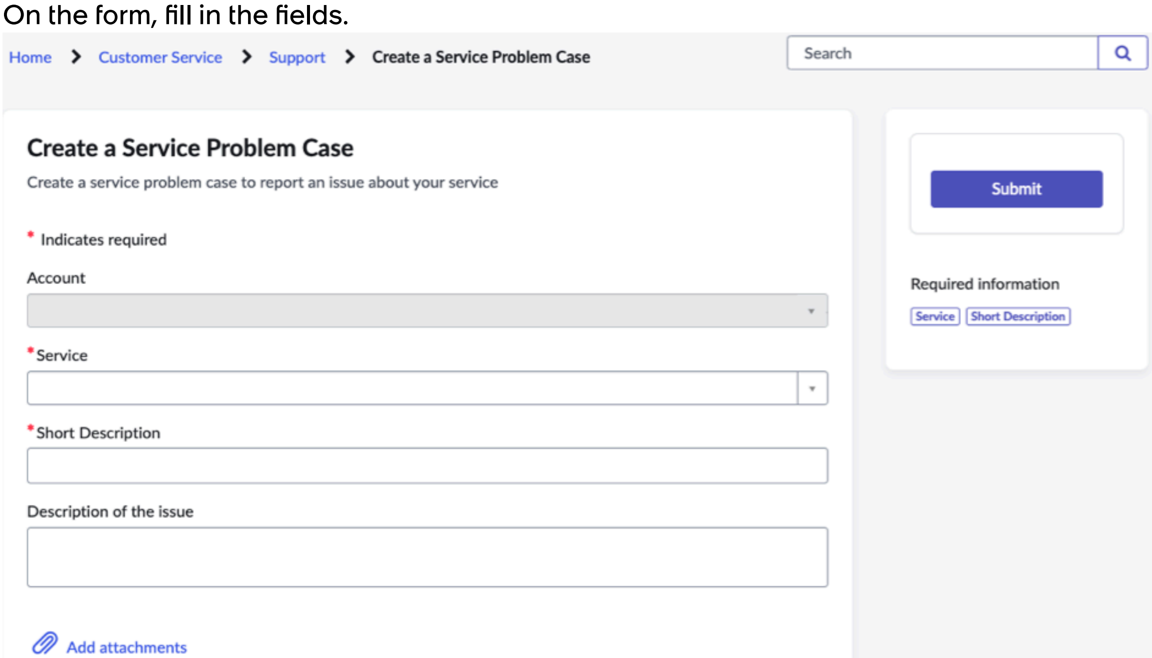
Customers can create a service problem case to report an issue about the service from the Customer Service Portal.

Before you begin
Role required: sn_sprb_mgmt.customer

Procedure

1. Go to the Customer Service Portal by accessing your instance URL and adding a /csm suffix.
2. On the home page, select **Get help**.
3. In the **Categories**, select a **Support** category from the list.
4. Select **Create a Service Problem Case**.

   Case form as been created using record producer. For more information about how to create record producer, see Record Producer.
5. On the form, fill in the fields.



Service Problem Case

Field	Description
Account	This account will be default to logged in user account
Short description	Description of the issue or problem.

Field	Description
Service	Services related to the logged in user account.
Description of the issue	Brief description of the issue.

6. Select **Submit**.
When the service problem case is submitted, the stage is automatically set to **Verify** and state as **New**.

Diagnose and resolve a service problem case

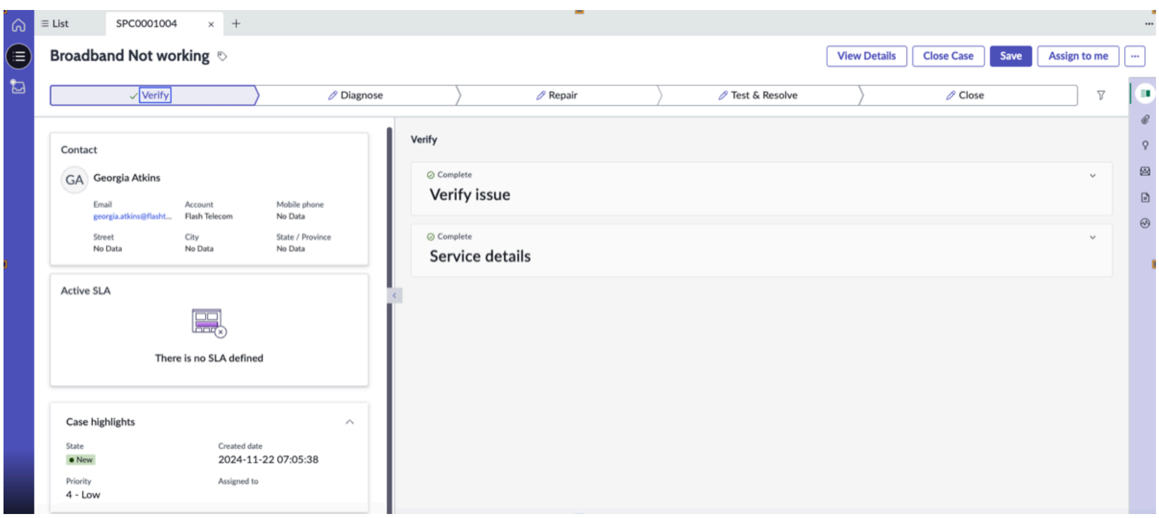
As a customer service agent, review, diagnose, resolve, and close a service problem case for the service-related issue experienced by the customer.

