The bridge to possible

How to Buy

Cisco Catalyst 9000

Built to reimagine connections, reinforce security, and redefine experience, the Catalyst 9000 family, including the new Catalyst 9000X models, offers versatile design for more flexible operations. The Catalyst 9000 family also assures a more secure experience and brings exceptional speed and scale to the table.

Catalyst 9000 switches lead the industry with the first 400G interfaces in Enterprise, first Silicon One™ ASICs for campus, full mGig and UPOE+ ports, converged switching and routing, and continuous zero-trust security.

Transform the workspace for hybrid work with a powerful platform that provides the broadest range of bandwidth, speed, scale, and power required for today's more immersive experiences, big and small.

Secure the network from inside to outside by leveraging enhanced computational power and advanced AI/ML to apply continuous zero trust security anywhere it's needed.

Future proof design so IT can work smarter not harder, with converged switching/routing capabilities, enhanced app-hosting and more config automations for a smarter, more agile campus and branch.

Benefits

- Twice the density at a lower cost. New features packed into Cisco IOS XE Software.

- End to end integrated security solution. Detect and stop threats, even with encrypted traffic.

- Simplified automation and assurance: goal-based policies are created once centrally, applied network-wide.

- Accelerate changes with programmability, supporting open standards and APIs.

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End-to-end security

With our integrated portfolio and industry-leading threat intelligence, Cisco gives you the scope, scale, and capabilities to keep up with the complexity and volume of threats. Putting security above everything helps you innovate while keeping your assets safe. Cisco prioritizes security in all that we do, and only with Cisco can you attain effective network security to face tomorrow's evolving threats.

The need for speed

Higher bandwidth applications

In the new-normal hybrid Enterprise, office workers are using more bandwidth to collaborate with remote coworkers and remain productive. Examples:

- High-definition video conferencing: at 720-1080p, each session averages ~1-3Mbps.
- Cisco Hologram: needs 20 Mbps upstream, headset downstream needs 5 Mbps.
- Watching ultra-high-definition streaming videos: 4K streaming requires between 15-25 Mbps.
- 4k VR streaming: 50 Mbps but is best at 100 Mbps.
- Using concurrent document collaboration such as Box, Dropbox, and Sharepoint; and relying on cloud-based applications such as Office365, which average ~5-10Mbps.

Greater density Wi-Fi

The Catalyst 9100 Series Access Points, including the new Catalyst 9136, can support more than 20 concurrent users with individual client data rates greater than 1Gbps, which is an increase of 2-4x over the Aironet Wi-Fi 5 (802.11ac) Access Points. With up to 5G multi-gigabit (mGig) copper uplink on each Access Point, users can easily get greater than 250Mbps of dedicated bandwidth, even in very dense areas.

Access layer

That increased Wi-Fi bandwidth is supported by Catalyst 9300 and 9400 Series switches, including the new Catalyst 9300X fixed access switches and modular Catalyst 9400X SUP-2/2XL Supervisors with 2nd generation line cards, which offer line-rate 10G SFP fiber and 10G mGig copper across all 48 ports. That means that one switch can serve 48 access points, or ≥960 users, and allows you to flexibly use any port without worrying about speed. Catalyst 9400X Sup-2XL supports up to 480G per slot, even with the 10 slots chassis, while Catalyst 9300X supports 1Tbps bandwidth between 8 stacked switches. This gives you access to a total of 384 wired or wireless devices connected at up to 10Gbps in a single system.

Distribution layer

All of that increased Access bandwidth and scale can be supported by the existing Catalyst 9500 High Performance or Catalyst 9600 SUP-1 distribution switches for access-uplink speeds of 100G/40G or 25G, or you could also use the new line-rate 10G SFP models of Catalyst 9300 or 9400 if you prefer 10G or lower access-uplinks. No matter what your existing or future cable requirements are, there are multiple options available.

Core layer

Once this increased bandwidth and scale reaches the Core of your network, it is terminated by Catalyst 9500 and 9600 Series switches. This includes the new Catalyst 9500X fixed core switch and new Catalyst 9600X-SUP-2 supervisors and 2nd generation line cards, which are the first in the industry to offer 400G and 200G interfaces for enterprise campus, high-density 100/40G and 50/25/10G. With the new models, Catalyst 9500 and Catalyst 9600 Series switches add a massive increase in routing scale, up to 2 million IPv4 entries, so you can connect directly to an Internet Service Provider (ISP). To give an example of how much bandwidth that is, you could have 80,000 simultaneous HD video streams running – impressive since that is 5x the size of the whole Netflix catalogue. You could even download the entire US Library of Congress in about 2 hours.

