## Cisco Start Helpline Overview

■ **Direct Line for Cisco Start**
(Partners and Customers)

**Cisco Start**
SIMPLE SMART SECURE

Traditional Channels
- Direct Dial
- Direct Email
- Webforms

Future Channels
- Chat

● General Enquiries
(Pre- and Post-Sales)
● Local Language Support
● Existing Partner and Distributor Support
(Partner Tools and Programs)

■ **2nd Level Support**

**Partner Help**
Pre-Sales Technical Enquiries

**Sales Development Representative (SDR)**
Pre-Sales / Offer Enquiries

**Cisco Start Team, Sales Specialist, Business Development Manager**
Community Support, Escalations
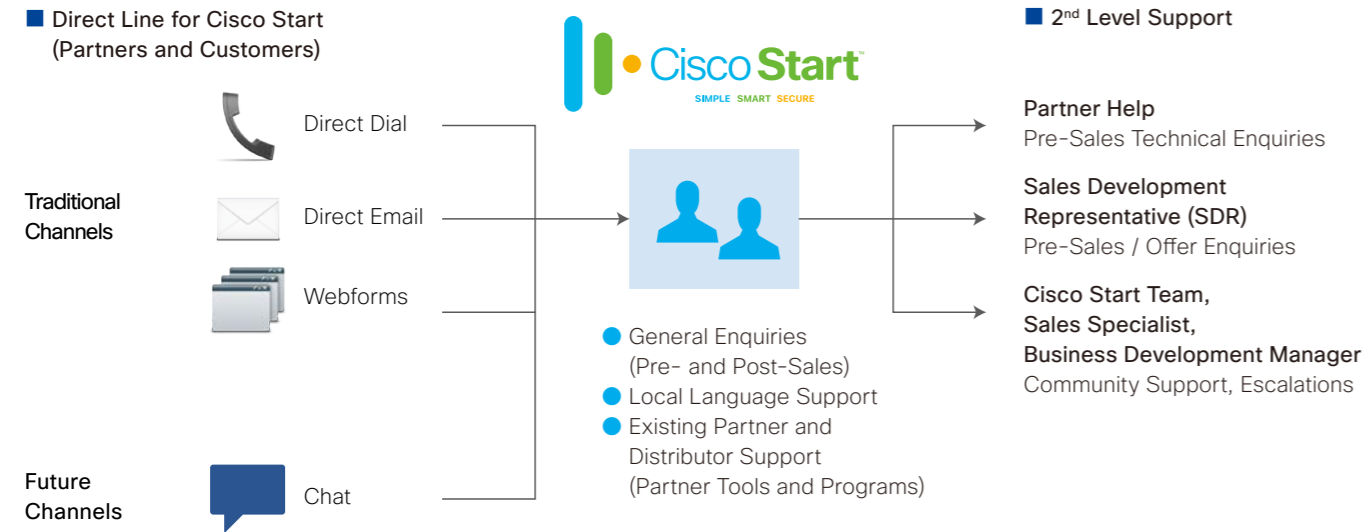
## Cisco Start Helpline by Country

| Country | Direct Line 9 AM to 6 PM Local Time | Email | Toll Free Number 9 AM to 6 PM Local Time |
|---------|------------------------------------|-------|------------------------------------------|
| Australia | 61284463050 | csg-au@cisco.com | 1800 134 349 (Press 5 then 2 then 1) |
| India | 918042501535 | csg-in@cisco.com | 000 800 100 1364 (Press 7) |
| Indonesia | 622127546455 | csg-id@cisco.com | 001 803 61 838 (Press 7) |
| Korea | 82234298295 | csg-kr@cisco.com | 0803 77 0880 (Press 5 then 2 then 1) |
| Malaysia | 60320811595 | csg-my@cisco.com | 1800 88 1292 (Press 5 then 2 then 1) |
| New Zealand | 6444982465 | csg-nz@cisco.com | 0800 291 129 (Press 5 then 2 then 1) |
| Philippines | 6328653411 | csg-ph@cisco.com | 1800 1441 0466 (Press 5 then 2 then 1) |
| Singapore | 6563177048 | csg-sg@cisco.com | 800 4481627 (Press 5 then 2 then 1) |
| Thailand | 6622637099 | csg-th@cisco.com | 001 800 611 0754 (Press 7) |
| Vietnam | 84439746990 | csg-vn@cisco.com | 1800 585 809 (Press 5 then 2 then 1) |

# Cisco Start Catalog

## Asia Pacific

**Cisco Start**
SIMPLE SMART SECURE

*Vol.2 (revision) 2017 August - November*

Secure
Connect
Collaborate
Compute
Meraki
Services

Secure
Connect
Collaborate
Compute
Meraki
Services
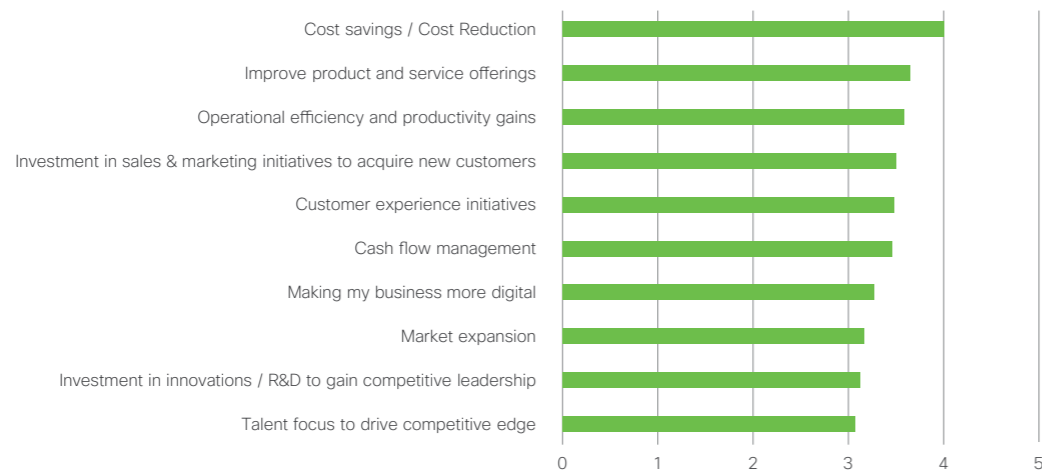
![](Cisco Start — SIMPLE SMART SECURE)

# Bigger things start here

Successful businesses start with hard work and dedication. But bigger things start with a strong technology foundation that will never limit your potential. Introducing Cisco Start enterprise-class technology tailored to fit your small or medium-sized business.
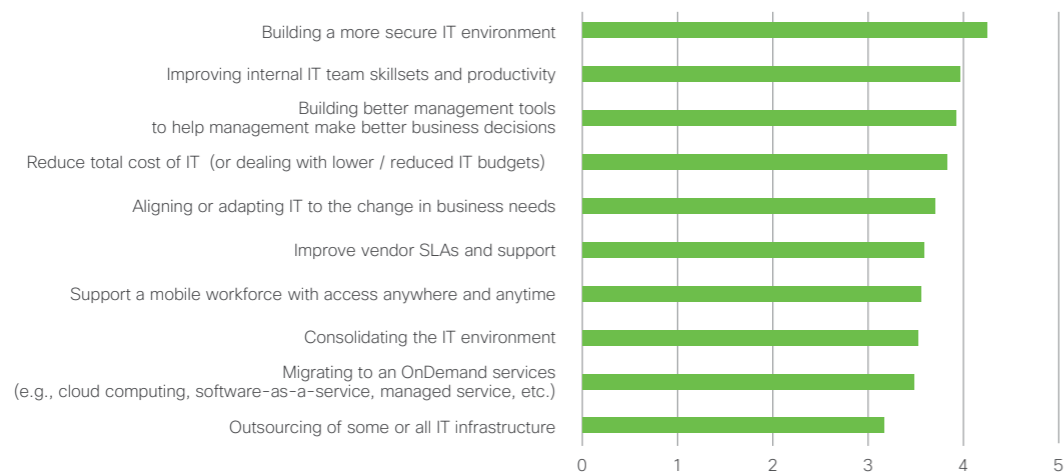
## SMB Insights

When it comes to understanding and anticipating the business needs & IT priorities of SMBs, no one knows it better than Cisco.

We surveyed more than 900 SMB decision makers in 5 countries and discovered the following:


Source: Custom IDC Research on SMBs 2017.

Cost savings / Cost Reduction
Improve product and service offerings
Operational efficiency and productivity gains
Investment in sales & marketing initiatives to acquire new customers
Customer experience initiatives
Cash flow management
Making my business more digital
Market expansion
Investment in innovations / R&D to gain competitive leadership
Talent focus to drive competitive edge

With **93,607** SMB IT Managers across APJ in our marketing database, it matters when Cisco has the answers they are looking for.

Building a more secure IT environment
Improving internal IT team skillsets and productivity
Building better management tools to help management make better business decisions
Reduce total cost of IT (or dealing with lower / reduced IT budgets)
Aligning or adapting IT to the change in business needs
Improve vendor SLAs and support
Support a mobile workforce with access anywhere and anytime
Consolidating the IT environment
Migrating to an OnDemand services (e.g., cloud computing, software-as-a-service, managed service, etc.)
Outsourcing of some or all IT infrastructure

Source: Custom IDC Research on SMBs 2017.

## Why Cisco Start?

- In today's demanding business landscape, SMBs are constantly on the lookout for ways to differentiate and get ahead of the competition via technology.
- We anticipate their needs, guide them through challenges, and help them grow their businesses. When it comes to the business and IT priorities of SMBs, no one knows better than Cisco.
- Get started by selling Cisco Start - enterprise-class technology tailored for SMBs.

# Cisco Start Portfolio Overview

## Security First

## Connect    Collaborate    Compute

## Cloud Managed

Connect    Security First

## Cisco Start Catalog - Asia Pacific
Vol.2 (revision) 2017 August - November

# Index

## What's New

Cisco Start New Product Portfolio

**P04**

Cisco Support Essentials

**P06**

## What's New   Cisco Start New Product Portfolio

This catalog introduces the full lineup of new products designed to deliver enterprise-class network solutions that help steer small and medium-sized companies toward business success.

ⓘ Please contact your authorized Cisco partner, authorized Cisco distributor or Cisco reseller for details on the release date.
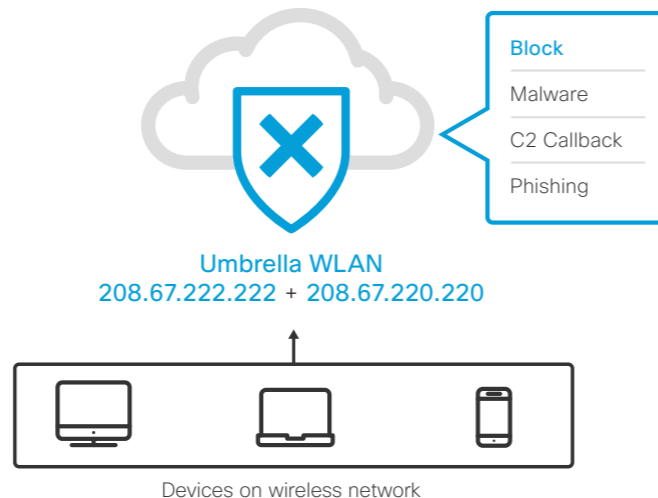
## Security

### The First Line of Defense for Corporate and Guest Wi-Fi

The Cisco Umbrella WLAN provides the first line of defense against threats for Wi-Fi connections. It offers the **simplest, fastest way** to protect every user on your Wi-Fi network.

Cisco Umbrella WLAN is a **cloud-delivered security service** for the Cisco Wireless LAN Controllers, Aruba, Cradlepoint, Aerohive and other access points. You can easily secure your wireless environment and protect any device on your network **in minutes**.

Cisco Umbrella WLAN → P09

Block
Malware
C2 Callback
Phishing

**Umbrella WLAN**
**208.67.222.222 + 208.67.220.220**

Devices on wireless network

### Threat-Focused Next-Generation Firewall

The Cisco Firepower 2100 Series is a family of four threat-focused NGFW security platforms that deliver business resiliency through superior threat defense. It offers exceptional sustained performance when advanced threat functions are enabled. These platforms uniquely incorporate an innovative **dual multicore CPU** architecture that optimizes firewall, cryptographic, and threat inspection functions simultaneously. The series' firewall throughput ranges from **1.9 to 8.5 Gbps**, addressing use cases from the Internet edge to the data center.

Cisco Firepower 2100 Series → P11

## Wireless

### 11ac Wave 2 Access Point with 2.5 Multigigabit Ethernet LAN

The high-performance Cisco WAP581 Wireless-AC Dual Radio Wave 2 Access Point is designed to meet the needs of today's wireless network and to deliver the best user experience. It supports not only the latest **11ac Wave 2** technologies but also **multigigabit Ethernet** for maximum performance.

Cisco WAP581 → P30

### Small but Mighty Outdoor Access Points with 11ac Wave 2 Support

The Cisco Aironet 1540 Series Outdoor Access Points are ideal for applications requiring rugged outdoor Wi-Fi coverage and supports the latest **11ac Wave 2** radio standard. Housed in a compact, aesthetically pleasing, easy-to-deploy package, the 1540 Series offers flexible deployment options for enterprise networks that need the fastest links possible for mobile outdoor clients (smartphones, tablets, and laptops) and wireless backhaul.

Cisco Aironet 1540 Series → P33

## Routers

### Dual Wan Gigabit VPN Router with 11ac Wave 2 Access Point

Today, secure networking is imperative for every small business. The Cisco RV340W Dual WAN Gigabit Wireless-AC VPN Router provides business users with **high-speed Internet access**, Gigabit 11ac Wave 2 WLAN, Internet security, **firewall protection**, and **application policies**, for the ultimate business efficiency.

Cisco RV340W → P42

## Collaboration

### Team Collaboration Innovation in a Box

Bring more intelligence and usability to small and medium video team rooms with the Cisco Spark Room Kit and the Cisco Room Kit Plus. The Room Kit works in rooms for **up to seven** people and Room Kit Plus, in rooms for **up to 14**. Both kits **easily integrate with smart panel displays**, and offer sophisticated camera technologies with speaker-tracking capabilities. Deploy on-premises or in the cloud.

Cisco Spark Room Kit Series → P54

## Servers - Unified Computing

### The Fifth Generation of x86 Servers

Cisco delivers a new generation of servers that extend its unique, unified approach to computing. Built on the new Intel Xeon Scalable processors, the Cisco UCS M5 Rack Servers are ready to take on even more workloads, with up to **double the memory capacity** of previous systems. Cisco lab testing reveals that UCS M5 servers deliver up to **86 % higher performance** over the previous generation of UCS, delivering a significant step forward for data intensive workloads such as real-time analytics and in-memory computing.

Cisco UCS M5 Rack Servers → P56

# Essential Technical Support Designed for Cost-Conscious Businesses

The Cisco Support Essentials Service provides an easy, affordable way to help organizations resolve routine issues that may arise when using covered Cisco products. Designed for cost-conscious businesses that do not have a large IT staff or a large-scale budget, Cisco Support Essentials can enhance operational reliability, reduce total cost of ownership, and help protect the Cisco network investment.

## Elevator Pitch for Customers: What is the Cisco Support Essentials?

With so much depending on your network, even a routine issue can have a major effect on your customers, your employees, and your business profitability. Cisco Support Essentials provides the easy, affordable support you need to help ensure operational reliability, contain costs, and protect your network investment.

Support from Cisco Technical Assistance Center (TAC) Engineers

Next-Business-Day Hardware Replacement

Smart-Entitled Capabilities

**Support Essentials**

Operating System Maintenance Software Releases

Online Access to Tools and Resources

## Who is the Right Customer for Cisco Support Essentials?

Cisco Support Essentials is designed for customers with business networks that utilize basic Cisco routers, switches and wireless access points. Their network is important to their business but not mission critical. They do not need premium support options like 2-hour hardware replacement, onsite support, or around-the-clock TAC access. This service provides non-urgent callback TAC support that is accessible only during normal business hours (8 x 5, Monday through Friday), and next-business-day hardware replacement.