Before you begin

Role required: admin

About this task

The service problem case progresses through several stages from start to closure. It begins with a customer service agent reviewing and verifying the problem. Next is the diagnosis stage, where system-specified tests are executed to identify the root cause. After the tests, the agent moves to the repair stage, creating a task to fix the identified issue. The agent follows the instructions in the repair task to address the problem areas. Once the repair is complete, the service is retested to confirm that the issue is resolved. Finally, the case is resolved and closed based on the customer's feedback on the provided solution.



Procedure

1. Navigate to **All** > **Workspaces** > **CSM/FSM Configurable Workspace**.
2. Select the List icon.
3. Navigate to **Service Problem Case** > **Assigned to me**.
4. Open a service problem case that is in the New or Open state.
5. Review and verify the service problem case.

a. In the **Verify** tab, expand **Verify issue**, and then review and verify the general details for the service problem.

b. Expand **Service details** and review the remaining details of the service.

c. Select **Continue**.

Note:
Before the state is moved to close, the fields in the service problem case form can be edited from the case highlights card.

The service problem case moves to the Diagnose stage.

6. Diagnose the service problem case to identify the root-cause of the problem.

The decision table can be configured to control the visibility of the Run Diagnostics contextual panel tab. For more information about decision tables, see Decision Tables.

a. To generate the test results, select **Run diagnostics** from the contextual panel.

b. In the run diagnostics panel, select **CI/Service** from the drop-down list.

The drop-down list shows the current product inventory and all the child inventories.

c. Expand the cards in the **Available test suite**.

To set up the test definitions, see Setting up test definitions.

To set up a test group, see Setting up a test group.

d. In the manual test, select single/multiple tests.
In the automated test, selection of test isn't available. The subflow that is configured for the test group would be invoked.

e. Select **Configure**.

f. In the Configure tests dialog box, fill the test required characteristics form to activate the **Run test** button.

g. **Optional:** In the test dialog box, select an option either to run the test now or to schedule it for later.

h. Select **Run test**.

i. Select the **Test results** tab and review the results of the tests conducted in the previous step, checking whether each test is passed or failed.

The failed tests indicate that issues causing the service problem are identified and needing repair.

The maximum number of rows according to group is limited to 20. To configure the maximum number of rows more than 20 according to group, see Presentational List Usage.

j. **Optional:** If the status of diagnose is new or closed, select the **View Details** icon for a specific test result to review its details.

k. **Optional:** If the status of diagnose is Pending for inputs, select the **View Details** icon and fill the form.

l. **Optional:** Select the **Rerun test** icon for a specific test result to run it again.
A repair task is created for each unique service and test definition.

m. Select **Continue**.

n. **Optional:** In the **Diagnostic tasks** tab, select **Create** to create manually the diagnostic tasks.

The case moves to the Repair stage.

7. Repair the service problem case by creating a new or automated repair task.
   - Select **Generate automated task** to automatically create a repair task.
   - Select **Create repair task** to manually create a customize repair task.

   A Repair task is created for all failed test cases related to the diagnosed service problem. For each unique service and test specification, only one repair task is created. The agent can then work on it and close this repair task.

   a. Select the repair task that you want to work on, such as RT0001101.

   b. In the Resolution task form, review the task details to identify the failed test and then work on those tests to fix the service problem.

   c. In the **Select** field, select an appropriate state from the list to update or close the repair task, such as Closed complete.

   d. Select **Save** and close the resolution task.

   e. Select **Continue**.
   The case moves to the Test and Resolve stage.

8. Review the test status and resolve the service problem case.

   a. Expand the Test summary to review the status of the test that you fixed in the Repair stage.

   b. Expand Resolve and fill in the fields.

