

# ServiceNow Operational Intelligence

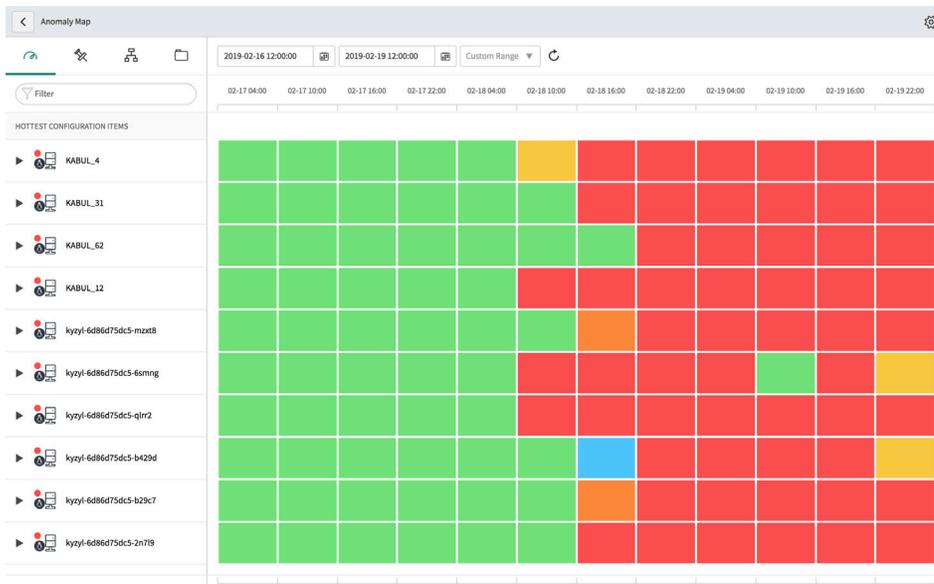
## The IT challenge

Enterprises rely on IT to maintain the availability of business services to internal and external customers. Despite using various monitoring tools, IT still deals with unreliable service performance, high amounts of outages and effectively troubleshooting and pinpointing performance issues. The IT operations job is compounded with services featuring multi-cloud instances running serverless computing such as containers.

## The ServiceNow solution

ServiceNow® Operational Intelligence is an add-on application to ServiceNow® Event Management that lets IT analyze performance issues found in IT infrastructure and applications. The application collects raw metrics data from monitoring sources and uses machine learning intelligence to identify performance issues.

Machine learning algorithms automatically create dynamic thresholds for normal behavior, eliminating the need to manually set and manage countless monitored thresholds. Instead of waiting for monitoring tools to generate events that indicate something is wrong, IT can be alerted to anomalous behavior automatically identified by machine learning intelligence. This method provides a leading indicator to services that might be impacted.



Anomaly Map shows IT infrastructure issues based on operational metric data

## Benefits

### Pinpoint disruptions quickly

Pinpoint performance issues that might easily go unnoticed. Operational Intelligence, added to ServiceNow® Event Management, uses a range of advanced machine learning techniques for analyzing operational metrics to aid in root cause analysis and speed up service outage resolution.

### Improve productivity

Operational Intelligence frees up IT staff from routine and error-prone tasks of setting and managing thresholds and event rules. It offers adaptive threshold capability to reduce noise generated by static-threshold-based alerts.

### Intuitive user experience

Visualize infrastructure performance using a dynamic search capability to identify CIs that have similar performance issues. IT operations is able to generate on-demand reports by churning through vast and rich CI and operational metric data, helping in root cause analysis.

**Automated thresholds for infrastructure metrics**

By adding Operational Intelligence to Event Management, IT can use operational metrics to detect out-of-band behavior of infrastructure items, both on-premises and in public clouds, which may not be captured by raw events. Rather than processing events from monitoring tools, Operational Intelligence processes raw operational metric data. It then applies machine learning algorithms to automatically create dynamic thresholds for normal behavior, avoiding the need to manually set and manage thousands of monitored thresholds.

Operational Intelligence learns the data pattern for a performance metric, sets what the upper and lower bounds should be, and adjusts the threshold for seasonality. It also offers static metric thresholds, which adds human insight to override dynamic thresholds where appropriate.

**Infrastructure anomaly detection**

With the automated threshold in place, Operational Intelligence can apply anomaly scores to each infrastructure item, which is relative to a respective

threshold. High anomaly scores indicate that an infrastructure item may be at risk of causing a service outage. A qualified anomaly alert is promoted to an IT alert, which then shows up in the Alert Intelligence console and Event Management Dashboard to aid in root cause analysis.

**Anomaly map**

An anomaly heat map, generated by operational metrics, displays the infrastructure items with the highest anomaly scores across a time period. IT can drill down into each infrastructure item to display anomaly scores for each of the item’s metrics. Anomaly scores are color-coded to help isolate problem areas at a glance.

**Insights Explorer and Advanced Insights Explorer**

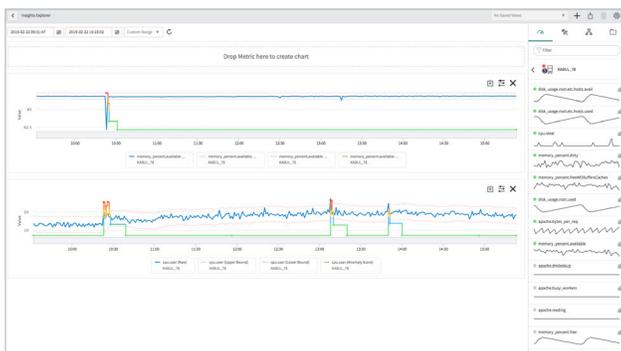
Using Insights Explorer, IT can visualize performance of their IT resources by searching the dynamic metric data across monitored configuration items (CIs). IT can browse, search and compare metrics across multiple infrastructure items, and create and share metric views with other operators.

Advanced Insights Explorer provides an elevated user experience to create performance reports using raw metric values and calculated anomaly scores prevalent across many CIs. IT can browse, search, and compare metrics across multiple infrastructure items. IT can also create and share metric views with other operators.

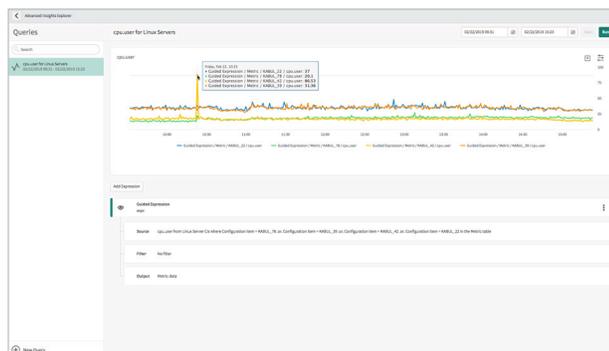
**Integrated with ServiceNow Event Management**

Event Management combined with Operational Intelligence enables faster identification of the root causes of service degradations and outages which reduces Mean Time to Repair (MTTR). Event Management aggregates and correlates anomaly alerts with

IT alerts to reduce event noise and narrow down the issues causing service degradations. When integrated with Orchestration, IT gains a remediation mechanism to effectively correct performance issues and maintain the availability of services.



Search operational metrics to show bounds and anomaly scores across CIs, applications, and services



Create on-demand reports and search for similar performance issues across similar CIs