## How Cisco Support Essentials Benefits Customers

● Improves operational reliability of the business network with the technical expertise and responsiveness needed to minimize downtime
● Increases productivity by helping to reduce the effects of a potential network problem and allows IT staff to quickly resolve any issues and focus on the company's core business
● Protects network investment by extending the life of Cisco network solutions
● Provides support above and beyond product warranties
● Reduces costs, since a single uncovered service transaction can cost more than a one-year Cisco Support Essentials contract

## How Should I Address Common Objections?

Why do I need services? Doesn't my warranty cover me?

Your warranty protects against defects in Cisco hardware or software. But if an issue does arise, it will more likely be because of the way the solution has been configured or used and will be outside the scope of the warranty.

I have never had any problems with the equipment.

Any new network application or service could affect your network operability, so it is important to have a plan in case issues do arise. The cost of uncovered service and the harm to your business of a delay resolving an outage can be significant.

I do not have the budget for services.

Cisco Support Essentials is priced specifically for companies that do not have significant resources to devote to network support services. The small annual fee is much lower than the cost of even a single uncovered support event.

I have in-house staff who can handle any network issues.

Is servicing network equipment the best use of your in-house resources? Cisco Support Essentials can help your staff more quickly diagnose and resolve any problem and get back to focusing on your business. If your staff does need to call for help, they will have the support of Cisco experts who have the most up-to-date knowledge about covered products.

I use spares when I need hardware replacement.

Can you adequately determine the number of spares you need? What if something happens to the spare? If the piece of equipment experiencing an issue is not covered by a service contract, you run the risk of costly network downtime by not having the ability to provide a timely resolution to the problem.

## Multiyear Incentives

Cisco offers multiyear discounts for Cisco Support Essentials in most countries. To learn more about the incentives available in your country, check with your local Cisco sales representative. Multiyear contracts:

● Allow customers to take advantage of discount incentives
● Lock in lower prices, providing predictable service costs over the life of the contract
● Reduce contract administration and management burdens for the customer
● Allow the customer to sync service contracts to equipment lease terms

## Part of a Family of Cisco Technical Services

Cisco Support Essentials is part of a broader Cisco Services portfolio. Be sure to consider Cisco Smart Net Total Care (SNTC) as an alternative product support offer if your customer has more critical technical service needs.

If your customer is looking for support for their software products, introduce them to the Cisco Software Support Service (SWSS).

Premium Services such as Cisco Solution Support and Cisco Technical Services (TS) Advantage may also be useful to your customer.

■ Services & Warranty Comparison

| | Equipment Covered | Duration | Hardware Replacement | Cisco OS Updates | TAC Support | Additional Cisco.com Access/Benefits | Smart Entitlement |
|---|---|---|---|---|---|---|---|
| Smart Net Total Care | All[*1] | Renewable Contracts | Advance Replacement: – 24 x 7 x 2-hours – 24 x 7 x 4-hours – 8 x 5 x 4-hours – 8 x 5 x Next Business Day (NBD) – Onsite Options | Minor and Maintenance Releases for Licensed Feature Set[*3] | 24 x 7[*5] | ●[*7] | ● |
| Support Essentials =NEW= | Commercial Focused | Renewable Contracts | 8 x 5 x NBD | Maintenance Releases | 8 x 5 (Callback) | ●[*7] | ●[*5] |
| Warranty | All[*1] | 90 Days[*2] | Advance Replacements (10 Days)[*2] | –[*4] | –[*6] | – | – |

*1 Some equipment exclusions may apply. Consult a service sales representative for more details.
*2 This table refers to Cisco's standard hardware warranty. Additional Cisco warranties are referenced at http://www.cisco.com/go/warranty.
*3 Cisco Unified Computing System (UCS) also includes ongoing downloads of BIOS, drivers, firmware, and Cisco UCS Manager.
*4 Warranty ensures that software media is defect free.
*5 TAC support for portal and collections requires purchase of Smart Assist service.
*6 Hardware fault identification/return materials authorization (RMA) validation only.
*7 Includes access to smart capabilities: Smart Net Total Care portal/collections and optional addition of Smart Call Home on applicable devices.

Secure

Connect

Collaborate

Compute

Meraki

Services

# Secure 🔒

## Security

## Hold Umbrella Security over Your Network at an Affordable Price

Cisco Umbrella is the simplest decision
you can make to improve your company's security

**Umbrella**

Malware
C2 Callbacks
Phishing

**Network and Endpoint**
- ○ NGFW
- ○ Netflow
- ○ Proxy
- ○ Sandbox

AV | AV

**HQ**

**Network and Endpoint**
- ○ Router/UTM

AV | AV

**BRANCH**

**Endpoint**

AV

**ROAMING**

✔ **First Line**
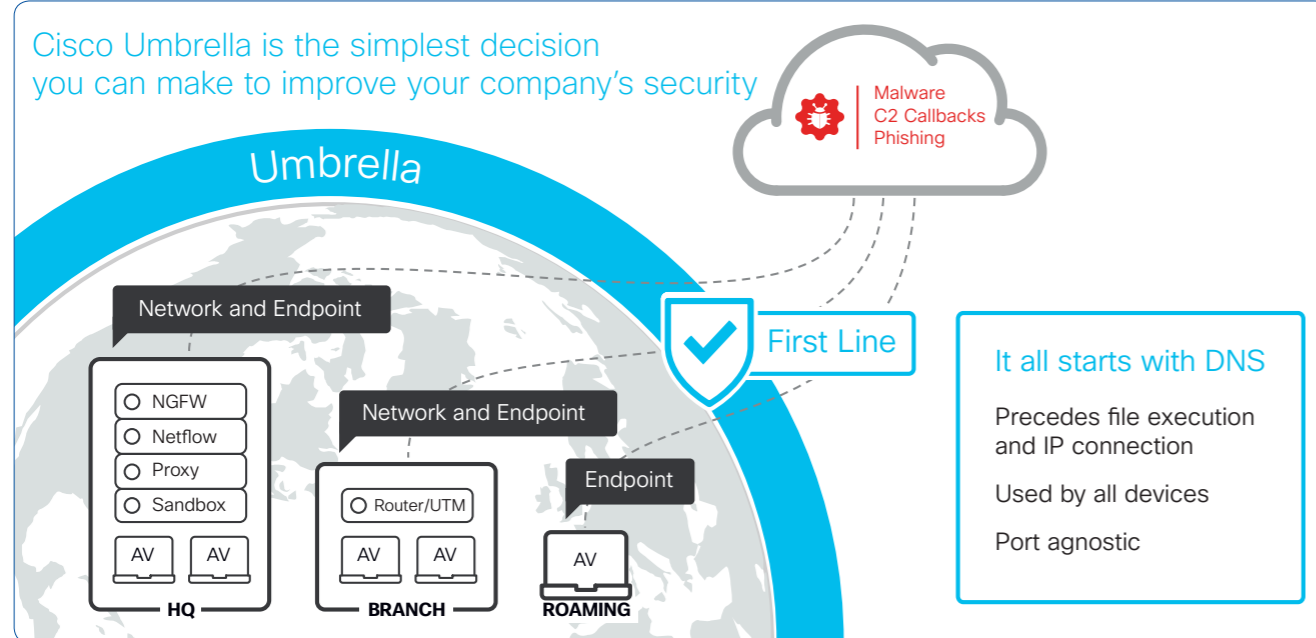
### It all starts with DNS

Precedes file execution
and IP connection

Used by all devices

Port agnostic

### ■ Cisco Umbrella: Security in the DNS-Layer

You have to make some serious security decisions when you're an IT leader. That's because both the volume and sophistication of attacks are intensifying relentlessly — and it's clear that conventional defenses alone are no longer adequate. More effective blocking of attackers is particularly important because under-the-radar attacks are wreaking havoc on enterprises that rely on antivirus products, firewalls, and sandboxing alone.

Plus, no one has an unlimited security budget — so you must act quickly to enhance your digital security without spending excessively or overburdening your staff.

Given these realities, DNS-layer security offers extremely compelling value. With the right combination of internet infrastructure data and predictive intelligence, a DNS-layer solution can quickly identify malicious domains even before those domains and IPs are used to actually launch any type of attack. In fact, DNS-layer security is especially useful as your first line of defense, because DNS requests precede all internet activity.

### ■ 30-Minute Deployment

Implementing the Cisco Umbrella is also far simpler, faster, and less disruptive than any other security solution. Any business that's using the internet is already sending its DNS requests to external servers. It's just not reaping the benefits of the industry's leading DNS-layer security intelligence and domain blocking at the same time. To gain those benefits, all that's required is to point those requests to Umbrella.

The easiest way to hold Umbrella security over your network is:

- Add Umbrella Roaming on Cisco ASA 5500-X with Firepower Services or Cisco AnyConnect Secure Mobility Client
- Add Umbrella Branch on Cisco ISR 4000 Series
- Add Umbrella WLAN on Cisco WLAN
- Add Umbrella Professional on Cisco RV Series, Cisco ISR 800 Series, or any routers or firewalls

## Promotion Price & Trial

| OpenDNS Home | OpenDNS Home VIP | Umbrella 14 Day Trial | Umbrella Professional |
|---|---|---|---|
| **FREE** | **US$ 19.95/year** | **FREE** | **US$ 38/year** |
| Our classic, free service with customizable filtering and identity theft protection | OpenDNS Home package plus one year of usage stats and optional white-list mode | Get start in 30 seconds No credit card or phone call required | Per user (10 to 90 users) Cisco Promotion Price |

### ■ Free Umbrella 14-Day Trial (https://signup.opendns.com/freetrial)

If you want to add an additional layer of DNS security to your router or firewall, try our free trial—you can set it up yourself in less than five minutes, no credit card or phone call required.

### ■ Umbrella Professional: Best for Small Companies(https://umbrella.cisco.com/products/small-teams)

This is Cisco's direct sale promotion price via on-line credit card settlement. Cisco authorized distributors are also offering **even more attractive promotion pricing** for various umbrella packages. Actual purchase price will be determined between purchaser & reseller of your choice.
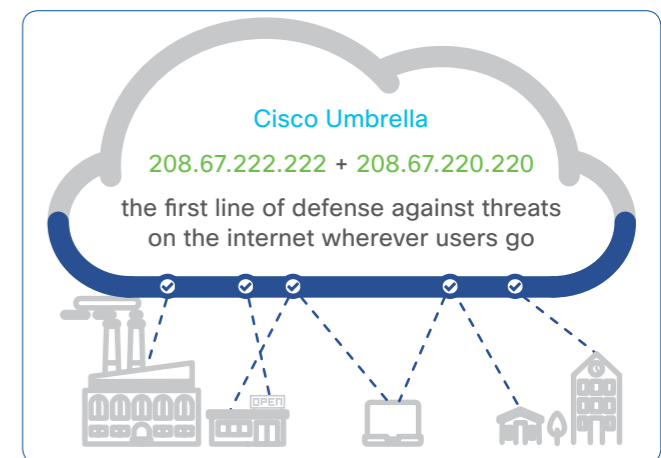
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## Cloud Security

## Cisco Umbrella

The Cisco Umbrella is a cloud security platform that provides the first line of defense against threats on the internet wherever users go. Our global infrastructure handles over 80 billion internet request a day, which our security engine analyzes to learn where attacks are being staged even before the first victim is hit.

- **First Line of Defense against Threats**
  Block malware, phishing, and command & control callbacks over any port or protocol—before threats reach you.
- **Visibility & Protection Everywhere**
  Gain the visibility needed to protect internet access across all devices on your network, all office locations, and roaming users.
- **Integrations to Amplify Existing Investments**
  Integrate with existing tools and feeds to extend protection and enrich your incident response data.

For details on Cisco Umbrella,
watch the following video:

▶ https://youtu.be/FhmGv2Jaerw

**Cisco Umbrella**

208.67.222.222 + 208.67.220.220

the first line of defense against threats
on the internet wherever users go

### ■ Cisco Umbrella Roaming License[*1]

| SKU | Description |
|---|---|
| UMB-ROAM | Umbrella Roaming per User License |

### ■ Cisco Umbrella Branch Licenses for Cisco ISR 4000 Series[*1]

| SKU | Description |
|---|---|
| UMB-BRAN-4221 NEW | Umbrella Branch License for Cisco ISR 4321 |
| UMB-BRAN-4321 | Umbrella Branch License for Cisco ISR 4321 |
| UMB-BRAN-4331 | Umbrella Branch License for Cisco ISR 4331 |
| UMB-BRAN-4351 | Umbrella Branch License for Cisco ISR 4351 |
| UMB-BRAN-4431 | Umbrella Branch License for Cisco ISR 4431 |
| UMB-BRAN-4451 | Umbrella Branch License for Cisco ISR 4451 |

### ■ Cisco Umbrella WLAN License[*1] NEW

| SKU | Description |
|---|---|
| UMB-WLAN | Umbrella Roaming per Access Point License |

### ■ Cisco Umbrella Professional License[*1]

| SKU | Description |
|---|---|
| UMB-PROFESSIONAL | Umbrella Professional per User License |

### ■ Cisco Umbrella Insights License[*1]

| SKU | Description |
|---|---|
| UMB-INSIGHTS-K9 | Umbrella Insights per User License |

### ■ Cisco Umbrella Platform License[*1]

| SKU | Description |
|---|---|
| UMB-PLATFORM-K9 | Umbrella Platform per User License |

### ■ Cisco Umbrella Package Comparison

| Package | | Roaming | Branch | WLAN NEW | Professional | Insights | Platform |
|---|---|---|---|---|---|---|---|
| **Best for** | | Cisco NGFW/ AnyConnect | Cisco ISR 4000 Series | Cisco WLAN or Other Wireless Hotspots | Small Companies | Mid-sized Companies | Advanced Security Teams |
| **Performance** | 100 % Cloud — No Hardware to Install or Software to Maintain | ● | ● | ● | ● | ● | ● |
| | 100 % Uptime — Resolves 80 B+ Requests Daily with No Added Latency | ● | ● | ● | ● | ● | ● |
| | 7 M+ Unique Malicious Destinations Enforced Concurrently across 25 Data Centers | ● | ● | ● | ● | ● | ● |
| **Protection** | Add a New Layer of Predictive Security for Any Device, Anywhere | ●[*2] | ●[*4] | ●[*4] | ● | ● | ● |
| | Prevent Malware, Phishing, and C2 Callbacks over Any Port | ● | ● | ● | ● | ● | ● |
| | Enforce Acceptable Use Policies Using 60 Content Categories | – | ● | ● | ● | ● | ● |
| **Enforcement** | Block Malicious Domain Requests & IP Responses at the DNS-Layer | ● | ● | ● | ● | ● | ● |
| | Block Malicious URL Paths & Direct IP Connections at the IP-Layer | – | – | – | – | ● | ● |
| **Visibility** | Real-Time, Enterprise-Wide Activity Search & Scheduled Reports | ● | ● | ● | ● | ● | ● |
| | Identify Targeted Attacks by Comparing Local vs. Global Activity | – | – | – | – | ● | ● |
| | Identify Cloud & IoT Usage Risks by Reporting on 1800+ Services | – | – | – | – | ● | ● |
| **Management** | Custom Block/Allow Lists, Built-in Block Pages, and Bypass Options | ●[*3] | ● | ● | ● | ● | ● |
| | Enforcement & Visibility per Internal Network or AD User/Group | – | ●[*5] | ●[*6] | – | ● | ● |
| | Retain Logs Forever by Integrating with Your Amazon S3 Bucket | – | – | – | – | ● | ● |
| **Platform Package Exclusive** | API-based Integrations to Enforce & Manage 3rd-party Block Lists | – | – | – | – | – | ● |
| | Investigate Console — Threat Intelligence on All Domains, IPs, & File Hashes | – | – | – | – | – | ● |

*1  UMBRELLA-SUB is required.   *2  Off-network only.   *3  Only has allow list and 1 built-in block page.   *4  On-network only.   *5  Only per internal network (no Active Directory).
*6  Per SSID, access point, AP group, and user group (no Active Directory).

