Cisco Catalyst Center



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System overview

Q: What is Cisco Catalyst Center?

A: Cisco Catalyst Center is a powerful management system that leverages AI to connect, secure, and automate network operations, providing digital agility so that IT can optimize your investment in Cisco® solutions and products and reduce spending. It simplifies IT experience in the areas of NetOps, AIOps, SecOps, and DevOps by streamlining complex network operations, resulting in a faster time to value. Catalyst Center leverages Artificial Intelligence and Machine Learning (AI/ ML) to increase business agility and operational efficiency by creating consistent orchestration across wired and wireless networks. Catalyst Center offers operational flexibility with a choice of deployment options. Catalyst Center can be deployed in a cloud service or an on-premises environment. The Catalyst Center physical appliance is designed for enterprise-scale networks and is available for on-premises management. The Catalyst Center Virtual Appliance is designed to be deployed in a public cloud service such as AWS, Azure or in a VMware ESXi virtual environment located on-premises, in a private cloud, or a colocation facility.

Q: What are the business and organizational benefits of using Cisco Catalyst Center?

A: Catalyst Center helps you connect, secure, and automate your network operations. Developed in concert with innovations for Cisco Catalyst® devices, Catalyst Center helps optimize your network and maximize return on your Cisco investment. The following are some of the business and organizational benefits of using Catalyst Center.

- **Accelerate digital agility:** With a powerful Cisco ecosystem, extensible APIs, and third-party integrations, Catalyst Center enables business process automation and accelerates digital agility.
- **Scale at the speed of business:** Catalyst Center gets your network up and running faster. It continuously optimizes network performance and includes tools to plan and execute network changes to match business needs.
- **Reduce operating expenses:** Catalyst Center automates network operations, thus saving valuable human capital and reducing operational costs.
- **Minimize business impact:** Using AI, Catalyst Center predicts potential issues and provides guided diagnostics to reduce downtime and minimize business impact.
- **Deliver optimal end-user experience:** Catalyst Center provides complete visibility into network health, application performance, and end-user experience. It includes tools to visualize the end user's network and application experience and helps deliver optimal end-user experience.
- **Secure the digital enterprise:** Catalyst Center is at the center of the Cisco Zero Trust solution for the workplace. It improves your overall security posture by reducing the attack surface of the network, mitigating vulnerabilities, monitoring endpoint behavioral anomalies, and enforcing security policies.
- **Help attain sustainability goals:** Catalyst Center helps increase the efficiency of IT and OT infrastructure and optimize resource utilization. It is a crucial component of the Cisco smart building portfolio, enabling sustainable workplaces.

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Q: Who uses Catalyst Center?

A: Catalyst Center is used by enterprises across all industries, as well as government agencies and public sector organizations, to increase efficiency and maximize the performance of their campus networks built on Cisco Catalyst technology.

Q: What makes Catalyst Center different from other solutions in the marketplace?

A: Catalyst Center is one of the most comprehensive network management solutions available in the marketplace. As part of Cisco's broad portfolio of campus networking solutions, it offers superior functionality when compared to other solutions. The following are some of the key differentiators.

- **Excellent wireless experience:** Catalyst Center offers users an excellent wireless experience through features such as AI-Enhanced Radio Resource Management (AI-Enhanced RRM), which uses historical AI insights to adjust the wireless environment automatically to optimize performance.
- **Unique insights into wireless devices:** Through Cisco's technical partnership with Apple iOS, Samsung, and Intel, IT gains unique insights into the health of end-user devices while users gain a better wireless experience.
- **Faster time to resolve issues:** Catalyst Center's AI Machine Reasoning Engine, powered by a cloud-hosted knowledge base using decades of Cisco best practices data, helps troubleshoot complex issues and resolve them faster.
- **Deep application insights:** Users get a better application experience and IT gains insights into the health of applications, including collaboration apps such as Webex® by Cisco and Microsoft Teams. Available integration with Cisco Splunk as well as Cisco ThousandEyes® further enhances application visibility.

Functionality

Q: How does Catalyst Center address different phases of network life cycle?

A: Catalyst Center is a complete management system that enables IT to focus on delivering business outcomes by making it easy to plan, build, and manage secure enterprise campus networks.

