Managed Cisco Catalyst Center

(part one: monitoring)

Enterprise network technology is evolving to become much more software-defined, leading to a noticeable increase in organizations adopting controller-driven networks.

In this dynamic environment, Cisco has introduced the Catalyst Center* to act as the brain of the network, able to handle Cisco device operations in an efficient, automated and centralized manner.

And, to help clients reap the full benefits of this centralized approach, NTT's Managed Campus Networks service is using these emergent network technologies to offer an improved managed service experience.

*Catalyst Center is formerly known as DNA Centre (DNAC)

Content

Our Managed Cisco Catalyst Center service is delivered using a platform with many integrated layers of cloud-native tools and components:

User interface	Client portal and live dashboards	Managed Network Service user interface on NTT's Services Portal framework
Service management	Service management	Inventory management
AIOps, automation and analytics	AI-driven incident management	Advanced analytics and data engine
	AI-based anomaly detection and predictions	Process and runbook automation
Monitoring	Service experience insights	
	Monitoring of campus technologies	Custom data and event sources
Security and connectivity	Identity, access and privilege management	Privilege access management
	Connectivity	Site pod

In this technical white paper, we provide an overview of the features, benefits and use cases of this service, as well as the advantages of working with a third-party managed service provider (MSP).

Part one of this white paper focuses on monitoring, while part two delves into automated operations.

What is the Managed Cisco Catalyst Center service?

This service – managed full-time by NTT – is backed by a cloud-based platform that automates network management and provides real-time analytics and insights.

It is tightly integrated with Cisco's Catalyst Center and designed to help organizations streamline their network operations, reduce downtime and improve overall network performance.

5 features of this service…

1. A single pane of glass across a client's entire network estate — whether it's Cisco Catalyst Center, legacy Cisco or third-party components.
2. Our efficient approach: step in, start managing the network and transform it for the better.
3. An AIOps-based managed service platform to pinpoint issues across Catalyst Center and other technologies.
4. An automation-heavy management service — up to 90% of network management tasks are handled through automation.
5. A truly global 24x7 service able to support multinational organizations.

…and 4 benefits

1. Faster incident resolution, which reduces downtime, through an AIOps-driven platform.
2. Realizing the ongoing value of Cisco technology by relying on the experience and skills of NTT teams to deploy and manage the technology over the life of the equipment (this is not a deploy-and-forget approach).
3. Improved network performance that ultimately improves the user experience.
4. Greater cost savings than a do-it-yourself approach with on-site tools, thanks to better infrastructure performance, less downtime related to legacy equipment, and NTT's economies of scale in the delivery of managed services.

Use cases for Managed Cisco Catalyst Center

This service can be used in a variety of scenarios, including:

1. **Large organizations:** It is ideal for large organizations with complex networks that require automation, segmentation and real-time analytics.

2. **Multisite organizations:** It simplifies network management for organizations working across multiple sites by providing a single dashboard for all sites.

3. **Compliance:** It helps organizations meet compliance requirements by providing policy-based access control and network segmentation, combined with fine-grained reporting functionality.

4. **Cloud migration:** It can help organizations migrate to the cloud by providing automation and real-time analytics to support cloud-based services.

Use cases related to monitoring

These are some of the monitoring use cases that can be achieved through NTT's Managed Cisco Catalyst Center service:

Extensive monitoring

Consistent monitoring of a range of technologies (switches, routers, firewalls, controllers and more) from multiple vendors, as well as automated alerts, enables organizations to be more agile in in optimizing their network performance and adapting their network to changes in the business.

Multiple metrics

Across devices, the platform has an extensive, standardized set of data sources and metrics to monitor. The following example shows the standard data sources for a Cisco Catalyst Center appliance (each data source includes multiple datapoints):

Cisco switch ⟶ **Transceiver sensors** ⟶ **dBm** ⟶ **Sensor reading**

“ Our Managed Cisco Catalyst Center service is a powerful complement to **Cisco's Catalyst Center technology for network automation and management.**

Each metric is stored so it can be used for monitoring, alerting and reporting purposes. The platform stores performance metrics for up to two years, with one year available for the user through the portal. The data sources can be extended by creating custom connectors to cater for new metrics arising from network equipment.