Secure
Connect
Collaborate
Compute
Meraki
Services

# Next-Generation Firewalls

## Cisco ASA 5500-X Series

Cisco ASA 5506-X
Cisco ASA 5508-X
Cisco ASA 5516-X
Cisco ASA 5525-X
Cisco ASA 5545-X
Cisco ASA 5555-X
Cisco ASA 5585-X

| Firewall Throughput | → High |
|---|---|
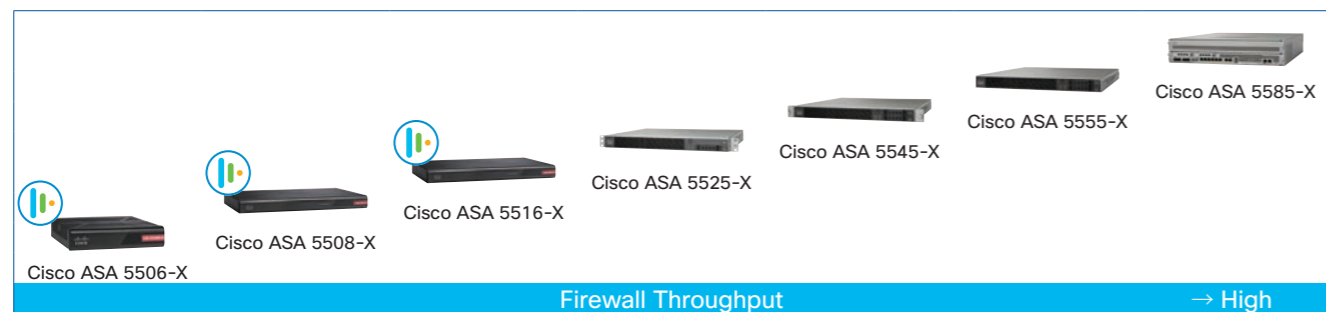
The **Cisco ASA 5500-X Series** brings distinctive threat-focused next-generation security services to the Cisco ASA Firewalls. It provides comprehensive protection from known and advanced threats, including protection against targeted and persistent malware attacks. Cisco ASA is the world's most widely deployed, enterprise-class stateful firewall. Cisco ASA 5500-X Series features these comprehensive capabilities:

- **Site-to-site and remote access VPN** and advanced clustering provide highly secure, high-performance access and high availability to help ensure business continuity.
- Granular **Application Visibility and Control (AVC)** supports more than 3,000 application-layer and risk-based controls that can launch tailored intrusion prevention system (IPS) threat detection policies to optimize security effectiveness.

- The industry-leading **Cisco Firepower Next-Generation IPS (NGIPS)** provides highly effective threat prevention and full contextual awareness of users, infrastructure, applications, and content to detect multivector threats and automate defense response.
- **Cisco Advanced Malware Protection (AMP)** provides industry-leading breach detection effectiveness, sandboxing, a low total cost of ownership, and superior protection value that helps you discover, understand, and stop malware and emerging threats missed by other security layers.
- Reputation- and category-based **URL Filtering** offer comprehensive alerting and control over suspicious web traffic and enforce policies on hundreds of millions of URLs in more than 80 categories.

For details on Cisco ASA 5500-X Series,
visit the following Web site:

**WEB** http://www.cisco.com/go/asa

### ■ Cisco ASA 5500-X Series

| SKU | | | | | | AVC Sessions | | VPN Peers | Ports | | Power Supply | Rack mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FTD Models (Shipped with FTD Image) | ASA Models (Shipped with ASA Image) | FW AVC | FW AVC IPS | VPN | Concurrent Sessions | New Connections per Second | | | GE | SFP | | |
| ASA5506-FTD-K9 | ASA5506-K9 | 250 Mbps | 125 Mbps | 100 Mbps | 20,000 | 3,000 | 50 | 8 | – | 1 AC | 1 RU |
| ASA5506W-x-FTD-K9 | ASA5506W-x-K9 | 250 Mbps | 125 Mbps | 100 Mbps | 20,000 | 3,000 | 50 | 8 | – | 1 AC | 1 RU |
| ASA5506H-FTD-K9 | ASA5506H-SP-BUN-K9 | 250 Mbps | 125 Mbps | 100 Mbps | 20,000 | 3,000 | 50 | 4 | – | 1 AC | 1 RU |
| ASA5508-FTD-K9 | ASA5508-K9 | 450 Mbps | 250 Mbps | 175 Mbps | 100,000 | 7,000 | 100 | 8 | – | 1 AC | 1 RU |
| ASA5516-FTD-K9 | ASA5516-FPWR-K9 | 850 Mbps | 450 Mbps | 250 Mbps | 250,000 | 8,000 | 300 | 8 | – | 1 AC | 1 RU |

### ■ Cisco Firepower NGIPS & AMP & URL License for FTD Models[*1]

| SKU | | | Compatible FTD Models |
|---|---|---|---|
| 1-Year | 3-Year | 5-Year | |
| L-ASA5506-TMC-1Y | L-ASA5506-TMC-3Y | L-ASA5506-TMC-5Y | ASA 5506 |
| L-ASA5506W-TMC-1Y | L-ASA5506W-TMC-3Y | L-ASA5506W-TMC-5Y | ASA 5506W |
| L-ASA5506H-TMC-1Y | L-ASA5506H-TMC-3Y | L-ASA5506H-TMC-5Y | ASA 5506H |
| L-ASA5508-TMC-1Y | L-ASA5508-TMC-3Y | L-ASA5508-TMC-5Y | ASA 5508 |
| L-ASA5516-TMC-1Y | L-ASA5516-TMC-3Y | L-ASA5516-TMC-5Y | ASA 5516 |

### ■ Cisco Firepower NGIPS & AMP & URL License for ASA Models[*2]

| SKU | | | Compatible ASA Models |
|---|---|---|---|
| 1-Year | 3-Year | 5-Year | |
| L-ASA5506-TAMC-1Y | L-ASA5506-TAMC-3Y | L-ASA5506-TAMC-5Y | ASA 5506 |
| L-ASA5506W-TAMC-1Y | L-ASA5506W-TAMC-3Y | L-ASA5506W-TAMC-5Y | ASA 5506W |
| L-ASA5506H-TAMC-1Y | L-ASA5506H-TAMC-3Y | L-ASA5506H-TAMC-5Y | ASA 5506H |
| L-ASA5508-TAMC-1Y | L-ASA5508-TAMC-3Y | L-ASA5508-TAMC-5Y | ASA 5508 |
| L-ASA5516-TAMC-1Y | L-ASA5516-TAMC-3Y | L-ASA5516-TAMC-5Y | ASA 5516 |

*1 L-ASAxxxx-TMC= is required (The "xxxx" corresponds to the supported models).  *2 L-ASAxxxx-TAMC= is required (The "xxxx" corresponds to the supported models).

## Why Cisco Next-Generation Firewalls?

Most Next-Generation Firewalls (NGFWs) reduce risk by providing access control over applications and users. But they don't eliminate threats because attackers can still exploit open web connections and approved applications. For superior protection, an NGFW must be able to provide deep visibility into and across the network, apply intelligent automation to identify threats, adapt protections to a dynamic network environment, and quickly scope and recover from attacks to minimize damage. The **Cisco ASA 5500-X Series** and the **Cisco Firepower 2100 Series** deliver all of those capabilities, so upgrade to Cisco's newest NGFW today and protect your high-value digital assets.

For details on Cisco Next-Generation Firewalls,
watch the following video:

https://video.cisco.com/detail/videos/security/video/4763035492001/cisco-next-generation-firewall-demo

### ■ Deep Visibility Powered by Cisco Talos: Global Security Intelligence

**1.5 MILLION** Daily Malware Samples

**600 BILLION** Daily Email Messages

**100 TB** Daily Data Received

**16 BILLION** Daily Web Requests

Total **25 BILLION** Threats Blocked

**250+** Full Time Threat Intelligence Researchers

**MILLIONS** of Telemetry Agents

**4** Global Data Centers

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## Cisco Firepower 2100 Series  NEW

Cisco Firepower 2110
Cisco Firepower 2120
Cisco Firepower 2130
Cisco Firepower 2140
Cisco Firepower 4100 Series
Cisco Firepower 9300

| Firewall Throughput | → High |
|---|---|

The **Cisco Firepower 2100 Series** is the industry's first fully integrated, threat-focused next-generation firewall with unified management. It includes **Application Visibility and Control (AVC)**, optional **Firepower Next-Generation IPS (NGIPS)**, **Cisco Advanced Malware Protection (AMP)**, and **URL Filtering**. Cisco Firepower 2100 Series provides advanced threat protection before, during, and after attacks.

- **Stop more threats**: Contain known and unknown malware with leading Cisco AMP and sandboxing.
- **Gain more insight**: Gain superior visibility into your environment with Cisco Firepower NGIPS. Automated risk rankings and impact flags identify priorities for your team.
- **Detect earlier, act faster**: The Cisco Annual Security Report identifies a 100-day median time from infection to detection, across enterprises. Cisco reduces this time to less than a day.

- **Reduce complexity**: Get unified management and automated threat correlation across tightly integrated security functions, including application firewalling, NGIPS, and AMP.
- **Get more from your network**: Enhance security, and take advantage of your existing investments, with optional integration of other Cisco and third-party networking and security solutions.

For details on Cisco Firepower 2100 Series,
visit the following Web site:

**WEB** http://www.cisco.com/go/ngfw

### ■ Cisco Firepower 2100 Series

| SKU | | | | | | AVC Sessions | | VPN Peers | Ports | | Power Supply | Rack mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FTD Models (Shipped with FTD Image) | ASA Models (Shipped with ASA Image) | FW AVC | FW AVC IPS | VPN | Concurrent Sessions | New Connections per Second | | | GE | SFP | | |
| FPR2110-NGFW-K9 | FPR2110-ASA-K9 | 2 Gbps | 2 Gbps | 250 Mbps | 1,000,000 | 12,000 | 1,500 | 12 | 4 | 1 AC | 1 RU |

### ■ Cisco Firepower NGIPS & AMP & URL License[*1]

| SKU | | | Compatible Models |
|---|---|---|---|
| 1-Year | 3-Year | 5-Year | |
| L-FPR2110T-TMC-1Y | L-FPR2110T-TMC-3Y | L-FPR2110T-TMC-5Y | Firepower 2110 |

*1  L-FPRxxxx-TMC= is required (The "xxxx" corresponds to the supported models).

## Cisco Firepower License Comparison

| Licenses | Characters Included in SKU | NGIPS | AMP | URL |
|---|---|---|---|---|
| NGIPS License | T or TA | ● | – | – |
| AMP License | AMP | – | ● | – |
| URL License | URL | – | – | ● |
| NGIPS & AMP License | TM or TAM | ● | ● | – |
| NGIPS & URL License | TC or TAC | ● | – | ● |
| NGIPS & AMP & URL License | TMC or TAMC | ● | ● | ● |

## Cisco ASA Transition Guide

| Legacy Models | FW + AVC | FW + AVC + IPS | Current Models | FW + AVC | FW + AVC + IPS |
|---|---|---|---|---|---|
| ASA 5505 | – | – | ASA 5506-X | 250 Mbps | 125 Mbps |
| ASA 5510 | – | – | ASA 5508-X | 450 Mbps | 250 Mbps |
| ASA 5512 | 300 Mbps | 150 Mbps | ASA 5516-X | 850 Mbps | 450 Mbps |
| ASA 5515-X | 500 Mbps | 250 Mbps | ASA 5516-X | 850 Mbps | 450 Mbps |
| ASA 5520 | – | – | Firepower 2110 | 2 Gbps | 2 Gbps |
| ASA 5540 | – | – | Firepower 2110 | 2 Gbps | 2 Gbps |
| ASA 5550 | – | – | Firepower 2110 | 2 Gbps | 2 Gbps |

# Endpoint Security

## Cisco AnyConnect Secure Mobility Client



Basic VPN · Advanced VPN · Endpoint Compliance · Inspection Services · Enterprise Access · Threat Protection · Network Visibility · CCNS Plugin

**Cisco AnyConnect**
Integration with Other Cisco Solutions

Adaptive Security Appliance (ASA) · Integrated Services Router (ISR) · Aggregation and Cloud Services Routers (ASR/CSR) · Identity Services Engine (ISE) · Cloud Web Security Services (CWS + WSA) · Switches and Wireless Controllers · NetFlow Collectors · Umbrella Services · Advanced Malware Protection

The Cisco AnyConnect Secure Mobility Client is a unified agent with remote access functionality, posture enforcement, web security features, and off-network security protection. It gives your IT department all the secure-access features necessary to provide a robust, user-friendly, and highly secure mobile experience.

The industry-leading Cisco AnyConnect Secure Mobility Client is a multifaceted endpoint software product. That means it not only provides VPN access through Secure Sockets Layer (SSL) and IPsec IKEv2 but also offers enhanced security through various built-in modules. These modules provide services that include compliance through the VPN and Cisco Identity Services Engine (ISE) posture along with web security, network visibility, off-network protection, and the Cisco Network Access Manager.

Cisco AnyConnect Secure Mobility Client is available across a broad set of platforms, including Windows, Mac OS X, Linux, iOS, Android, Windows Phone, BlackBerry, and Google Chrome.

For details on Cisco AnyConnect Secure Mobility Client, watch the following video:

▶ https://youtu.be/ExUROd-aosQ

### ■ Cisco AnyConnect License Comparison

| | Plus | Apex |
|---|---|---|
| Device or System VPN (Including Cisco Phone VPN) | ● | ● |
| Third-Party IPsec IKEv2 Remote Access VPN Clients (Non-AnyConnect Client) | ● | ● |
| Per-Application VPN | ● | ● |
| Cloud Web Security and Web Security Appliance | ● | ● |
| Cisco Umbrella Roaming[*1] | ● | ● |
| Network Access Manager | ● | ● |
| AMP for Endpoints Enabler[*2] | ● | ● |
| Network Visibility Module | – | ● |
| Unified Endpoint Compliance and Remediation (Posture)[*3] | – | ● |
| Suite B or Next-Generation Encryption (Including Third-Party IPsec IKEv2 Remote VPN Clients) | – | ● |
| Clientless (Browser-based) VPN Connectivity | – | ● |
| ASA Multicontext-mode Remote Access | – | ● |

### ■ Cisco AnyConnect Plus License (1 of 2)[*4]

| SKU | | | User Range |
|---|---|---|---|
| 1-Year[*5] | 3-Year[*5] | 5-Year[*5] | |
| L-AC-PLS-1Y-S1 | L-AC-PLS-3Y-S1 | L-AC-PLS-5Y-S1 | 25 to 99 |
| L-AC-PLS-1Y-S2 | L-AC-PLS-3Y-S2 | L-AC-PLS-5Y-S2 | 100 to 249 |
| L-AC-PLS-1Y-S3 | L-AC-PLS-3Y-S3 | L-AC-PLS-5Y-S3 | 250 to 499 |

### ■ Cisco AnyConnect Apex License[*4]

| SKU | | | User Range |
|---|---|---|---|
| 1-Year[*7] | 3-Year[*7] | 5-Year[*7] | |
| L-AC-APX-1Y-S1 | L-AC-APX-3Y-S1 | L-AC-APX-5Y-S1 | 25 to 99 |
| L-AC-APX-1Y-S2 | L-AC-APX-3Y-S2 | L-AC-APX -5Y-S2 | 100 to 249 |
| L-AC-APX-1Y-S3 | L-AC-APX-3Y-S3 | L-AC-APX -5Y-S3 | 250 to 499 |

### ■ Cisco AnyConnect Plus License (2 of 2)[*4]

| SKU | Users |
|---|---|
| Perpetual[*6] | |
| AC-PLS-P-25-S | 25 |
| AC-PLS-P-50-S | 50 |
| AC-PLS-P-100-S | 100 |
| AC-PLS-P-250-S | 250 |
| AC-PLS-P-500-S | 500 |

### ■ Cisco AnyConnect VPN Only License[*4]

| SKU | Simultaneous Connections |
|---|---|
| Perpetual | |
| L-AC-VPNO-25= | 25 |
| L-AC-VPNO-50= | 50 |
| L-AC-VPNO-100= | 100 |
| L-AC-VPNO-250= | 250 |
| L-AC-VPNO-500= | 500 |

*1 Cisco Umbrella Roaming License is required.　*2 Cisco AMP for Endpoints License is required.　*3 Cisco ISE Apex License is required.
*4 Refer to the Ordering Guide for a full list of orderable SKUs supporting over 500 users.　*5 L-AC-PLS-LIC= is required.　*6 L-AC-PLS-P-G is required.　*7 L-AC-APX-LIC= is required.