- **Design:** Model your entire network, physical and virtual, from geographic locations, sites, buildings, and floors to devices and links. Define software images for device families and designate golden images, configuration templates, and profiles.
- **Discover:** Discover all your network devices and manage the inventory. Discover and profile endpoints and enable enforcement of group-based policies.
- **Policy:** Use policies to automate and accelerate rollout of services. Define group-based access policies, application services, and policies.
- **Provision:** Automate onboarding and provisioning of network devices with zero-touch provisioning. Provision services such as IoT services, Cisco User Defined Network, and application hosting on switches. Provision SD-Access fabric sites, virtual networks, etc., and realize the benefits of software-defined networks.
- **Assurance – visibility:** Gain complete visibility into the health and performance of network devices and applications and the end-user experience with various available dashboards. View issues that may be impacting business services, determine the root cause, and resolve issues.
- **Assurance – AI Analytics:** Use AI to proactively monitor deviations from the norm and predict potential issues. Use machine reasoning capabilities to accelerate root cause determination and take advantage of guided workflows to resolve issues quickly.

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- **Workflows, tools, and reports:** Take advantage of an extensive library of workflows, tools, and reports to ease configuration of services, automate device maintenance, and generate reports.
- **APIs and integrations:** Automate business processes using an extensive integrated Cisco ecosystem as well as third-party applications. Use rich APIs for custom automation and integration with your applications.

Q: How does Catalyst Center improve network operations?

A: Catalyst Center greatly simplifies network operations through comprehensive automation and insights:

- **Automation:** Catalyst Center automates discovery of network devices and simplifies provisioning with features such as Plug and Play (PnP) and zero-touch provisioning.
- **Policy driven:** Policy-based administration allows administrators to define policies that are translated into configurations and applied to all applicable devices and helps ensure that configurations comply with corporate standards.
- **Compliance:** Software Image Management (SWIM) eliminates manual effort involved in keeping device software up to date and helps ensure compliance.
- **Integrated and third-party ecosystem:** Integration APIs with applications that enable integration of Cisco® applications such as ThousandEyes and Splunk as well as third-party applications such as ServiceNow and PagerDuty enable IT process automation.
- **Visibility:** Catalyst Center provides deep visibility into the health and performance of the network and applications, as well as the end-user experience. These dashboards, together with issues and events dashboards, bring potential issues to the surface quickly, thus saving valuable time and effort and greatly improving the availability of the network.
- **Faster troubleshooting:** The Machine Reasoning Engine automates complex troubleshooting so that network issues can be resolved quickly by first-level IT administrators.
- **Guided workflows:** Several built-in workflows, such as access point configuration and device replacement workflows, can be used to automate deployment and maintenance activities.

In summary, Catalyst Center saves valuable human capital by automating network operations, helps assure compliance, improves reliability and availability of network services, and delivers an optimal end-user experience.

Q: Does Catalyst Center include functionality for AIOps?

A: Catalyst Center uses AI/ML to simplify network administration and improve performance. It uses ML to learn the characteristics of various parameters that impact the performance of your network. ML algorithms define dynamic baselines for these parameters and identify deviations from the baselines to filter out noise and identify true bottlenecks and issues. Catalyst Center helps you visualize these anomalies, quickly determine the root cause, and accelerate the remediation of issues. It uses AI to enhance radio resource management and improve the performance and user experience of Wi-Fi networks.

Q: How does Catalyst Center help secure the IT infrastructure?

A: Catalyst Center applies a zero-trust approach to enterprise network security. It includes methodologies and technologies to shrink the attack surface and mitigate vulnerabilities. It takes advantage of AI to identify and contain security threats quickly.

- **Intuitive group-based policies:** Intuitive group-based policies help you segment the network virtually at a granular level. Together with Cisco Identity Services Engine (ISE), Catalyst Center profiles all endpoints,

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including IoT devices, authenticates devices and users, and enforces access policies.

- **AI Endpoint Analytics:** AI Endpoint Analytics further enhances security by providing complete visibility into endpoints, profiling and grouping endpoints, identifying anomalous behavior, and automating the quarantine process.
- **Cisco security suite:** Out-of-the-box integration with the Cisco security suite, which includes Cisco Secure Network Analytics, and Cisco Talos®, enhances the security of the digital enterprise by reducing exposure to security threats.
- As a key component of the Cisco Zero Trust solution for the workplace, Catalyst Center helps implement zero-trust network access for your network.
- **Compliance:** Software and configuration compliance monitoring of network devices mitigates vulnerabilities by helping ensure that software and security patches are applied in a timely fashion, and that device configurations are consistent with corporate policies.

Q: Has Catalyst Center achieved any compliance or standard certifications?