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Automation and assurance

Now you can do more in less time. With Cisco Catalyst Center (formerly Cisco DNA Center) and Software-Defined Access, the Cisco Catalyst 9000 product portfolio can operate as part of one fabric, for faster, more secure network access.

No more constant cutting, pasting and tweaking device by device. Create once, apply network-wide using cross domain policy enforcement and automation. The Catalyst 9000 family also offers multiple programmability options to further simplify configuration and adapt to changes.

Plus you can put your data to work. Get 360-degree contextual insights across users, devices, and applications. Assure network performance with real-time and historical data analytics, to learn, adapt, and even detect problems before they happen. Deliver superior application experience with ThousandEyes, Cisco Spaces and ASAc firewall, now integrated into Cisco Catalyst 9300 and 9400 Series switches with Cisco Catalyst and Cisco DNA Advantage licenses.

Sustainability and Hybrid work

The Cisco Smart Building solution helps Cisco and our customers achieve net zero in the facilities operations by deploying energy-efficient, carbon-reducing designs that create flexible, health-focused environments. The foundation starts with 90W PoE and Catalyst 9000 switching and wireless technology built-in as the fourth utility. It also includes Cisco Spaces, Cisco endpoints, Meraki cameras and sensors, and Cisco zero trust security.

The network for Cisco Smart Building solution components:
Infrastructure:
- **Catalyst 9000 switches** – Fast and Perpetual 90W UPOE+, 400G core/100G access, multigigabit, security, app hosting (Cisco Spaces IoT Gateway, ThousandEyes Enterprise Agent, ASAc Firewall, 3rd party Docker containers).
- **Wireless** – **Catalyst 9100** W-Fi-6/6E, 5G w/Cisco Catalyst Cellular Gateway, **Catalyst 9800** WLC.

Management:
Cisco Catalyst Center, Meraki Dashboard, Cisco Spaces.

Network and Device Security:
ISE, Stealthwatch, Zero Trust Network Access, Umbrella SIG, IPsec, ETA, ASAc firewall.

Leveraging years of effort on foundational technology combined with state-of-the-art security and location-based services, the Cisco Smart Building solution lays out the blueprint to take control of your building, to power and empower a trusted workplace so you can thrive today and be prepared for the ever-evolving workplace of the future.

Top three reasons to upgrade to Catalyst 9000 family

Transform the workspace for hybrid work
Deploy a powerful platform to meet the bandwidth, speed, scale, and power required for today's hybrid work.

Secure the network from inside to outside
Leverage enhanced computational power and advanced AI/ML to apply continuous zero trust security anywhere it's needed.

Future proof design for working smarter not harder
Converged switching/routing capabilities, enhanced app-hosting and more config automations for a smarter, more agile campus and branch.

The Cisco Catalyst 9000 portfolio

| Cisco Catalyst 9100 | Cisco Catalyst 9200 Series | Cisco Catalyst 9300 Series |

Cisco Catalyst 9100 access points are adaptive, fast, intelligent and secure. Not only do they adhere to Wi-Fi 6/6E (802.11ax) but they go beyond the standard.

These access points allow for more flexibility and scalability needed to handle the extra devices connected to the network and the data that they will generate.

The Catalyst 9100 APs deliver:

- Three to four times the performance than 802.11 ac.
- Reliable performance—always connected, always dependable—even in challenging environments.
- Up to 50% reduced latency to provide better performance for applications that use high voice and video.
- Increased density and connect more devices (especially IoT) at higher throughputs.
- Meraki Cloud Management option for Catalyst 9166, 9164 and 9162 access points.

Cisco Catalyst 9200 Series switches are designed for simple branch/midmarket fixed enterprise access deployments.

With its family pedigree, Catalyst 9200 Series offers simplicity without compromise – it is secure, always on and provides a new level in IT simplicity.

- Delivers 160 Gbps stacking bandwidth.
- Flexible uplinks: 1 Gbps, 10 Gbps, 25 Gbps. Fixed (C9200L), and modular (C9200) options.
- Downlinks: 1 Gbps, Cisco Multigigabit copper, perpetual PoE+.
- Supports cold patching, MACsec-128 encryption, and FRU redundant platinum-rated power supplies and fans options.
- Fanless compact models (C9200CX)
- AC and HVDC power supply options (C9200CX).
- Meraki cloud monitoring option.
- ENERGY STAR® certified models.

Cisco Catalyst 9300 Series switches are our leading fixed enterprise access switching platform.

Ideal access switch for business-critical branch and campus environments where scale and an extra degree of security, resiliency and programmability is needed.