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# Cisco Advanced Malware Protection (AMP) for Endpoints

## AMP Everwhere



Find the best AMP deployment for you:
Advanced Malware Protection is subscription-based, managed through a web-based management console, and deployed on a variety of platforms.
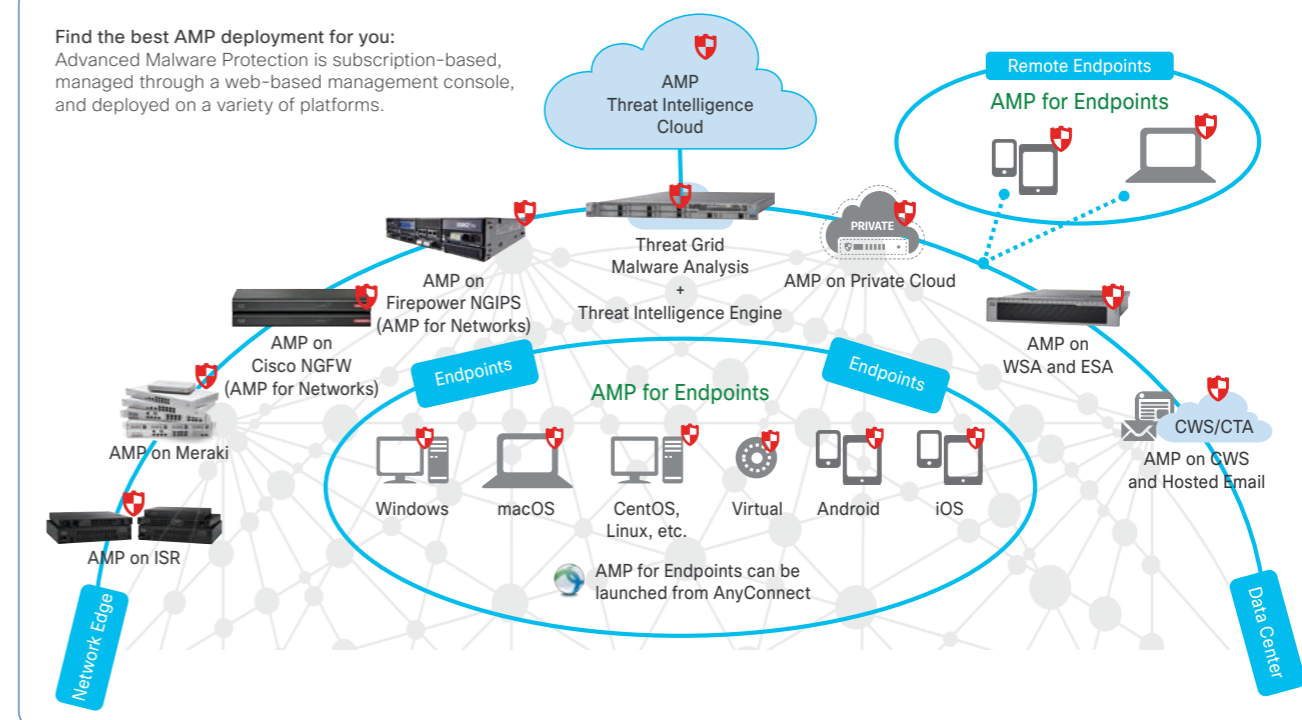
## Cisco AMP for Endpoints

### ■ Next-Generation Endpoint Security

The Cisco AMP for Endpoints is a cloud-managed endpoint security solution that provides the visibility, context, and control to not only prevent breaches, but also rapidly detect, contain, and remediate threats if they evade front-line defenses and get inside, all cost-effectively and without affecting operational efficiency.

● **Prevent**: Strengthen defenses using the best global threat intelligence and block malware in real time.
● **Monitor and Detect**: Continuously monitor and record all file activity to quickly detect stealthy malware.
● **Respond**: Accelerate investigations and automatically remediate malware across PCs, Macs, Linux systems, servers, and mobile devices (Android and iOS).

Cisco AMP for Endpoints is managed through an easy-to-use, web-based console. It is deployed through AMP's lightweight endpoint connector, with minimal performance impact on users. Analysis is done in the cloud, not on the endpoint.

The solution is offered as a subscription on endpoints, including coverage for Windows, Macs, Linux, and Android mobile devices.

If your organization has high privacy requirements that restrict using a public cloud, the Cisco AMP Private Cloud Virtual Appliance is an on-premises, air-gapped option. Each private cloud instance supports up to 10,000 connectors, and multiple Private Cloud Virtual Appliances can be added to the environment.



Actionable and Contextual Dashboards · Deep Analysis with Device Trajectory

Analysis is Done in the Cloud

Broad Endpoint Coverage: Lightweight AMP for Endpoints Connectors

PC · Mac · Linux · Android · iOS

### ■ Cisco AMP for Endpoints Connector License[*1]

| SKU | | | Connectors Range |
|---|---|---|---|
| 1-Year | 3-Year | 5-Year | |
| FP-AMP-1Y-S1 | FP-AMP-3Y-S1 | FP-AMP-5Y-S1 | 50 to 99 |
| FP-AMP-1Y-S2 | FP-AMP-3Y-S2 | FP-AMP-5Y-S2 | 100 to 499 |
| FP-AMP-1Y-S3 | FP-AMP-3Y-S3 | FP-AMP-5Y-S3 | 500 to 999 |
| FP-AMP-1Y-S4 | FP-AMP-3Y-S4 | FP-AMP-5Y-S4 | 1,000 to 4,999 |
| FP-AMP-1Y-S5 | FP-AMP-3Y-S5 | FP-AMP-5Y-S5 | 5,000 to 9,999 |
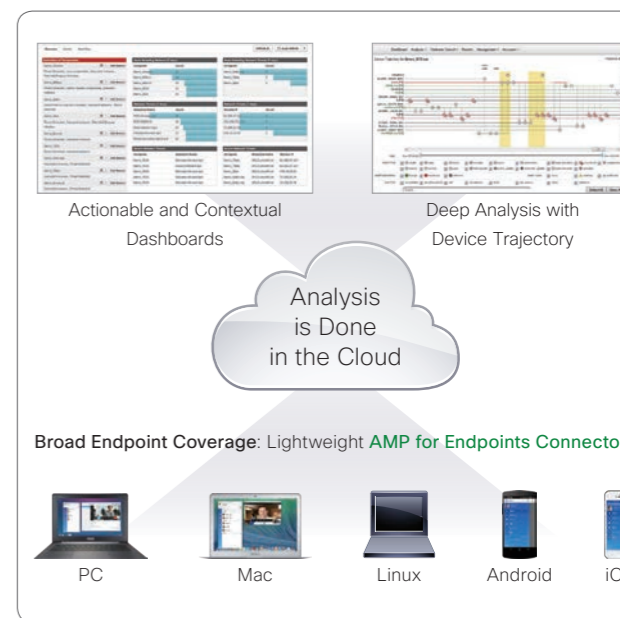
For details on Cisco AMP for Endpoints, watch the following video:

▶ https://youtu.be/mzw_x35o03w

### ■ Cisco AMP Virtual Private Cloud Appliance[*2]

| SKU | Max Connectors |
|---|---|
| FP-AMP-CLOUD-SW | 10,000 |

*1 FP-AMP-LIC= is required. Refer to the Ordering Guide for a full list of orderable SKUs supporting over 10,000 connectors.
*2 FP-AMP-CLOUD-BUN and Cisco AMP for Endpoints Connector License are required.

Secure

Connect

Collaborate

Compute

Meraki

Services

# Connect

## Switches

## Positioning Map of Cisco Switches



| | | | | |
|---|---|---|---|---|
| Modular Core | | | Catalyst 6500/6800 | Nexus 7000 |
| Fixed Core | | Catalyst 3850 Fiber | Catalyst 4500-X | —NEW— Catalyst 9500 |
| DNA Access | | Catalyst 3850 | Catalyst 4500E | —NEW— Catalyst 9400 |
| | | Catalyst 3650 | | —NEW— Catalyst 9300 |
| Access | | Catalyst 2960-Plus | Catalyst 2960-X | |
| Access/ Compact | | 95 - 500 Series | Catalyst 2960-L | |
| Compact | | Catalyst 2960-CX | Catalyst 3560-CX | |

**Performance & Scalability** → **High**
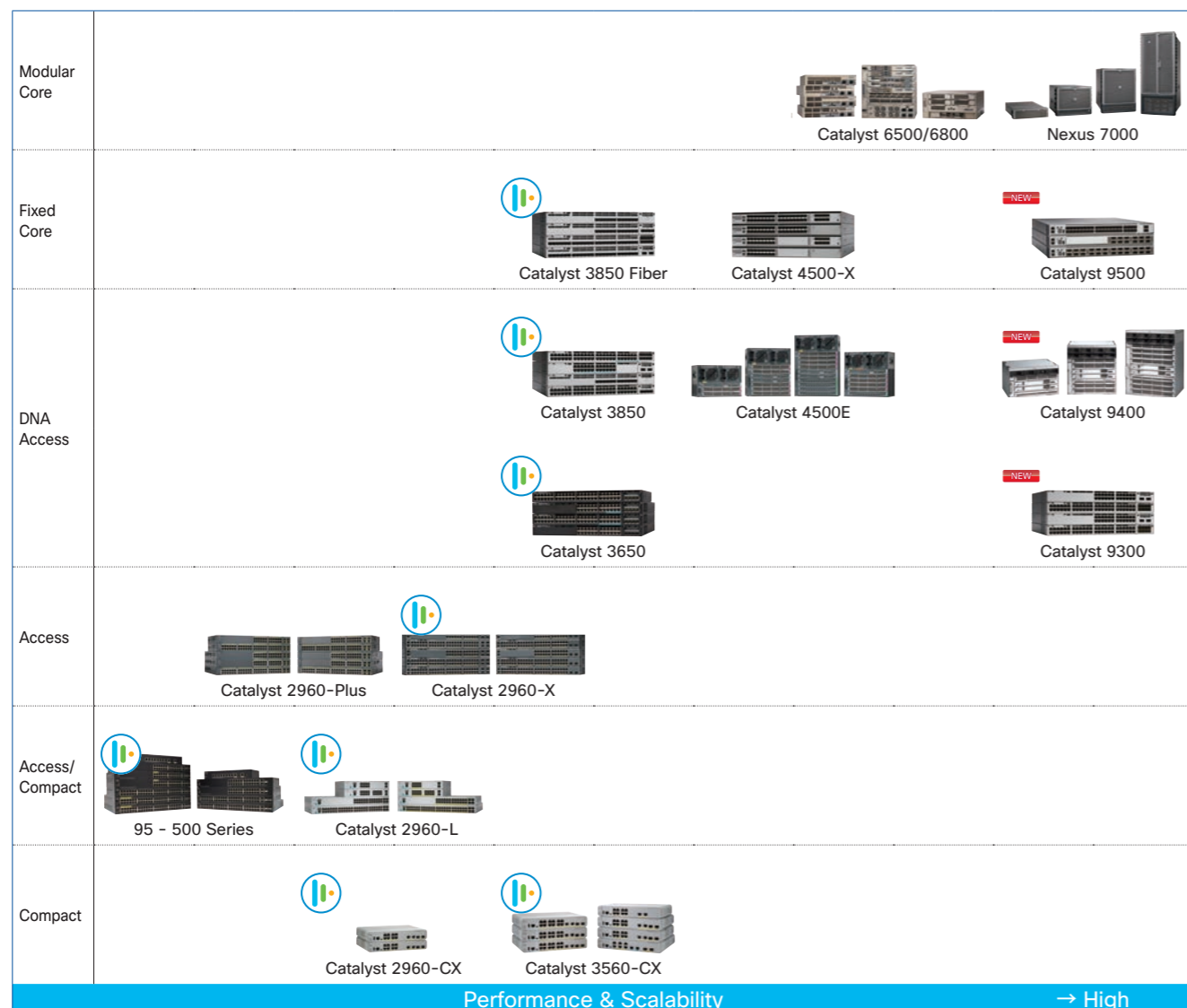
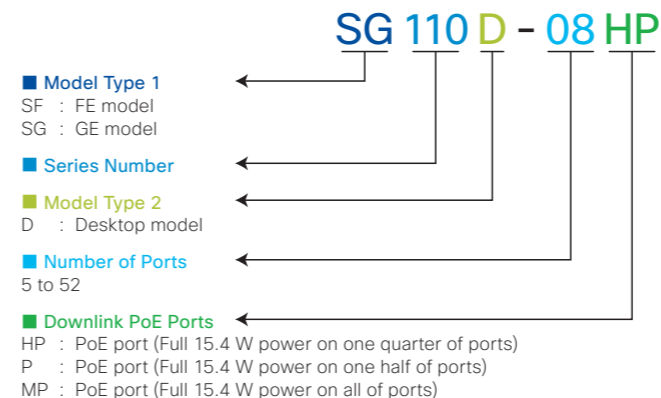| | | |
|---|---|---|
| Cisco 95 - 500 Series | Layer 2/3 compact and standalone switches suitable for the small-sized network. Provide an ideal combination of features and affordability for growing businesses. | → P16 |
| Cisco Catalyst 2960-L Series | Layer 2 standalone switches suitable for deployment in the access layer. GE is supported on all downlink ports. | → P19 |
| Cisco Catalyst 2960-CX Series | Layer 2 compact switches suitable for deployment in the access layer. Deliver basic network services even outside the wiring closet. | → P21 |
| Cisco Catalyst 3560-CX Series | Layer 3 compact and standalone switches suitable for deployment in the access layer. Deliver advanced network services even outside the wiring closet. | → P21 |
| Cisco Catalyst 2960-X Series | Layer 2/3 stackable switches suitable for deployment in the access layer. GE is supported on all downlink ports. | → P22 |
| Cisco Catalyst 3650 Series | Layer 2/3 stackable switches suitable for deployment in the access or core layer. Provide capabilities that ideally suited to support the convergence of wired and wireless access. | → P23 |
| Cisco Catalyst 3850 Series | Layer 2/3 stackable switches suitable for deployment in the access or core layer. Provide capabilities that ideally suited to support the convergence of wired and wireless access. | → P25 |

## How to Distinguish Specifications from SKU of Cisco Switches

The SKU of each Cisco Switch contains a broad description of the product's specification.