   Resolve

Field	Description
Resolution code	How the case is resolved. For example, Fixed by Support/Guidance provided.
Cause	Cause of the service problem case.
Resolution notes	Summarizes the resolution of service problem case.
Add resolution notes to comments	Resolution notes that are available to anyone who can view the case activity stream.

   c. Select **Resolve case**.

   The Case highlights section is updated with the current state, such as Resolved.

9. To view the case-related list in the playbook contextual side panel, select the **Related items**.

   The Case playbook: The horizontal stages page incorporates related list functionality into the contextual side panel. These lists appear in an accordion format that agents can expand and collapse as needed.

   For more information about the related items components, see Playbook related items component.

10. Close the service problem case.

    a. Go to the Close stage and fill in the fields.

    Close case form

Field	Description
Resolution code	Code value that explains how the case is resolved. For example, Fixed by Support/ Guidance provided.
Resolution notes	Summarizes the resolution of service problem case.
Add resolution notes to comments	Option to make the resolution notes available to anyone who can view the case activity stream.
Additional comments (Customer visible)	Comments related to the service problem case, if any. These comments are visible to your customer who can access this case.
Work notes	Information about state transitions.

    b. Select **Accept Solution** or **Reject Solution** based on the customer feedback.

Result
The service problem case is resolved and closed successfully.

Customer Service Problem Management reference

Reference topics provide additional information about Customer Service Problem Management.

Components installed with Customer Service Problem Management

Several types of components are installed with activation of the Customer Service Problem Management application, including tables, user roles, and business rules.

Roles

Customer Service Problem Management adds the following roles:

Roles installed with Customer Service Problem Management

Role	Description
Test Definition Manager [sn_st_mgmt.test_def_manager]	Enables you to set up, create, and update service test definitions and all their related child entities. Additionally, this role includes the ability to view the product catalog.
Test Definition Viewer [sn_st_mgmt.test_def_viewer]	Enables you to read the service test definition and all its related child entities.
Test Definition Writer [sn_st_mgmt.test_def_writer]	Enables you to write the service test definition and all its related child entities. Additionally, this role includes the test definition viewer role.
Test Definition Creator [sn_st_mgmt.test_def_creator]	Enables you to create the service test definition and all its related child entities. Additionally, this role includes the test definition viewer role.
Test Definition Delete [sn_st_mgmt.test_def_delete]	Enables you to delete the service test definition and all its related child entities.
Test Run Manager [sn_st_mgmt.test_manager]	Enables you to trigger or update Service test results and all its related child entities. Additionally, this role includes the product inventory viewer role.
Test Run Viewer [sn_st_mgmt.test_viewer]	Enables you to read the service test and all its related child entities.
Test Run Writer [sn_st_mgmt.test_writer]	Enables you to write the service test and all its related child entities. Additionally, this role includes the test viewer role.
Test Run Creator [sn_st_mgmt.test_creator]	Enables you to create the service test and all its related child entities. Additionally, this role includes the test viewer role.
Test Run Delete [sn_st_mgmt.test_delete]	Enables you to delete the service test and all its related child entities.
Test Integrator [sn_sprb_mgmt.test_integrator]	Enables you to create and update the service test definitions, service tests, and all their related child entities.
Service Problem Case Navigator [sn_sprb_mgmt.navigation_menu]	Enables you to navigate through the service problem cases.
Service Problem Case Agent [sn_sprb_mgmt.agent]	Enables you to create, read, and write the service problem cases. Additionally, this role includes the ability to run the test runs and view the diagnostic test results.

Roles installed with Customer Service Problem Management (continued)

Role	Description
Service Problem Case Customer [sn_sprb_mgmt.customer]	Enables you to create, read, and write the service problem cases in the customer service portal. Additionally, this role includes the ability to view the inventory.
Service Problem Case Admin [sn_sprb_mgmt.admin]	Enables you to create, read, and write the service problem case, the test runs, and the test definitions. Additionally, this role includes the ability to view the diagnostic test results and resolution task.

Tables

Customer Service Problem Management adds the following tables.

Tables installed with Customer Service Problem Management

Table	Description
Service Test Definition	Description of the service test in terms of parameters to be configured and measures to be taken. Test definitions are configurations that are required to run a particular test against the service being impacted.
Test Definition Characteristics	Properties or attributes that are needed to be configured or placed before running the test.
Test Measure Definition	Definition a measure of a specific aspect of a product, service, or resource test, such as lost packets or connectivity status.
Threshold Rule	Rule that defines the condition (raise or clear) to achieve to apply consequences when a threshold is crossed or ceased to be crossed.
Measure Consequences	Action to take when a Threshold Rule is crossed. The action can be a prescribed action or notification.
Test Definition Relationship	Test definitions hierarchy. The relationship can be a substitution, dependency, or exclusivity relationship between test specifications.
Specification to Test Definition Relationship.	Test Definition relationship with Specification (Product / Service / Resource) or product Model.
Test Run	Test run with actual test measure values and rule violations.
Test Characteristic	Description of a characteristic of Service Test through a name-value pair.