Alerting and dynamic thresholding

The platform supports various ways of creating alerts. This includes getting alerts directly from the underlying network technology, through fault metrics, or by applying static or dynamic thresholds to the performance metrics that are being monitored.

The alerts can be categorized according to their severity, using rule-based and AI-based groupings. Then, based on the business rules that are applied, the alerts can lead to incidents with different priorities (P1, P2, P3 and so on). These are logged on the service management platform and assigned to engineers who have the appropriate experience and skills to address them.

AI-driven service management

In addition to these monitoring capabilities, our platform offers AIOps capabilities. This allows us to apply the latest AI and machine-learning trends to reduce noise from the network and automate manual engineering tasks for incident management.

Automated events correlation

The challenge: Multiple tickets are generated for a single event, which results in:

- More noise from the network
- Slower response and resolution times
- Longer duration of incidents

The solution: The platform groups similar or related incidents into clusters to be correlated:

1. Smart clustering correlates events received across the client's network estate.
2. Those with a common redress process are grouped into parent–child clusters.
3. Because it incorporates machine learning, the model operates without the need for predefined rules:
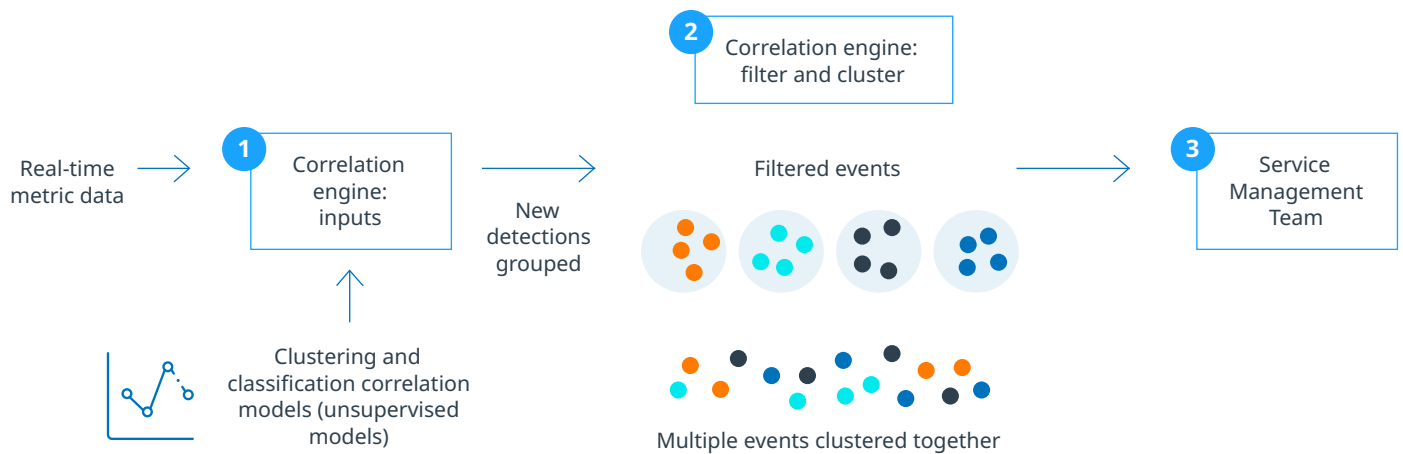
This information feeds into a classification engine which identifies the probable root cause based on its historical knowledge of root causes. The engine provides the probable root cause as a prepopulated field for the detected incidents. It also applies the right classification and the recommended resolution code for the incident.

Cisco Catalyst Center: monitoring use cases

Cisco Catalyst Center's range of monitoring capabilities gives your organization visibility of your network infrastructure, applications and user experience. These are some examples of use cases specifically related to monitoring:

- **Network traffic analysis:** You get real-time visibility of network traffic, so you can monitor and control the flow of data across the network. This also assists in identifying and addressing network performance issues, dealing with security threats and optimizing bandwidth usage.

- **Monitoring application performance:** Your organization can monitor the performance of business-critical applications, identify issues fast and efficiently, and troubleshoot problems quickly.