### Cisco 95/110/250/350/350X/550X Series

**SG 110 D - 08 HP**

■ **Model Type 1**
SF : FE model
SG : GE model

■ **Series Number**

■ **Model Type 2**
D : Desktop model

■ **Number of Ports**
5 to 52

■ **Downlink PoE Ports**
HP : PoE port (Full 15.4 W power on one quarter of ports)
P : PoE port (Full 15.4 W power on one half of ports)
MP : PoE port (Full 15.4 W power on all of ports)

### Cisco 350XG/550XG Series

**SG 350 XG - 24 T**

■ **Series Number**

■ **Model Type**
XG : 10 GE model

■ **Number of Ports**
12 to 48

■ **Type of Ports**
T : 10GB-T port
F : SFP/SFP+ module slot
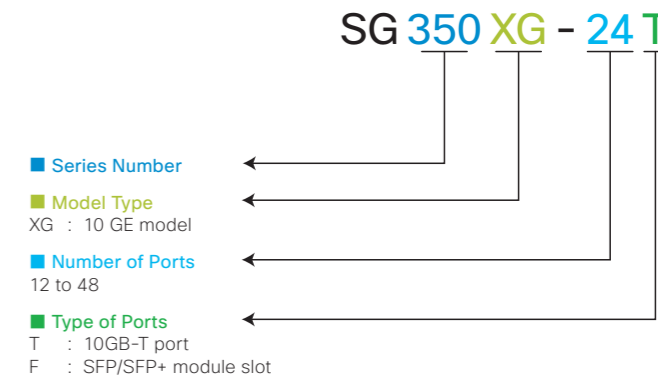
### Cisco Catalyst 2960-L/CX/X Series

**WS-C 2960 X - 24 P D - L**

■ **Series Number**

■ **Model Type**
L : GE model
CX : Compact model
X : Stackable GE model[*1 *2]
XR : Stackable GE model with power supply redundancy support

■ **Number of Ports**
8, 16, 24, or 48

■ **Downlink Ports**
T : Data-only port
L : PoE port (Full 15.4 W power on 8 ports)
P : PoE port (Full 15.4 W power on 24 ports) [*3]
LP : PoE port (Full 15.4 W power on 24 ports)
FP : PoE port (Full 15.4 W power on 48 ports)

■ **Uplink Ports**
T : GE port
Q : GE port
C : GE/SFP port
S : SFP module slot
D : SFP/SFP+ module slot

■ **Cisco IOS**
LL : LAN Lite
AP : LAN Lite
S : LAN Lite
L : LAN Base
I : IP Lite

### Cisco Catalyst 3560-CX/3650/3850 Series

**WS-C 3650 - 24 P D - S**

■ **Series Number**

■ **Number of Ports**
8, 12, 24, or 48

■ **Downlink Ports**
T : Data-only port
P : PoE port (Full 15.4 W power on 24 ports) [*4]
F : PoE port (Full 15.4 W power on 48 ports)
U : UPOE port
S : SFP module slot
X : mGig port or SFP/SFP+ module slot

■ **Uplink Ports**[*5]
T : GE port
C : GE/SFP port
S : SFP module slot
D : SFP/SFP+ module slot
Q : SFP/SFP+ module slot
R : SFP/SFP+ module slot
Z : QSFP+ module slot

■ **Cisco IOS**
L : LAN Base
S : IP Base
E : IP Services

*1 The LAN Lite model does not support stacking.  *2 WS-C2960X-24PSQ-L does not support stacking.  *3 Compact switches support full 15.4 W power on 8 ports.
*4 Compact switches support full 15.4 W power on 8 or 12 ports.  *5 The Network Module is required for the Cisco Catalyst 3850 Series (Except for 48-port fiber model).

## Ports

The Cisco Switches support the following interface ports:

● Fast Ethernet port (**FE**)
● Gigabit Ethernet port (**GE**)
● Multigigabit Ethernet port (**mGig**)
● SFP module slot (**SFP**)
● Dual-Purpose port (**GE/SFP**)
● 10GBASE-T port (**10GB-T**)
● SFP+ module slot (**SFP/SFP+**)
● QSFP+ module slot (**QSFP**)

The bracketed notations are abbreviations used in the specification comparison tables in this catalog. A dual-purpose port is an interface combining a Gigabit Ethernet port with an SFP module slot and is notated as GE/SFP (Either one can be activated independently). Similarly, SFP+ module slots are notated as SFP/SFP+ due to their compatibility with SFP. SFP/SFP+ modules can be mounted to QSFP+ module slots using an appropriate converter.

In most cases, the supported port interfaces and number of ports of each product can be determined from their SKU.

# Cisco 95 - 500 Series

- **Cisco 95/110 Series Unmanaged Switches**
  Get highly affordable Gigabit, Fast Ethernet, and PoE. No setup is required for QoS, network diagnostics, power-saving mode, and loop detection.
- **Cisco 220 Series Smart Plus Switches**
  Get the powerful features, security, and performance of a managed switch with the affordability that's closer to smart switches.
- **Cisco 250 Series Smart Switches**
  Entry-level managed switch features and easy management at a great price. Build a business-class network with the features you need.
- **Cisco 350 Series Managed Switches**
  The ideal combination of affordability and advanced network features for small business, these easy to use fully managed switches are the cornerstone of your network.
- **Cisco 350X Series Stackable Managed Switches**
  Our managed switches deliver an ideal combination of affordability and advanced features with 10-Gigabit Ethernet and stacking.
- **Cisco 550X Series Stackable Managed Switches**
  These next-generation stackable managed switches offer 10-Gigabit Ethernet and advanced capabilities to accelerate your business growth.

| 95/110 Series Unmanaged Switches | 220 Series Smart Plus Switches / 250 Series Smart Switches | 350 Series Managed Switches | 350X Series Stackable Managed Switches | 550X Series Stackable Managed Switches |

**Function, Flexibility, Scalability** → More

*\* Cisco 200/300/500 Series are still for sale and not officially end of life.*

*(Note: In the tables below, columns FE–10GB-T/SFP+ belong to the "Ports" group; columns "Ports (PoE)"–"Pass through" belong to the "PoE" group.)*

### ■ Cisco 95 Series Unmanaged Switches

| New Model Name | Legacy Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF95D-05 | SF90D-05 | SF95D-05-xx | 5 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF95D-08 | SF90D-08 | SF95D-08-xx | 8 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF95D-16 | SF90D-16 | SF95D-16-xx | 16 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF95-24 | SF90-24 | SF95-24-xx | 24 | - | - | - | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG95D-05 | SG90D-05 | SG95D-05-xx | - | 5 | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SG95D-08 | SG90D-08 | SG95D-08-xx | - | 8 | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SG95-16 | SG92-16 | SG95-16-xx | - | 16 | - | - | - | - | - | - | - | - | - | - | - | Internal | ● | - | - |
| SG95-24 | SG92-24 | SG95-24-xx | - | 22 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |

### ■ Cisco 110 Series Unmanaged Switches

| New Model Name | Legacy Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF110D-05 | SF100D-05 | SF110D-05-xx[1] | 5 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF110D-08 | SF100D-08 | SF110D-08-xx | 8 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF110D-08HP | SF100D-08P | SF110D-08HP-xx | 8 | - | - | - | - | - | - | 4 | - | 32 W | af | - | - | External | ● | - | - |
| SF110D-16 | SF100D-16 | SF110D-16-xx[1] | 16 | - | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SF110D-16HP | SF100D-16P | SF110D-16HP-xx[1] | 16 | - | - | - | - | - | - | 8 | - | 64 W | af | - | - | External | ● | - | - |
| SF110-16 | SF100-16 | SF110-16-xx[1] | 16 | - | - | - | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SF110-24 | SF100-24 | SF110-24-xx | 24 | - | - | - | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SF112-24 | SF102-24 | SF112-24-xx | - | 22 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG110D-05 | SG100D-05 | SG110D-05-xx | - | 5 | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SG110D-08 | SG100D-08 | SG110D-08-xx | - | 8 | - | - | - | - | - | - | - | - | - | - | - | External | ● | - | - |
| SG110D-08HP | SG100D-08P | SG110D-08HP-xx | - | 8 | - | - | - | - | - | 4 | - | 32 W | af | - | - | External | ● | - | - |
| SG110-16 | SG100-16 | SG110-16-xx | - | 16 | - | - | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG110-16HP | n/a | SG110-16HP-xx | - | 16 | - | - | - | - | - | 8 | - | 64 W | af | - | - | Internal | ● | - | 1 RU |
| SG110-24 | SG100-24 | SG110-24-xx | - | 22 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG110-24HP | n/a | SG110-24HP-xx | - | 22 | - | 2 | - | - | - | 12 | - | 100 W | af | - | - | Internal | - | - | 1 RU |
| SG112-24 | SG102-24 | SG112-24-xx | - | 22 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |

### ■ Cisco 220 Series Smart Plus Switches

| New Model Name | Legacy Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF220-24 | SF200E-24 | SF220-24-K9-xx[1] | 24 | - | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SF220-24P | SF200E-24P | SF220-24P-K9-xx[1] | 24 | - | - | 2 | - | - | - | 24 | - | 180 W | af/at | - | - | Internal | - | - | 1 RU |
| SF220-48 | SF200E-48 | SF220-48-K9-xx[1] | 48 | - | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SF220-48P | SF200E-48P | SF220-48P-K9-xx[1] | 48 | - | - | 2 | - | - | - | 48 | - | 375 W | af/at | - | - | Internal | - | - | 1 RU |
| SG220-26 | n/a | SG220-26-K9-xx | - | 24 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG220-26P | n/a | SG220-26P-K9-xx | - | 24 | - | 2 | - | - | - | 24 | - | 180 W | af/at | - | - | Internal | - | - | 1 RU |
| SG220-50 | n/a | SG220-50-K9-xx | - | 48 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG220-50P | n/a | SG220-50P-K9-xx | - | 48 | - | 2 | - | - | - | 48 | - | 375 W | af/at | - | - | Internal | - | - | 1 RU |

### ■ Cisco 250 Series Smart Switches

| New Model Name | Existing Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF250-48 | SF200-48 | SF250-48-K9-xx | 48 | - | 2 | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SF250-48HP | SF200-48P | SF250-48HP-K9-xx | 48 | - | 2 | 2 | - | - | - | 48 | - | 195 W | af/at | - | - | Internal | - | - | 1 RU |
| SG250-10P | SG200-10FP | SG250-10P-K9-xx | - | 8 | - | 2 | - | - | - | 8 | - | 62 W | af/at | 2 | ● | External | ● | - | 1 RU |
| SG250-26 | SG200-26 | SG250-26-K9-xx | - | 24 | - | 2 | - | - | - | - | - | - | - | - | - | Internal | ● | - | 1 RU |
| SG250-26HP | SG200-26P | SG250-26HP-K9-xx | - | 24 | - | 2 | - | - | - | 24 | - | 100 W | af/at | - | - | Internal | ● | - | 1 RU |
| SG250-26P | SG200-26FP | SG250-26P-K9-xx | - | 24 | - | 2 | - | - | - | 24 | - | 195 W | af/at | - | - | Internal | - | - | 1 RU |

*[1] The "-AU" SKUs have reached end-of-life status.*

### ■ Cisco 350 Series Managed Switches

| New Model Name | Existing Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF350-48 | SF300-48 | SF350-48-K9-xx | 48 | - | 2 | 2 | - | - | - | - | - | - | - | - | - | Internal | - | - | 1 RU |
| SF350-48P | SF300-48PP | SF350-48P-K9-xx | 48 | - | 2 | 2 | - | - | - | 48 | 8 | 382 W | af/at | - | - | Internal | - | - | 1 RU |
| SF350-48MP | n/a | SF350-48MP-K9-xx | 48 | - | 2 | 2 | - | - | - | 48 | 8 | 740 W | af/at | - | - | Internal | - | - | 1 RU |
| SG350-10 | SG300-10 | SG350-10-K9-xx | - | 8 | - | 2 | - | - | - | - | - | - | - | 2 | ● | External | ● | - | 1 RU |
| SG350-10P | SG300-10P | SG350-10P-K9-xx | - | 8 | - | 2 | - | - | - | 8 | - | 62 W | af/at | 2 | ● | External | ● | - | 1 RU |
| SG350-10MP | SG300-10MPP | SG350-10MP-K9-xx | - | 8 | - | 2 | - | - | - | 8 | - | 124 W | af/at | 2 | ● | External | ● | - | 1 RU |
| SG355-10P | n/a | SG355-10P-K9-xx | - | 8 | - | 2 | - | - | - | 8 | - | 62 W | af/at | 2 | ● | Internal | ● | - | 1 RU |
| SG350-28 | SG300-28 | SG350-28-K9-xx | - | 24 | 2 | 2 | - | - | - | - | - | - | - | - | - | Internal | - | - | 1 RU |
| SG350-28P | SG300-28PP | SG350-28P-K9-xx | - | 24 | 2 | 2 | - | - | - | 24 | 4 | 195 W | af/at | - | - | Internal | - | - | 1 RU |
| SG350-28MP | SG300-28MP | SG350-28MP-K9-xx | - | 24 | 2 | 2 | - | - | - | 24 | 4 | 382 W | af/at | - | - | Internal | - | - | 1 RU |

### ■ Cisco 350X Series Stackable Managed Switches

| New Model Name | Existing Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SG350X-24 | n/a | SG350X-24-K9-xx | - | 24 | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG350X-24P | n/a | SG350X-24P-K9-xx | - | 24 | - | - | - | 2 | 2 | 24 | 4 | 195 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG350X-24MP | n/a | SG350X-24MP-K9-xx | - | 24 | - | - | - | 2 | 2 | 24 | 4 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG350X-48 | n/a | SG350X-48-K9-xx | - | 48 | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG350X-48P | n/a | SG350X-48P-K9-xx | - | 48 | - | - | - | 2 | 2 | 48 | 8 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG350X-48MP | n/a | SG350X-48MP-K9-xx | - | 48 | - | - | - | 2 | 2 | 48 | 8 | 740 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG350XG-2F10 | n/a | SG350XG-2F10-K9-xx | - | - | - | - | 10 | 2 | - | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG350XG-24T | n/a | SG350XG-24T-K9-xx | - | - | - | - | 22 | 2 | - | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG350XG-24F | n/a | SG350XG-24F-K9-xx | - | - | - | - | - | 22 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG350XG-48T | n/a | SG350XG-48T-K9-xx | - | - | - | - | 46 | - | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |

### ■ Cisco 550X Series Stackable Managed Switches

| New Model Name | Existing Model Name | Orderable SKU | FE | GE | SFP | GE/SFP | 10GB-T | SFP+ | 10GB-T/SFP+ | Ports (PoE) | 60 W Ports | Power Budget | IEEE 802.3 | Input Ports | Pass through | AC Power | Fan less | Stack able | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SF550X-24 | SF500-24 | SF550X-24-K9-xx | 24 | - | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SF550X-24P | SF500-24P | SF550X-24P-K9-xx | 24 | - | - | - | - | 2 | 2 | 24 | 8 | 195 W | af/at | - | - | Internal | - | ● | 1 RU |
| SF550X-24MP | SF500-24MP | SF550X-24MP-K9-xx | 24 | - | - | - | - | 2 | 2 | 24 | 8 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SF550X-48 | SF500-48 | SF550X-48-K9-xx | 48 | - | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SF550X-48P | SF500-48P | SF550X-48P-K9-xx | 48 | - | - | - | - | 2 | 2 | 48 | 16 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SF550X-48MP | SF500-48MP | SF550X-48MP-K9-xx | 48 | - | - | - | - | 2 | 2 | 48 | 16 | 740 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550X-24 | SG500X-24 | SG550X-24-K9-xx | - | 24 | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG550X-24P | SG500X-24P | SG550X-24P-K9-xx | - | 24 | - | - | - | 2 | 2 | 24 | 8 | 195 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550X-24MP | SG500X-24MP | SG550X-24MP-K9-xx | - | 24 | - | - | - | 2 | 2 | 24 | 8 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550X-24MPP | SG500X-24MPP | SG550X-24MPP-K9-xx | - | 24 | - | - | - | 2 | 2 | 24 | 8 | 740 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550X-48 | SG500X-48 | SG550X-48-K9-xx | - | 48 | - | - | - | 2 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG550X-48P | SG500X-48P | SG550X-48P-K9-xx | - | 48 | - | - | - | 2 | 2 | 48 | 16 | 382 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550X-48MP | SG500X-48MP | SG550X-48MP-K9-xx | - | 48 | - | - | - | 2 | 2 | 48 | 16 | 740 W | af/at | - | - | Internal | - | ● | 1 RU |
| SG550XG-8F8T | n/a | SG550XG-8F8T-K9-xx | - | - | - | - | 8 | 8 | - | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG550XG-24T | n/a | SG550XG-24T-K9-xx | - | - | - | - | 22 | 2 | - | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG550XG-24F | n/a | SG550XG-24F-K9-xx | - | - | - | - | - | 22 | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |
| SG550XG-48T | n/a | SG550XG-48T-K9-xx | - | - | - | - | 46 | - | 2 | - | - | - | - | - | - | Internal | - | ● | 1 RU |

## Cisco FindIT Network Management

In addition to the proven **Cisco FindIT Network Discovery Utility**, Cisco introduces the new network management tool, **Cisco FindIT Network Manager**. It provides:

- Automatic discovery for the network devices, a topology diagram and an inventory report. Click to access detailed information about the devices.
- A customizable monitoring dashboard. It allows you to easily see the state of the network and how it is performing. Be alerted automatically to important events such as network devices going offline.
- A single interface to configure system information, wireless networks, virtual LANs, and Ethernet switching.