- Delivers up to 8 chassis with 1 Tbps stacking bandwidth capacity.
- Flexible uplinks: Cisco Multigigabit, 100 Gbps, 40 Gbps, 25 Gbps, 10 Gbps and 1Gbps. Fixed (C9300L/C9300LM) and modular (C9300X and C9300) options.
- Flexible downlinks: Cisco 10G Multigigabit, 5 Gbps, 2.5 Gbps, or 1 Gbps copper, or 25 Gbps, 10 Gbps or 1 Gbps fiber. Perpetual Cisco 90W UPOE+, Cisco UPOE and PoE+ options.
- Supports ETA, AVB, IPsec, Cisco Umbrella cloud security, MACsec-256 encryption, 100G IPsec in hardware, embedded wireless controller and wire sensor, ThousandEyes Enterprise Agent, Cisco Spaces, MACsec, application hosting including ASAc firewall, Docker containers, hot patching, NSF/SSO, redundant power and fans.
- Meraki cloud monitoring and management option.
- ENERGY STAR® certified models.

The bridge to possible

Cisco Catalyst 9400 Series

Cisco Catalyst 9400 Series switches are our leading modular enterprise access/aggregation switching platform. Ideal for business critical Enterprise campus access and distribution.

- Delivers up to 480 Gbps/slot, 9 Tbps/chassis.
- Flexible uplinks: 100, 40, 25, 10 and 1 Gbps.
- Flexible downlinks: 10G Multigigabit, 5 Gbps, 1 Gbps copper, 1 Gbps (SFP), 10 Gbps (SFP+), 25 Gbps (SFP28), 40 Gbps (QSFP+), 100 Gbps (QSFP28), Cisco 90W UPOE+, Cisco UPOE and PoE+.
- Supports ETA, AVB, MACsec-256 encryption, MACsec encryption over EoMPLS, 100G IPsec in hardware, TrustSec, ThousandEyes Enterprise Agent, Cisco Spaces, application hosting including Docker containers, StackWise Virtual for core/ aggregation placement, ISSU, NSF/ SSO, hot patching, uplink resiliency.

Cisco Catalyst 9500 Series

Cisco Catalyst 9500 Series switches are our leading fixed core/aggregation enterprise switching platform, now with Silicon One Q200 ASIC.

Industry leading 400G, 200G*, 100G, 50G, 40G, 25G, 10G, 1G density in a 1RU form factor.

- Delivers up to 12 Tbps per 1 RU.
- 400 Gbps (QSFP-DD), 200 Gbps (QSFP56)*, 100 Gbps (QSFP28), 40 Gbps (QSFP+), 50 Gbps (SFP56), 25 Gbps (SFP28), 10 Gbps (SFP +), and 1Gbps (SFP) switches with granular port densities.
- StackWise Virtual for core/ aggregation placement, ISSU, NSF/ SSO, hot patching, FRU redundant platinum-rated power supplies and fans.
- Supports MACsec-256 encryption, MACsec encryption over EoMPLS, TrustSec, AVB, advanced routing and infrastructure services.

- Meraki cloud monitoring option.

Cisco Catalyst 9600 Series

Cisco Catalyst 9600 Series switches are our leading modular core/aggregation enterprise switching platform, now with Silicon One Q200 ASIC.

Industry leading 400G, 200G, 100G, 50G, 40G, 25G, 10G density for business critical Enterprise campus core.

- Delivers up to 6.4 Tbps/slot, 25.6 Tbps/chassis.
- 400 Gbps (QSFP-DD), 200 Gbps (QSFP56), 100 Gbps (QSFP28), 40 Gbps (QSFP), 50 Gbps (SFP56), 25 Gbps (SFP28), 10 Gbps (SFP+), 1 Gbps (SFP) and Multigigabit switches with granular port densities.
- StackWise Virtual for core/aggregation placement, ISSU, NSF/SSO, hot patching, FRU N+N/N+1 redundant supervisors, platinum-rated power supplies and fans.
- Supports MACsec-256 encryption, MACsec encryption over EoMPLS, TrustSec, advanced routing and infrastructure services.

Cisco Catalyst 9800 Series

Cisco Catalyst 9800 Series wireless controllers come with built-in security: secure boot, runtime defenses, image signing, integrity verification and hardware authenticity that detect any threat and defends again any compromised infrastructure.

Three deployments options, Appliance-based controllers, public and private cloud-based controllers and an embedded controller on either Catalyst 9100 access points or Catalyst 9000 family of switches.