- **Monitoring wireless networks:** Again, this means you can keep an eye on your network performance around the clock and deal with issues quickly or even proactively — all while improving the user experience.

- **Endpoint monitoring:** Cisco Catalyst Center can monitor endpoint devices, giving you real-time visibility of user devices such as laptops, smartphones and tablets. Being able

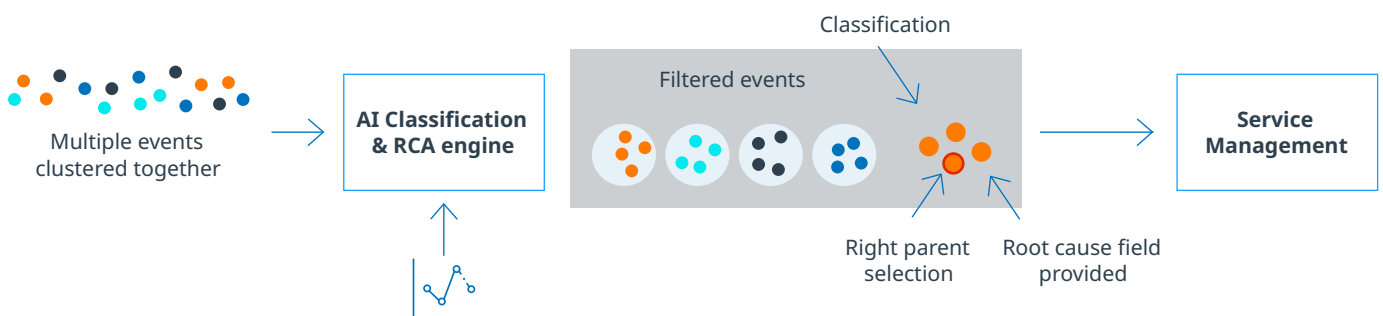to identify and resolve issues speedily also contributes to a good user experience.

- **Security monitoring:** You gain visibility of potential threats and vulnerabilities across your network, enabling you to respond quickly and limiting the risk of data breaches and other threats.

- **Compliance monitoring:** Cisco Catalyst Center can monitor your compliance with regulatory requirements and industry standards — essential to making sure that your network infrastructure and applications meet the necessary compliance requirements.

Working with an MSP can help you realize the full potential of Cisco Catalyst Center, delivering the benefits of:

- **Improved network performance:** Your MSP can pinpoint and resolve potential network issues even before they have an impact on users. In this way, they reduce downtime and boost your overall network performance.

- **Increased network security:** By monitoring your network proactively, your MSP can flag potential security threats such as malware and

unauthorized access attempts, and take immediate action to limit the risk of a full security breach.

- **Predictive maintenance:** With proactive network monitoring, an MSP can spot potential hardware or software failures well before they cause trouble. Analytics should always lead to actionable insights, so proactive maintenance can easily follow — reducing downtime and avoiding potential data loss.

- **Cost savings:** Your MSP should help to prevent expensive network downtime and cut the need for reactive IT support, leading to cost savings.

- **Customer satisfaction:** Being able to find and address potential network issues before they affect your users — whether your employees or your actual customers — ultimately contributes to greater customer satisfaction and loyalty.

- **Compliance:** You can rest assured that your network infrastructure complies with regulatory requirements and industry standards, lessening the risk of fines and penalties.

Multiple events clustered together → AI Classification & RCA engine → Filtered events — Classification, Right parent selection, Root cause field provided → Service Management

Why NTT

Cisco Catalyst Center can be complex to manage, especially for organizations that lack expertise in this area. By working with NTT as your MSP, you can benefit from:

- **Access to expertise** to manage and support the solution
- **24x7 support** to keep your network running smoothly
- **Scalability** — the solution grows as your network expands
- **Cost savings** by reducing the cost of managing the solution in-house

We use our Managed Campus Networks platform to manage Cisco Catalyst Center estates proactively. Our clients benefit from the expertise, support and advanced functionality of our AIOps-driven managed service platform, as we keep their Cisco Catalyst Center environment running smoothly to unlock the full value of the technology.

Network Assessment

Take our Network Assessment now to gain a deeper understanding of your network requirements and embark on your digital transformation journey.

NTT DATA