Tables installed with Customer Service Problem Management (continued)

Table	Description
Test Measure	Measure of a specific aspect of a product, service, or resource test, such as lost packets or connectivity status.
Threshold Rule Violation	Violation of a rule that defines the Threshold Rule Definition.
Applied Consequence	The action to take when a Threshold Rule Violation occurs. The action can be a prescribed action or notification.
Diagnostic Task	Task extension. Task for an agent to trigger tests on services.
Resolution Task	Task extension. Task for an agent for repair and resolution based on test failures.
Service Problem Case	Case extension and a new case type.

Customer Service Problem Management properties

Customer Service Problem Management uses the following system properties, which are located in the System Properties [sys_properties] table.

Properties installed with Customer Service Problem Management

Property	Description
sn_st_mgmt.logging	Service Test Management logging. Enables or disables logging. • Type: True/false • Default value: false
glide.ui.sn_st_mgmt_test_measure_definition_activity.fields	Test Measure Definition activity formatter fields.
glide.ui.sn_st_mgmt_test_measure_activity.fields	Test Measure activity formatter fields.
glide.ui.sn_st_mgmt_test_definition_activity.fields	Service Test Definition activity formatter fields.
glide.ui.sn_st_mgmt_test_activity.fields	Service Test activity formatter fields.
sn_sprb_mgmt.pagination.maximum_limit	Highest number of items that can be fetched or displayed per page in an API request. • Type: integer • Default value: 100
sn_sprb_mgmt.pagination.set_limit	The number of records set by you to receive in that particular page of results in an API request. • Type: integer • Default value: 20

Domain Separation and Customer Service Problem Management

Domain separation provides a structured and efficient way to manage complex, multi-tiered organizational environments. It enables tailored access and control, ensuring that users see only the data relevant to their domain, enhancing security and efficiency.

Support level: Basic

- Business logic: Ensure that data goes into the proper domain for the application's service provider use cases.
- The application supports domain separation at run time. The domain separation includes separation from the user interface, cache keys, reporting, rollups, and aggregations.
- The owner of the instance must set up the application to function across multiple tenants.

Sample use case: When a service provider (SP) uses chat to respond to a tenant-customer's message, the customer must be able to see the SP's response.

For more information on support levels, see Application support for domain separation.

Introduction to Customer Service Problem Management

Customer Service Problem Management (CSPM) supports domain separation at an account level. All customer data and service problem cases have account (customer) level separation.

How domain separation works in Customer Service Problem Management

- Ensure that the account is domain separated according to the domain separation guidelines in Customer Service Management. For more information, see Domain separation and Customer Service Management.
- Customer details and service problem cases are domain separated using the account name.
- If an administrator assigns fulfillment agents and managers to work on the service problem cases for a specific domain, these agents and managers can work on these types of transactions across accounts.

Domain separated tables

- Service Problem Case
- Service Diagnostic Task
- Service Resolution Task
- Service Test Definition
- Test Measure Definition
- Test Definition Characteristic
- Test Definition Relationship
- Specification to Test Definition Relationship
- Threshold Rule
- Measure Consequence
- Test Run

- Test Characteristic
- Test Measure
- Threshold Rule Violation
- Applied Consequence

Use cases

If customer or service problem cases have an account name, an administrator can identify and separate the customer or service problem cases for different domains.

If fulfillment agents or managers are assigned to a domain, an administrator can assign them to work on the service problem cases for a specific domain (account).

How domain values are allocated to CSPM objects

CSPM objects	Domain source
Service Problem Case	Gets domain value from Account.
Service Diagnostic Task	Setting domain from Company.
Service Resolution Task	Setting domain from Company / task_for / task_for.company / default.
Service Test Definition	Setting domain of current user.
Test Measure Definition	Setting domain from Test Definition.
Test Definition Characteristic	Test Definition Characteristic
Test Definition Relationship	Setting domain from Test Definition.
Specification to Test Definition Relationship	Setting domain from test definition.
Threshold Rule	Setting domain from Test measure.
Measure Consequence	Setting domain from threshold rule.
Test Run	Setting domain from Service Diagnostic task.
Test Characteristic	Setting domain from Test Run.
Test Measure	Setting domain from Test Run.
Threshold Rule Violation	Setting domain from Test Measure.
Applied Consequence	Setting domain from Threshold Rule Violation has context menu.