Cisco FindIT Network Manager is implemented as a software product on Oracle VirtualBox, VMware ESXi, and so on. Up to 10 Cisco 100-500 Series Switches may be managed in Evaluation Mode without a license.

### ■ Cisco FindIT Network Manager License *[NEW]*

| SKU | Description |
|---|---|
| LS-FINDITNM-15-1Y= | 15-device license - 1 year |
| LS-FINDITNM-25-1Y= | 25-device license - 1 year |
| LS-FINDITNM-50-1Y= | 50-device license - 1 year |

## Cisco IOS on Cisco Catalyst Switches

Cisco Catalyst Switches incorporate the Cisco IOS (Internetwork Operating System), which is a high-performance network infrastructure software. LAN Lite and LAN Base feature sets provide the L2 level features, and IP Lite, IP Base, IP Services feature sets provide the L3 level features, respectively.
Cisco IOS provided with the Cisco Catalyst 3560-CX/3650/3850 Series is delivered in a single universal image. The universal image contains the entire Cisco IOS feature set that can be activated via a software license. A software image needed to be installed in order to use the new functions on previous Cisco Catalyst Switches. However, on the Cisco Catalyst 3560-CX/3650/3850 Series Switches, advanced functions can be activated immediately using the Cisco IOS Upgrade License.

### ■ Cisco IOS XE Denali 16.3
Cisco IOS XE Denali 16.3 delivers key innovations in the areas of Application Experience, Network Programmability and Security. This is the first-ever release to introduce Multiprotocol Label Switching (MPLS) on the Cisco Catalyst 3650/3850 Series, which brings in higher reliability and flexibility in our customer deployments.
This is the extended maintenance release for Cisco IOS XE Denali 16.x with a plan for forty-eight months of software maintenance to help drive long-term stability in customer deployments. This release was extensively beta tested by several customers and partners demonstrating Cisco's commitment to delivering the highest quality software. In addition, the engineering team also successfully deployed this release in production environment at several locations within the Cisco campus.

### ■ Series Compatibility Comparison (Cisco Catalyst 2960-CX/3560-CX/2960-X/3650/3850 Series)

| Supported Series | LAN Lite (LL) | LAN Base (LB) | IP Lite (iPL) | IP Base (IPB) | IP Servises (IPS) |
|---|---|---|---|---|---|
| Catalyst 2960-L | ● | – | – | – | – |
| Catalyst 2960-CX | – | ● | – | – | – |
| Catalyst 3560-CX | – | – | ● | ● | ● |
| Catalyst 2960-X | ● | ● | ●*1 | – | – |
| Catalyst 3650 | – | ● | – | ● | ● |
| Catalyst 3850 | – | ● | – | ● | ● |

### ■ Cisco IOS Specification Comparison (L2 Features)

| Feature | LL | LB | IPL | IPB | IPS |
|---|---|---|---|---|---|
| IEEE 802.1Q Trunking | ● | ● | ● | ● | ● |
| DTP | ● | ● | ● | ● | ● |
| UDLD | ● | ● | ● | ● | ● |
| VTP | ● | ● | ● | ● | ● |
| CDP | ● | ● | ● | ● | ● |
| LLDP | ● | ● | ● | ● | ● |
| LLDP-MED | ●*2 | ● | ● | ● | ● |
| STP (Spanning Tree Protocol) | ● | ● | ● | ● | ● |
| Flex Link | – | ● | ● | ● | ● |
| EtherChannel | ● | ● | ● | ● | ● |
| LACP | ● | ● | ● | ● | ● |
| Link State Tracking | ●*2 | ● | ● | ● | ● |
| Resilient Ethernet Protocol (REP) | – | – | – | ●*3 | ●*3 |
| Per-Port Storm Control | ● | ● | ● | ● | ● |

### ■ Cisco IOS Specification Comparison (L3 Features)

| Feature | LL | LB | IPL | IPB | IPS |
|---|---|---|---|---|---|
| Static Routing | ●*2 | ● | ● | ● | ● |
| RIP | ●*2 | – | ● | ● | ● |
| EIGRP Stub | – | – | ● | ● | ● |
| EIGRP | – | – | – | – | ● |
| OSPF for Routed Access | – | – | ● | ● | ● |
| OSPF v2/v3 | – | – | – | – | ● |
| BGP | – | – | – | – | ● |
| IS-IS | – | – | – | – | ● |
| Policy Based Routing (PBR) | – | – | ● | ● | ● |
| VRF-Lite | – | – | – | – | ● |
| PIM Stub | – | – | ● | ● | ● |
| PIM | – | – | – | – | ● |
| WCCP | – | – | ● | ● | ● |
| SSO | – | ●*4 | – | ●*5 | ●*5 |
| NSF | – | – | – | ● | ● |
| MPLS | – | – | – | – | ●*5 |

### ■ Cisco IOS Specification Comparison (Managability)

| Feature | LL | LB | IPL | IPB | IPS |
|---|---|---|---|---|---|
| SNMP | ● | ● | ● | ● | ● |
| RMON | ● | ● | ● | ● | ● |
| SPAN | ● | ● | ● | ● | ● |
| RSPAN | ●*2 | ● | ● | ● | ● |
| TDR | ● | ● | ● | ● | ● |
| Smart Ports | ● | ● | ● | ● | ● |
| Smart Install (client) | ● | ● | ● | ● | ● |
| Smart Install (director) | – | ●*4 | – | ● | ● |
| Cisco IOS IP SLA (responder) | – | ● | ● | ● | ● |
| Cisco IOS IP SLA (initiator) | – | – | – | ● | ● |
| Cisco IOS EEM | – | – | – | ● | ● |
| Wireshark | – | – | – | ●*5 | ●*5 |
| Netflow-Lite | – | ● | ● | ● | ● |
| Flexible Netflow | – | – | ● | ● | ● |
| EnergyWise | ● | ● | ● | ● | ● |
| GOLD (GOLD-Lite) | ● | ● | ● | ● | ● |
| OBFL | ● | ● | ● | ● | ● |

### ■ Cisco IOS Specification Comparison (Security)

| Feature | LL | LB | IPL | IPB | IPS |
|---|---|---|---|---|---|
| SSH | ● | ● | ● | ● | ● |
| SSL | ● | ● | ● | ● | ● |
| SCP | ● | ● | ● | ● | ● |
| HTTPS | ● | ● | ● | ● | ● |
| TACACS+ | ● | ● | ● | ● | ● |
| RADIUS | ● | ● | ● | ● | ● |
| Port Security | ● | ● | ● | ● | ● |
| DHCP Snooping | ●*2 | ● | ● | ● | ● |
| Dynamic ARP Inspection (DAI) | ●*2 | ● | ● | ● | ● |
| IP Source Guard | – | ● | ● | ● | ● |
| MAC Authentication Bypass for Voice | ● | ● | ● | ● | ● |
| Private VLAN Edge | ● | ● | ● | ● | ● |
| Private VLAN | – | – | ● | ● | ● |
| Layer 2 - 4 ACL | – | ● | ● | ● | ● |
| Router ACL | – | ●*6 | ● | ● | ● |
| VLAN ACL | ●*2 | – | ● | ● | ● |
| Time Range ACL | – | ● | ● | ● | ● |
| Web Authentification | ●*2 | ● | ● | ● | ● |
| TrustSec SXP | – | ● | ● | ● | ● |
| TrustSec SGT/SGACL | – | ●*6 | ● | ● | ● |
| MACsec | – | – | – | ● | ● |
| NEAT | – | ● | ● | ● | ● |

### ■ Cisco IOS Specification Comparison (QoS)

| Feature | LL | LB | IPL | IPB | IPS |
|---|---|---|---|---|---|
| SRR | ● | ● | ● | ● | ● |
| Priority Queue | ● | ● | ● | ● | ● |
| Auto QoS | ●*2 | ● | ● | ● | ● |
| DSCP | ●*2 | ● | ● | ● | ● |
| Weighted Tail Drop (WTD) | ●*2 | ●*7 | – | ●*7 | ● |
| Dynamic Buffer Limiting (DBL) | – | – | – | – | – |
| Control Plane Policing (CoPP) | – | ●*4 | – | ●*5 | ●*5 |
| Per VLAN Policy | – | – | ● | ● | ● |

*1　Cisco Catalyst 2960-XR Series only.　*2　Cisco Catalyst 2960-L Series only.　*3　Cisco Catalyst 3650/3850 Series are to be supported in future software release.
*4　Cisco Catalyst 2960-CX/2960-X Series are not supported.　*5　Cisco Catalyst 3560-CX Series are not supported.　*6　Cisco Catalyst 3650/3850 Series are not supported.
*7　Cisco Catalyst 3560/3850 Series only.

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## Cisco Catalyst 2960-L Series

Layer 2 standalone switches equipped Gigabit Ethernet downlink ports. These switches provide entry-level enterprise-class services for branch offices, conventional workspaces, and out-of-wiring closet applications. They can be configured and managed with a CLI or an on-box GUI.

### ■ Highlights
● Equipped with superior Cisco IOS LAN Lite Image:
 Supports static routing, RIP, virtual stacking, comprehensive IEEE802.1X features
● Stylish, fan-less design and silent in operation (Excludes one model)
● Equipped with PoE+ power supplying downlink ports (PSE models)
● Perpetual PoE:
 Provides uninterrupted power to connected devices even when the switch is booting
● Operating temperature advantage: − 5 ℃ to 45 ℃
● Higher mean time between failure (MTBF)
● Less than 11.5-inch depth fit in use cases with space limitation
● Over-the-air configuration and management via Bluetooth interface

### ■ Cisco Catalyst 2960-L Series*1

| SKU | Downlinks GE | Uplinks SFP | Cisco IOS | Web Auth | Max VLANs | PoE Ports | PoE Power Budget | Fanless | AC Power | Magnet | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-C2960L-8TS-LL | 8 | 2 | LAN Lite | ● | 64 | – | – | ● | Internal | –*2 | – |
| WS-C2960L-8PS-LL | 8 | 2 | LAN Lite | ● | 64 | 8 | 67 W | ● | Internal | –*2 | – |
| WS-C2960L-16TS-LL | 16 | 2 | LAN Lite | ● | 64 | – | – | ● | Internal | –*2 | – |
| WS-C2960L-16PS-LL | 16 | 2 | LAN Lite | ● | 64 | 16 | 120 W | ● | Internal | –*2 | – |
| WS-C2960L-24TS-AP | 24 | 4 | LAN Lite | ● | 64 | – | – | ● | Internal | – | 1 RU |
| WS-C2960L-24PS-AP | 24 | 4 | LAN Lite | ● | 64 | 24 | 195 W | ● | Internal | – | 1 RU |
| WS-C2960L-48TS-AP | 48 | 4 | LAN Lite | ● | 64 | – | – | ● | Internal | – | 1 RU |
| WS-C2960L-48PS-AP | 48 | 4 | LAN Lite | ● | 64 | 48 | 370 W | – | Internal | – | 1 RU |

*1　Not orderable in Australia and New Zealand.　*2　Magnet and Mounting Tray (CMPCT-MGNT-TRAY=) is required.

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## Why Catalyst 2960-L?

The Cisco Catalyst 2960-L switch leads the competition with:

● Noiseless, flexible deployment in a "fanless" design of not only the 8-port model, but also the 16-, 24- and 48-port models, with the only exception being the 48-port POE unit, the Cisco Catalyst 2960-L can be installed in meeting rooms, classrooms, retail stores, and office spaces, which are no-go areas for a traditional switch relying on one or more noisy fans to keep it cool. Additionally, because there are no fans to suck in dust and lint, it can be tucked away in a cupboard or ceiling space, without the need for periodic cleaning, making it even more flexible to deploy.

● Persistent PoE reduces the wait time and improves network availability by providing PoE power to IP phones, cameras, and wireless access points, even while the switch is booting up with a new software image.
● Runs Cisco IOS Software and supports a rich set of Cisco IOS Software networking features in IPv6, security, and manageability. It also offers unsurpassed energy efficiency and Cisco enhanced limited lifetime warranty, offering lower TCO.

| | Catalyst 2960-L | Competitor A | Competitor B | Why Cisco? |
|---|---|---|---|---|
| No Fans | More deployment flexibility, less cleaning and preventive maintenance, and higher reliability and uptime. | The switch has fans that suck in dust, resulting in limited deployment options and more cleaning and maintenance. | Some of the models have 3 fans. | The Cisco Catalyst switch can be housed in cupboards and cavities with no risk of fans sucking in failure-causing dust. |
| | People-friendly operation. | Not designed to coexist with people: the warmer it gets, the faster and noisier the fans get. | | Allows the switch to share office space with people without being intrusive; ideal for small retail, classrooms, offices. |
| Persistent PoE/PoE+ | Maintains PoE power to attached devices when the switch is rebooted after a software upgrade or other reason. | Ethernet switches can reboot quickly after a software upgrade, in an effort to minimize downtime, but what about the attached IP phone, camera, or access point? Without persistent PoE, they will reboot as well, and only after the switch has finished. | | More network uptime: IP phones, cameras, and access points stay powered on when the switch is rebooted after a software upgrade. |
| Bluetooth and USB | Innovations such as Bluetooth console access and USB type-A slot supporting memory cards for software and configuration transfer. | While offering a USB console port, these switches still require a PC to physically connect. This is not always practical in branch locations, where the switch might be installed in a difficult-to-reach location. | | Innovations that provide out-of-band management without requiring a traditional PC to be physically connected; improve uptime and problem resolution time. |

### ■ Intuitive Web User Interface
The Cisco Catalyst 2960-L Series support an on-box, intuitive web-based user interface (UI) for easy and quick installation, configuration management, and monitoring of the switch. This web UI, the Cisco Configuration Professional Express, is also supported on the Cisco Catalyst 2960-Plus/CX/X Series, the Cisco Catalyst 3560-CX Series, and the Cisco Catalyst Digital Building Series.