A: Catalyst Center has obtained several standard certifications that provide compliance across the platform. This includes the following:

- SOC 2 Type 2 and ISO 27001 which both can be viewed via the Cisco Trust Portal (login required)
- Cisco Secure Development Lifecycle
- FIPS 140-2

Q: Does Catalyst Center monitor applications?

A: Catalyst Center monitors application experience by tracking the performance of critical business applications. It shows user-experience and performance metrics and provides specialized rapid troubleshooting per application and per client. It provides unparalleled visibility and performance control over the applications that are critical to your core business. Application assurance enables IT to provide users the performance they need for the applications that are key to their company role. Catalyst Center has out-of-the-box integrations with leading collaboration platforms, such as Webex and Microsoft Teams, to assure the best end-user experience in today's hybrid workplaces.

Q: Does Catalyst Center manage end-user devices?

A: Catalyst Center provides a view into users' network and application experience. It provides tools to quickly diagnose and remediate end-user issues. Additionally, Catalyst Center detects anomalies in the behavior of end-user devices and maintains a trust score to quickly surface any potential security issues.

Architecture and licensing

Q: How is Catalyst Center deployed?

A: Whether you want to deploy in a cloud service or an on-premises environment, Catalyst Center offers operational flexibility and a choice of deployment options. The Catalyst Center physical appliance is designed for enterprise-scale networks and is available for on-premises management. The Catalyst Center Virtual Appliance is designed to be deployed in a public cloud service such as AWS, Azure or in a VMware ESXi virtual environment located on premises, in a private cloud, or in a colocation facility.

Q: How does Catalyst Center scale to support network growth?

A: There are multiple options for Catalyst Center, depending on the size, or potential future size, of the enterprise network. For more details on

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the capacity of various hardware and virtual appliances, consult the Cisco Catalyst Center data sheet.

Q: What makes Catalyst Center extensible?

A: Catalyst Center offers APIs that can be used to develop integrations with external applications and build business value by extending core Catalyst Center capabilities. These APIs are classified as:

- **Intent APIs,** which enable continuous network alignment to the changing needs of IT and business.
- **Integration APIs,** which enable integration of Cisco and third-party IT and network systems for streamlining IT operations across domains that were previously siloed.
- **Events and notifications,** to help resolve issues proactively by helping third-party applications listen and respond to events.

Software Development Kits (SDKs) are available for popular platforms such as Python and Ansible to enable faster development and smoother integration. To learn more about Catalyst Center API capabilities, please refer to the Catalyst Center DevNet Page.

Q: How is Catalyst Center licensed?

A: A Catalyst software subscription for Cisco Catalyst switching and wireless devices is required to activate management of these devices by Catalyst Center. Certain capabilities of Catalyst Center may require specific tiers of Catalyst software subscription and expansion packs. Review the Cisco Catalyst Software licensing e-book and Catalyst Center data sheet for more details. If you have more licensing-specific questions, check out this FAQ.

Q: What Cisco infrastructure products can be managed through Catalyst Center?

A: Find the current list of supported products in the Cisco Catalyst Center Compatibility Matrix. Additional compatibility information is available for SD-Access, Federal Information Processing Standards (FIPS), and Cisco Prime® Infrastructure.

Q: What type of data does Catalyst Center collect, how does it use the data, where does it keep the data, and for how long does it keep it?

A: Cisco offers its customers flexibility in the types of data that are shared and how they are shared. Catalyst Center collects three types of telemetry data:

- **Local network telemetry:** Catalyst Center collects data from several different sources and protocols on the managed network. This data is kept on the Catalyst Center appliance locally at your location and is available for a period of 14 days. Local network telemetry is not transported to any other server, nor is it sent to the cloud.
- **De-identified cloud telemetry:** Catalyst Center uses de-identified cloud telemetry data stored on a cloud server for AI Network Analytics. It does not send the cloud telemetry to the cloud server by default, and customers can opt in to take advantage of AI Network Analytics.
- **Catalyst Center product usage telemetry:** Catalyst Center is configured to automatically connect and transmit product usage data to Cisco. This telemetry is used by Cisco to improve appliance lifecycle management and serve customers better. Customers may opt out by turning this feature off in Catalyst Center.

Q: Where can I get more information about Catalyst Center?

A: Visit the Cisco Catalyst Center home page, where you will find links to various resources such as solution briefs, FAQs, release notes and the datasheet. Also, check out the Cisco Catalyst Center DevNet page where you can take full advantage of the Cisco Catalyst Center programming capabilities. Lastly, connect with peers and Cisco specialists in the Cisco Catalyst Center community page.

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