CISCO

The bridge to possible

Secure network solutions for business resiliency

Networks are at the heart of the unstoppable evolution to a digital economy. Digitalization is changing the way businesses, partners, employees, and consumers interact at an unprecedented pace. Products and services can be customized, ordered and delivered at the click of a button using web-based applications.

Business data can be acquired, analyzed and exchanged in near-real time. Geographic boundaries between businesses and consumers are diminishing. And the network is at the center of communication to and between the applications driving the digital economy.

As foundational building blocks for the intent-based Cisco Digital Network Architecture, the Catalyst 9000 family has been built with security, mobility, cloud and IoT at its core.

Secure

With access to Cisco's best in class security portfolio anchored by Talos, Encrypted Traffic Analytics, Trustworthy Solutions, Umbrella, Zero Trust Network Access, ASAc firewall, CloudSec, MACsec encryption and segmentation, the product family provides advanced security features that protects the integrity of the hardware as well as the software and all data that flows through the switch and the network.

Connect

The Catalyst 9000 family provides enterprise-level resiliency to keep your business up and running seamlessly. Options like FRU power supplies and fans, modular uplinks, modular patching, perpetual PoE, and the industry's highest MTBF.

Catalyst 9800 wireless controllers can be deployed as redundant or cloud-based options for additional wireless control redundancy.

Automate

Combine the application visibility of full flexible NetFlow with telemetry and the open APIs of Cisco IOS XE and on switches, ASIC programmability, and Catalyst 9000 portfolio gives you the best experience provisioning and managing your network now with investment protection on future innovations.

Upgrade path

The Cisco Catalyst 9000 portfolio leverage the strengths of the Cisco Silicon One™ and Unified Access™ Data Plane (UADP) Application - Specific Circuits (ASICs). With the latest generation of the Silicone One and UADP ASICs, the Catalyst 9000 family delivers more than twice the performance with comparable pricing while adding a host of new features and functionality.

Migrate to higher data rates with investment protection for your fiber infrastructure using Cisco Optics innovations in Bi-Directional and Short Reach transceivers, Single Wavelength 100G pluggable optics, and pluggable coherent optics. The Catalyst 9000 family is also the first in the line to offer more flexible licensing options. Cisco Catalyst Advantage and Essentials subscription-based software licensing lets you purchase the features and capabilities you need.

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Table 1. Upgrade path to Catalyst 9000 switches

Older or EoS/EoL Cisco Catalyst and Meraki Switches, Access Points and WLC	Cisco Catalyst 9000 family member
Catalyst 2960-X/XR	Catalyst 9200 Series (simple branch fixed, stackable, access)
Catalyst 3560-CX, 2960-CX	Catalyst 9200CX (compact, fanless)
Catalyst 3850, 3650, 3750-X, 3560-X, MS250, MS3xx, MS4xx	Catalyst 9300 Series (lead fixed, stackable, access/distribution)
Catalyst 3650 mini	Catalyst 9300LM
Catalyst 4500-E, 6500	Catalyst 9400 Series (lead modular access/distribution)
Catalyst 4500X, 6840X, 6880X	Catalyst 9500 Series (lead fixed core)
Cisco Catalyst 6500/6800 modular	Catalyst 9600 Series (lead modular core)
Cisco 3504 wireless controller	Catalyst 9800-L wireless controller
Cisco 5520 wireless controller	Catalyst 9800-40 wireless controller
Cisco 8540 wireless controller	Catalyst 9800-80 wireless controller
Cisco Virtual wireless controller	Catalyst 9800-CL virtual wireless controller
Mobility Express	Catalyst 9800 Embedded Wireless for the 9100 AP
Cisco Aironet 1800 Series Access Points	Catalyst 9105 and 9115 Access Points
Cisco Aironet 2800 Series Access Points	Catalyst 9120 Access Point
Cisco Aironet 3800 Series Access Points	Catalyst 9130 and 9136 Access Points

Meet the family **Save up to 25% with a Cisco Catalyst Center Starter Kit**

The bridge to possible

How to buy

To view buying options and speak with a Cisco sales representative, visit www.cisco.com/c/en/us/buy.

Stay ahead of change

- **Cisco Catalyst 9000 Family**

- **Cisco Catalyst 9000 Wireless**

- **Cisco Networking**

- **Cisco SD-Access**

- **Cisco Catalyst and Cisco DNA Software Subscriptions**

Cisco services

Successfully deploy, manage, and support Cisco Catalyst 9000 family products with a full life cycle of services including implementation, optimization, technical, managed and training services. Our team of experts can help you speed deployment, reduce costs and minimize risk as you introduce new hardware, software and protocols into the network. **Learn more**.