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# Cisco Catalyst 2960 Series Transition Guide

### ■ Cisco Catalyst 2960-G/SF/S/Plus/L/X Series[*1]

| Legacy Models | | | | Current Models | Suggested Models | |
|---|---|---|---|---|---|---|
| Fast Ethernet | | Gigabit Ethernet | | Fast Ethernet | Gigabit Ethernet | |
| Stacking Not Supported | Stacking Supported | Stacking Not Supported | Stacking Supported | Stacking Not Supported | Stacking Not Supported | Stacking Supported |
| WS-C2960S-F24TS-S | - | WS-C2960G-24TC-L<br>WS-C2960S-24TS-S<br>WS-C2960X-24TS-LL | - | WS-C2960+24TC-S | WS-C2960L-24TS-AP | - |
| - | - | - | - | WS-C2960+24LC-S<br>WS-C2960+24PC-S | WS-C2960L-24PS-AP | - |
| WS-C2960S-F48TS-S | - | WS-C2960G-48TC-L<br>WS-C2960S-48TS-S<br>WS-C2960X-48TS-LL | - | WS-C2960+48TC-S | WS-C2960L-48TS-AP | - |
| - | - | - | - | WS-C2960+48PST-S | WS-C2960L-48PS-AP | - |
| - | WS-C2960S-F24TS-L | - | WS-C2960X-24TS-L | WS-C2960+24TC-L | - | WS-C2960X-24TS-L<br>WS-C2960XR-24TS-I |
| - | - | - | WS-C2960S-24TD-L | - | - | WS-C2960X-24TD-L<br>WS-C2960XR-24TD-I |
| - | WS-C2960S-F24PS-L | - | WS-C2960S-24PS-L | WS-C2960+24LC-L<br>WS-C2960+24PC-L | WS-C2960X-24PSQ-L | WS-C2960X-24PS-L<br>WS-C2960XR-24PS-I |
| - | - | - | WS-C2960S-24PD-L | - | - | WS-C2960X-24PD-L<br>WS-C2960XR-24PD-I |
| - | WS-C2960S-F48TS-L | - | WS-C2960S-48TS-L | WS-C2960+48TC-L | - | WS-C2960X-48TS-L<br>WS-C2960XR-48TS-I |
| - | - | - | WS-C2960S-48TD-L | - | - | WS-C2960X-48TD-L<br>WS-C2960XR-48TD-I |
| - | WS-C2960S-F48LPS-L | - | WS-C2960S-48LPS-L | WS-C2960+48PST-L | - | WS-C2960X-48LPS-L<br>WS-C2960XR-48LPS-I |
| - | WS-C2960S-F48FPS-L | - | WS-C2960S-48FPS-L | - | - | WS-C2960X-48FPS-L<br>WS-C2960XR-48FPS-I |
| - | - | - | WS-C2960S-48LPD-L | - | - | WS-C2960X-48LPD-L<br>WS-C2960XR-48LPD-I |
| - | - | - | WS-C2960S-48FPD-L | - | - | WS-C2960X-48FPD-L<br>WS-C2960XR-48FPD-I |

### ■ Series Comparison

| Series | 2960-G | 2960-SF | | 2960-S | | 2960-Plus | | 2960-L | | 2960-X | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IOS | LAN Base | LAN Lite | LAN Base | LAN Lite | LAN Base | LAN Lite | LAN Base | LAN Lite | LAN Base | LAN Base | IP Lite |
| Basic L2 Features | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Advanced L2 Features | ● | – | ● | – | ● | – | ● | – | – | ● | ● |
| Basic L3 Features | – | – | – | – | – | – | ●[*2] | – | – | – | ● |
| DNA (APIC-EM) | – | – | ● | – | ● | – | ● | – | ● | ● | ● |
| Web UI | – | – | – | – | – | ● | ● | ● | ● | ● | ● |
| 1 GE Downlink | ● | – | ● | – | ● | – | ● | – | ● | ● | ● |
| 10 GE Uplink | – | – | – | – | ● | – | ●[*3] | – | ● | ● | ● |
| Full PoE 15.4 W | – | – | ● | – | ● | – | ● | – | ● | ● | ● |
| PoE+ 30 W | – | – | ● | – | ● | – | ● | – | ● | ● | ● |
| RPS | ● | – | ● | – | ● | – | ● | – | – | ● | – |
| Power Redundancy | – | – | – | – | – | – | – | – | – | – | – |
| FlexStack | – | – | ● | – | ● | – | – | – | – | – | – |
| FlexStack Plus | – | – | – | – | – | – | – | – | – | ● | ● |
| 8-port Compact Models | ● | – | – | – | – | – | – | ● | – | – | – |
| 16-port Compact Models | – | – | – | – | – | – | – | ● | – | – | – |
| Fanless Models | ● | – | – | – | – | – | – | ● | – | ● | – |

*1 Search for EOL10043 at cisco.com. *2 Static routing and RIP are supported. *3 On roadmap.

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# Cisco Catalyst 2960-CX Series

The compact switches are Layer 2 switches that are purpose built to enhance scalability and reduce costs through cable consolidation. Extend enterprise-class services to wherever you want, far from the wiring closet. They provide advanced networking features for security and management, equivalent to Cisco Catalyst 2960-X Series.

### ■ Highlights
- Equipped with Cisco IOS **LAN Base** Image
- Stylish, fan-less design and silent operation
- Equipped with **PoE+** power supplying downlink ports (**WS-C2960CX-8PC-L**)
- Operating temperature advantage: −5 ℃ to 45 ℃
- Traffic visibility: support **Cisco NetFlow-Lite** up to Layer 4, supported both on all downlink and uplink ports.

### ■ Cisco Catalyst 2960-CX Series

| SKU | Downlinks | | Uplinks | | | Cisco IOS | Web Auth | MAC sec | Max VLANs | PoE | | | AC Power | Magnet | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GE | mGig | GE | SFP | SFP/SFP+ | | | | | Ports | Power Budget | Pass through | | | |
| WS-C2960CX-8TC-L | 8 | – | 2 | 2 | – | LAN Base | ● | – | 255 | – | – | – | Internal | –[*1] | –[*2] |
| WS-C2960CX-8PC-L | 8 | – | 2 | 2 | – | LAN Base | ● | – | 255 | 8 | 124 W | – | Internal | –[*1] | –[*2] |

*1 Magnet and Mounting Tray (CMPCT-MGNT-TRAY=) is required. Optional Power Adapter Bracket (PWR-ADPT-BRKT=) is available.
*2 Rack Mounting Brackets (RCKMNT-19-CMPCT=/RCKMNT-23-CMPCT=) is required. Optional Power Adapter Bracket (PWR-ADPT-BRKT=) is available.

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# Cisco Catalyst 3560-CX Series

The compact switches are Layer 3 switches that are purpose built to enhance scalability and reduce costs through cable consolidation. Extend enterprise-class services to wherever you want, far from the wiring closet. They provide advanced networking features for security and management, equivalent to **Cisco Catalyst 3650/3850 Series**.

### ■ Highlights
- Equipped with Cisco IOS universal image (**IP Base**, upgradable to **IP services**)
- Stylish, fan-less design and silent operation
- Equipped with **Cisco Catalyst Multigigabit Technology (mGig)**-enabled downlink ports (some models)
- Equipped with **PoE+** power supplying downlink ports (PSE models)
- **PoE pass-through**: industry's first UPOE powered switch that can pass through up to 146 W to power up the devices connected to the switch (**WS-C3560CX-8PT-S**)
- Operating temperature advantage: −5 ℃ to 45 ℃
- Traffic visibility: support **Cisco NetFlow-Lite** up to Layer 4, supported both on all downlink and uplink ports.

### ■ Cisco Catalyst 3560-CX Series

| SKU | Downlinks | | Uplinks | | | Cisco IOS | Web Auth | MAC sec | Max VLANs | PoE | | | AC Power | Magnet | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GE | mGig | GE | SFP | SFP/SFP+ | | | | | Ports | Power Budget | Pass through | | | |
| WS-C3560CX-8TC-S | 8 | – | 2 | 2 | – | IP Base | ● | ● | 1023 | – | – | – | Internal | –[*2] | –[*3] |
| WS-C3560CX-8PT-S | 8 | – | 2 | – | – | IP Base | ● | ● | 1023 | 8 | 240 W | ● | External[*1] | –[*2] | –[*3] |
| WS-C3560CX-8PC-S | 8 | – | 2 | 2 | – | IP Base | ● | ● | 1023 | 8 | 240 W | – | Internal | –[*2] | –[*3] |
| WS-C3560CX-8XPD-S | 6 | 2 | – | – | 2 | IP Base | ● | ● | 1023 | 8 | 240 W | – | Internal | –[*2] | –[*3] |
| WS-C3560CX-12TC-S | 12 | – | 2 | 2 | – | IP Base | ● | ● | 1023 | – | – | – | Internal | –[*2] | –[*3] |
| WS-C3560CX-12PC-S | 12 | – | 2 | 2 | – | IP Base | ● | ● | 1023 | 12 | 240 W | – | Internal | –[*2] | –[*3] |
| WS-C3560CX-12PD-S | 12 | – | 2 | – | 2 | IP Base | ● | ● | 1023 | 12 | 240 W | – | Internal | –[*2] | –[*3] |

### ■ Cisco IOS Upgrade License for Cisco Catalyst 3560-CX Series

| SKU | Description |
|---|---|
| L-C3560CX-12-S-E | Cisco IOS IP Services license for Cisco Catalyst 3560-CX Series |

*1 Power Adapter and Cord is Required when not using PoE receiving. *2 Magnet and Mounting Tray (CMPCT-MGNT-TRAY=) is required. Optional Power Adapter Bracket (PWR-ADPT-BRKT=) is available.
*3 Rack Mounting Brackets (RCKMNT-19-CMPCT=/RCKMNT-23-CMPCT=) is required. Optional Power Adapter Bracket (PWR-ADPT-BRKT=) is available. ＊4 L-C3560CX-RTU= is required.

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# Comparison of Cisco Catalyst Compact Switches

### ■ Comparison of Cisco Catalyst 2960-CG & 2960-CX Compact Switches

| Parameter | Feature | 2960-CG | 2960-CX |
|---|---|---|---|
| Ports | Uplinks | 2 x GE/SFP | 2 x GE and 2 x SFP |
| | Downlinks | 8 x GE | 8 x GE |
| PoE | PoE | – | 124 W PoE+ |
| | Perpetual PoE | – | ●[*1] |
| Hardware | DRAM, Flash | 128 MB, 64 MB | 512 MB, 128 MB |
| Other | Security | 802.1X | 802.1X, SXP[*2] |
| | AVC | – | NetFlow Lite |

### ■ Comparison of Cisco Catalyst 3560-CG & 3560-CX Compact Switches

| Parameter | Feature | 3560-CG | 3560-CX |
|---|---|---|---|
| Ports | Uplinks | 2 x GE or 2 x SFP | 2 x GE and SFP/SFP+[*3] |
| | Downlinks | 8 x GE | 8 x GE or 12 x GE |
| | mGig | – | ●[*4] |
| PoE | PoE | 124 W PoE+ | 240 W PoE+ |
| | PoE pass-through | 1 x UPOE, 23.8 W | 2 x UPOE, 144.8 W[*1] |
| | DC Power | – | ●[*1] |
| | Power Stacking | – | Horizontal[*1] |
| | Perpetual PoE | – | ● |
| Software | Cisco IOS | IP Base Only | IP Base, IP Services |
| Hardware | DRAM, Flash | 128 MB, 64 MB | 512 MB, 128 MB |
| Other | Security | 802.1X, MACsec | 802.1X, MACsec, SXP[*1], SGACL |
| | AVC | NO | NetFlow Lite |
| | IPv6 | Basic | Enhanced |

*1 On roadmap. *2 SGACL is not supported. *3 WS-C3560CX-8XPD-S & WS-C3560CX-12PD-S only. *4 WS-C3560CX-8XPD-S only.

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# Cisco Catalyst 2960-X Series

Stackable L2/L3 fixed-configuration switches equipped Gigabit Ethernet downlink ports. A flexible and redundant power supply configuration is achieved via a stack function and mounting of multiple power supply modules or a redundant power supply system.

### ■ Highlights
- Equipped with Cisco IOS Universal Image (Supports LAN Lite/LAN Base/IP Lite)[1]
- Supports Layer 3 functions including HSRP and VRRP (IP Lite model)
- Equipped with PoE+ power supplying downlink ports (PSE model)
- Equipped with full PoE powering power supply (WS-C2960X-48FPS-L/WS-C2960X-48FPD-L/WS-C2960XR-48FPS-I/WS-C2960XR-48FPD-I)
- Supports multiple Power Supply Modules (IP Lite model)
- Supports Cisco FlexStack Plus (LAN Base/IP Lite models)

### ■ Cisco Catalyst 2960-X Series

| SKU | Downlinks GE | Uplinks GE | Uplinks SFP | Uplinks SFP/SFP+ | Cisco IOS | Web Auth | Max VLANs | PoE Ports | PoE Power Budget | Power Supply | Power Redundancy | RPS | Flex Stack Plus | Fanless | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-C2960X-24TS-LL | 24 | – | 2 | – | LAN Lite | – | 64 | – | – | Fixed AC | – | – | – | – | 1 RU |
| WS-C2960X-48TS-LL | 48 | – | 2 | – | LAN Lite | – | 64 | – | – | Fixed AC | – | – | – | – | 1 RU |
| WS-C2960X-24TS-L | 24 | – | 4 | – | LAN Base | ● | 1024 | – | – | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-24TD-L | 24 | – | – | 2 | LAN Base | ● | 1024 | – | – | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-24PSQ-L | 24 | 2 | 2 | – | LAN Base | ● | 1024 | 8 | 110 W | Fixed AC | – | – | – | ● | 1 RU |
| WS-C2960X-24PS-L | 24 | – | 4 | – | LAN Base | ● | 1024 | 24 | 370 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-24PD-L | 24 | – | – | 2 | LAN Base | ● | 1024 | 24 | 370 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48TS-L | 48 | – | 4 | – | LAN Base | ● | 1024 | – | – | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48TD-L | 48 | – | – | 2 | LAN Base | ● | 1024 | – | – | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48LPS-L | 48 | – | 4 | – | LAN Base | ● | 1024 | 48 | 370 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48FPS-L | 48 | – | 4 | – | LAN Base | ● | 1024 | 48 | 740 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48LPD-L | 48 | – | – | 2 | LAN Base | ● | 1024 | 48 | 370 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960X-48FPD-L | 48 | – | – | 2 | LAN Base | ● | 1024 | 48 | 740 W | Fixed AC | – | ● | ●[2] | – | 1 RU |
| WS-C2960XR-24TS-I | 24 | – | 4 | – | IP Lite | ● | 1024 | – | – | 250 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-24TD-I | 24 | – | – | 2 | IP Lite | ● | 1024 | – | – | 250 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-24PS-I | 24 | – | 4 | – | IP Lite | ● | 1024 | 24 | 370 W | 640 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-24PD-I | 24 | – | – | 2 | IP Lite | ● | 1024 | 24 | 370 W | 640 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48TS-I | 48 | – | 4 | – | IP Lite | ● | 1024 | – | – | 250 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48TD-I | 48 | – | – | 2 | IP Lite | ● | 1024 | – | – | 250 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48LPS-I | 48 | – | 4 | – | IP Lite | ● | 1024 | 48 | 370 W | 640 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48FPS-I | 48 | – | 4 | – | IP Lite | ● | 1024 | 48 | 740 W | 1025 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48LPD-I | 48 | – | – | 2 | IP Lite | ● | 1024 | 48 | 370 W | 640 W AC | ● | – | ●[2] | – | 1 RU |
| WS-C2960XR-48FPD-I | 48 | – | – | 2 | IP Lite | ● | 1024 | 48 | 740 W | 1025 W AC | ● | – | ●[2] | – | 1 RU |

### ■ Power Supply Module for the Cisco Catalyst 2960-XR Series

| SKU | Description | Compatible SKU |
|---|---|---|
| PWR-C2-250WAC | 250 W AC power supply module | WS-C2960XR-24TS-I/WS-C2960XR-24TD-I/WS-C2960XR-48TS-I/WS-C2960XR-48TD-I |
| PWR-C2-640WAC | 640 W AC power supply module | WS-C2960XR-24PS-I/WS-C2960XR-24PD-I/WS-C2960XR-48LPS-I/WS-C2960XR-48LPD-I |
| PWR-C2-1025WAC | 1025 W AC power supply module | WS-C2960XR-48FPS-I/WS-C2960XR-48FPD-I |

*1 Upgrade is not supported. *2 Cisco FlexStack Plus module (C2960X-STACK) is required.

## Cisco FlexStack Plus module

When equipped with the optional Cisco FlexStack Plus Module (C2960X-STACK), the LAN Base/IP Lite models of the Cisco Catalyst 2960-X Series support connection of up to eight switches in a stack at 80 Gbps.

Cisco FlexStack Plus is backward-compatible with Cisco FlexStack. Up to four switches can be connected in a stack at 40 Gbps when (and only when) the LAN Base model of the Cisco Catalyst 2960-X Series is combined with the LAN Base model of the Cisco Catalyst 2960-SF/S Series.

### ■ Combined Stacks Compatibility List

| | 2960-SF/S LAN Base | 2960-X LAN Base | 2960-XR IP Lite |
|---|---|---|---|
| 2960-SF/S LAN Base | ● | ● | – |
| 2960-X LAN Base | ● | ● | – |
| 2960-XR IP Lite | – | – | ● |

### ■ Cisco FlexStack Plus Module

| SKU | C2960X-STACK |
|---|---|
| Compatible IOS | LAN Base/IP Lite |
| Maximum Number of Devices | 8 |
| Stack Bandwidth | 80 Gbps |
| Architecture | Hardware drop table |
| Dynamic Ring Load-balancing | – |
| Stack Convergence | 100 milliseconds |

# Cisco Catalyst 3650 Series

Stackable L2/L3 fixed-configuration switches that offer the wireless controller function. These switches incorporate a 160 Gbps stack function and support multiple Power Supply Modules to achieve a flexible redundant configuration. They also provide common intelligent services for both wired/wireless LAN networks, such as QoS and security.
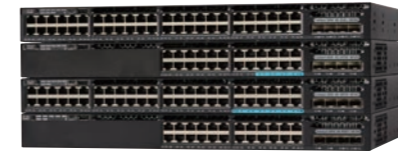
### ■ Highlights
- Equipped with Cisco IOS XE Universal Image (Supports LAN Base/IP Base/IP Services)
- Equipped with the Unified Access Data Plane (UADP) ASIC
- Built-in controller function capable of managing up to 50 wireless access points (Supports IP Base/IP Services)
- Equipped with Cisco Catalyst Multigigabit Technology (mGig)-enabled down-link ports (some models)
- Equipped with PoE+/UPOE power supplying downlink ports (UPOE ports are only incorporated on some PSE models)
- Equipped with MACsec-enabled downlink./uplink ports (IP Base/IP Services models)
- Supports Cisco StackWise-160
- Mini model less than 12 inches deep (WS-C3650-24PDM/WS-C3650-48FQM)

### ■ Cisco Catalyst 3650 Series (1 of 2)

| SKU | Wireless Throughput | Downlinks GE | Downlinks mGig | Uplinks SFP | Uplinks SFP/SFP+ | Uplinks QSFP+ | Cisco IOS | MAC sec | Max VLANs | PoE[1] Ports | UPOE Ports | Power Budget | Power Supply | Power Redundancy | RPS | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-C3650-24TS-L | 20 Gpbs | 24 | – | 4 | – | – | LAN Base | –[2] | 255 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24TS-S | 20 Gpbs | 24 | – | 4 | – | – | IP Base | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24TS-E | 20 Gpbs | 24 | – | 4 | – | – | IP Services | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24TD-L | 20 Gpbs | 24 | – | 2 | 2 | – | LAN Base | –[2] | 255 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24TD-S | 20 Gpbs | 24 | – | 2 | 2 | – | IP Base | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24TD-E | 20 Gpbs | 24 | – | 2 | 2 | – | IP Services | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-24PS-L | 20 Gpbs | 24 | – | 4 | – | – | LAN Base | –[2] | 255 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-24PS-S | 20 Gpbs | 24 | – | 4 | – | – | IP Base | ● | 4094 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-24PS-E | 20 Gpbs | 24 | – | 4 | – | – | IP Services | ● | 4094 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-24PDM-L | 20 Gpbs | 24 | – | 2 | 2 | – | LAN Base | –[2] | 255 | 24 | – | 390 W | 640 W AC | – | ● | 1 RU |
| WS-C3650-24PDM-S | 20 Gpbs | 24 | – | 2 | 2 | – | IP Base | ● | 4094 | 24 | – | 390 W | 640 W AC | – | ● | 1 RU |
| WS-C3650-24PDM-E | 20 Gpbs | 24 | – | 2 | 2 | – | IP Services | ● | 4094 | 24 | – | 390 W | 640 W AC | – | ● | 1 RU |
| WS-C3650-24PD-L | 20 Gpbs | 24 | – | 2 | 2 | – | LAN Base | –[2] | 255 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-24PD-S | 20 Gpbs | 24 | – | 2 | 2 | – | IP Base | ● | 4094 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-24PD-E | 20 Gpbs | 24 | – | 2 | 2 | – | IP Services | ● | 4094 | 24 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-8X24PD-L | 20 Gpbs | 24 | 8 | – | 2 | – | LAN Base | –[2] | 255 | 24 | – | 435 W | 715 W AC | ● | – | 1 RU |
| WS-C3650-8X24PD-S | 20 Gpbs | 24 | 8 | – | 2 | – | IP Base | ● | 4094 | 24 | – | 435 W | 715 W AC | ● | – | 1 RU |
| WS-C3650-8X24PD-E | 20 Gpbs | 24 | 8 | – | 2 | – | IP Services | ● | 4094 | 24 | – | 435 W | 715 W AC | ● | – | 1 RU |
| WS-C3650-8X24UQ-L | 20 Gpbs | 24 | 8 | – | 4 | – | LAN Base | –[2] | 255 | 24 | 24 | 820 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-8X24UQ-S | 20 Gpbs | 24 | 8 | – | 4 | – | IP Base | ● | 4094 | 24 | 24 | 820 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-8X24UQ-E | 20 Gpbs | 24 | 8 | – | 4 | – | IP Services | ● | 4094 | 24 | 24 | 820 W | 1100 W AC | ● | – | 1 RU |

*1 For the default power supply configuration.    *2 Cisco IOS IP Base/IP Services License is required.

# Cisco Catalyst 3000 Series Transition Guide

### ■ Cisco Catalyst 3560-X/3650 Series[1]

### ■ Cisco Catalyst 3750-X/3850 Series[1]

*1 Search for EOL10623 at cisco.com.

## ■ Cisco Catalyst 3650 Series (2 of 2)

| SKU | Wireless Throughput | Downlinks GE | Downlinks mGig | Uplinks SFP | Uplinks SFP/SFP+ | Uplinks QSFP+ | Cisco IOS | MACsec | Max VLANs | PoE*1 Ports | PoE*1 UPOE Ports | PoE*1 Power Budget | Power Supply | Power Redundancy | RPS | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-C3650-48TS-L | 40 Gbps | 48 | – | 4 | – | – | LAN Base | –*2 | 255 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TS-S | 40 Gbps | 48 | – | 4 | – | – | IP Base | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TS-E | 40 Gbps | 48 | – | 4 | – | – | IP Services | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TD-L | 40 Gbps | 48 | – | 2 | 2 | – | LAN Base | –*2 | 255 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TD-S | 40 Gbps | 48 | – | 2 | 2 | – | IP Base | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TD-E | 40 Gbps | 48 | – | 2 | 2 | – | IP Services | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TQ-L | 40 Gbps | 48 | – | – | 4 | – | LAN Base | –*2 | 255 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TQ-S | 40 Gbps | 48 | – | – | 4 | – | IP Base | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48TQ-E | 40 Gbps | 48 | – | – | 4 | – | IP Services | ● | 4094 | – | – | – | 250 W AC | ● | – | 1 RU |
| WS-C3650-48PS-L | 40 Gbps | 48 | – | 4 | – | – | LAN Base | –*2 | 255 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PS-S | 40 Gbps | 48 | – | 4 | – | – | IP Base | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PS-E | 40 Gbps | 48 | – | 4 | – | – | IP Services | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PD-L | 40 Gbps | 48 | – | 2 | 2 | – | LAN Base | –*2 | 255 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PD-S | 40 Gbps | 48 | – | 2 | 2 | – | IP Base | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PD-E | 40 Gbps | 48 | – | 2 | 2 | – | IP Services | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PQ-L | 40 Gbps | 48 | – | – | 4 | – | LAN Base | –*2 | 255 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PQ-S | 40 Gbps | 48 | – | – | 4 | – | IP Base | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48PQ-E | 40 Gbps | 48 | – | – | 4 | – | IP Services | ● | 4094 | 48 | – | 390 W | 640 W AC | ● | – | 1 RU |
| WS-C3650-48FS-L | 40 Gbps | 48 | – | 4 | – | – | LAN Base | –*2 | 255 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FS-S | 40 Gbps | 48 | – | 4 | – | – | IP Base | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FS-E | 40 Gbps | 48 | – | 4 | – | – | IP Services | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FD-L | 40 Gbps | 48 | – | 2 | 2 | – | LAN Base | –*2 | 255 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FD-S | 40 Gbps | 48 | – | 2 | 2 | – | IP Base | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FD-E | 40 Gbps | 48 | – | 2 | 2 | – | IP Services | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FQM-L | 40 Gbps | 48 | – | – | 4 | – | LAN Base | –*2 | 255 | 48 | – | 775 W | 975 W AC | – | ● | 1 RU |
| WS-C3650-48FQM-S | 40 Gbps | 48 | – | – | 4 | – | IP Base | ● | 4094 | 48 | – | 775 W | 975 W AC | – | ● | 1 RU |
| WS-C3650-48FQM-E | 40 Gbps | 48 | – | – | 4 | – | IP Services | ● | 4094 | 48 | – | 775 W | 975 W AC | – | ● | 1 RU |
| WS-C3650-48FQ-L | 40 Gbps | 48 | – | – | 4 | – | LAN Base | –*2 | 255 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FQ-S | 40 Gbps | 48 | – | – | 4 | – | IP Base | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-48FQ-E | 40 Gbps | 48 | – | – | 4 | – | IP Services | ● | 4094 | 48 | – | 775 W | 1025 W AC | ● | – | 1 RU |
| WS-C3650-12X48FD-L | 40 Gbps | 48 | 12 | – | 2 | – | LAN Base | –*2 | 255 | 48 | – | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48FD-S | 40 Gbps | 48 | 12 | – | 2 | – | IP Base | ● | 4094 | 48 | – | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48FD-E | 40 Gbps | 48 | 12 | – | 2 | – | IP Services | ● | 4094 | 48 | – | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UQ-L | 40 Gbps | 48 | 12 | – | 4 | – | LAN Base | –*2 | 255 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UQ-S | 40 Gbps | 48 | 12 | – | 4 | – | IP Base | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UQ-E | 40 Gbps | 48 | 12 | – | 4 | – | IP Services | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UR-L | 40 Gbps | 48 | 12 | – | 8 | – | LAN Base | –*2 | 255 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UR-S | 40 Gbps | 48 | 12 | – | 8 | – | IP Base | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UR-E | 40 Gbps | 48 | 12 | – | 8 | – | IP Services | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UZ-L | 40 Gbps | 48 | 12 | – | – | 2 | LAN Base | –*2 | 255 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UZ-S | 40 Gbps | 48 | 12 | – | – | 2 | IP Base | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |
| WS-C3650-12X48UZ-E | 40 Gbps | 48 | 12 | – | – | 2 | IP Services | ● | 4094 | 48 | 48 | 660 W | 1100 W AC | ● | – | 1 RU |

### ■ Power Supply Module for the Cisco Catalyst 3650 Series

| SKU | Description |
|---|---|
| PWR-C2-250WAC | 250 W AC Power Supply Module |
| PWR-C2-640WAC | 640 W AC Power Supply Module |
| PWR-C1-715WAC | 715 W AC Power Supply Module |
| PWR-C2-1025WAC | 1025 W AC Power Supply Module |
| PWR-C1-1100WAC | 1100 W AC Power Supply Module |
| PWR-C2-640WAC | 640 W DC Power Supply Module |

### ■ Cisco StackWise-160 Module for the Cisco Catalyst 3650 Series

| SKU | Description |
|---|---|
| C3650-STACK-KIT | Cisco StackWise-160 Module |

### ■ Cisco IOS Upgrade License for the Cisco Catalyst 3650 Series

| SKU | Description |
|---|---|
| L-C3650-24-L-S | Cisco IOS IP Base License for 24-port IP Base model |
| L-C3650-24-S-E | Cisco IOS IP Services License for 24-port IP Base model |
| L-C3650-24-L-E | Cisco IOS IP Services License for 24-port IP Base model |
| L-C3650-48-L-S | Cisco IOS IP Base License for 48-port IP Base model |
| L-C3650-48-S-E | Cisco IOS IP Services License for 48-port IP Base model |
| L-C3650-48-L-E | Cisco IOS IP Services License for 48-port IP Base model |

### ■ Additional Access Point License for the Cisco 3650 Series

| SKU | Additional | Primary Upgrade SKU |
|---|---|---|
| L-LIC-CTIOS-1A | 1 | L-LIC-CT3650-UPG |

*1 For the default power supply configuration. *2 Cisco IOS IP Base/IP Services License is required.

## Cisco Catalyst Compact Switches Transition Guide

### ■ Cisco Catalyst 2960-G/C/CX Series

| Legacy Models | Suggested Models |
|---|---|
| WS-C2960G-8TC-L | WS-C2960L-8TS-LL/WS-C2960CX-8TC-L |
| WS-C2960C-8TC-S | WS-C2960L-8TS-LL |
| WS-C2960C-8TC-L | WS-C2960CX-8TC-L |
| WS-C2960C-8PC-L | WS-C2960CX-8PC-L |
| WS-C2960CPD-8TT-L | WS-C2960CX-8PC-L |
| WS-C2960CPD-8PT-L | WS-C2960CX-8PC-L |
| WS-C2960C-12PC-L | WS-C2960CX-8PC-L |
| WS-C2960CG-8TC-L*1 | WS-C2960CX-8TC-L |

### ■ Cisco Catalyst 3560-C/CX Series*1

| Legacy Models | Suggested Models |
|---|---|
| WS-C3560C-8PC-S | WS-C3560CX-8PC-S |
| WS-C3560C-12PC-S | WS-C3560CX-12PC-S / WS-C3560CX-12PD-S |
| WS-C3560CG-8TC-S | WS-C3560CX-8TC-S / WS-C3560CX-12TC-S |
| WS-C3560CG-8PC-S | WS-C3560CX-8PC-S / WS-C3560CX-8XPD-S |
| WS-C3560CPD-8PT-S | WS-C3560CX-8PT-S |

*1 Search for EOL10691 at cisco.com.

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# Cisco Catalyst 3850 Series

Next-generation stackable L2/L3 fixed-configuration switches featuring a wireless controller function. These switches feature the industry's fastest 480 Gbps stack function, support for multiple Power Supply Modules and innovative power-sharing function to achieve a flexible and advanced redundant configuration. They also provide common intelligent services for both wired/wireless LAN networks, such as QoS and security.

### ■ Highlights
- Equipped with Cisco IOS XE Universal Image (Supports **LAN Base/IP Base/IP Services**)
- Equipped with the **Unified Access Data Plane (UADP)** ASIC
- Built-in controller function capable of managing up to 100 wireless access points (Supports IP Base/IP Services)
- Equipped with **Cisco Catalyst Multigigabit Technology (mGig)**-enabled downlink ports (some models)
- Equipped with PoE+/**UPOE** power supplying downlink ports (**UPOE** ports are only incorporated on some PSE models)
- Equipped with MACsec-enabled downlink ports (IP Base/**IP Services** models)
- MACsec-enabled uplink ports (Optional, **IP Base/IP Services** models)
- Supports **Cisco StackPower**\*1
- Supports **Cisco StackWise-480**\*1

## ■ Cisco Catalyst 3850 Series

| SKU | Wireless Throughput | Downlinks GE | Downlinks mGig | Downlinks SFP | Downlinks SFP/SFP+ | Uplinks*2 SFP | Uplinks*2 SFP/SFP+ | Uplinks*2 QSFP+ | Cisco IOS | MACsec | Max VLANs | PoE*3 Ports | PoE*3 UPOE Ports | PoE*3 Power Budget | Power Supply | Rack Mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WS-C3850-24T-L | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | LAN Base | –*4 | 255 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24T-S | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Base | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24T-E | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Services | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24P-L | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | LAN Base | –*4 | 255 | 24 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-24P-S | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Base | ● | 4094 | 24 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-24P-E | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Services | ● | 4094 | 24 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-24U-L | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | LAN Base | –*4 | 255 | 24 | 24 | 435 W | 715 W AC | 1 RU |
| WS-C3850-24U-S | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Base | ● | 4094 | 24 | 24 | 435 W | 715 W AC | 1 RU |
| WS-C3850-24U-E | 20 Gpbs | 24 | – | – | – | 4 | 2 | – | IP Services | ● | 4094 | 24 | 24 | 435 W | 715 W AC | 1 RU |
| WS-C3850-24XU-L | 40 Gbps | – | 24 | – | – | 4 | 8 | 2 | LAN Base | –*4 | 255 | 24 | 24 | 580 W | 1100 W AC | 1 RU |
| WS-C3850-24XU-S | 40 Gbps | – | 24 | – | – | 4 | 8 | 2 | IP Base | ● | 4094 | 24 | 24 | 580 W | 1100 W AC | 1 RU |
| WS-C3850-24XU-E | 40 Gbps | – | 24 | – | – | 4 | 8 | 2 | IP Services | ● | 4094 | 24 | 24 | 580 W | 1100 W AC | 1 RU |
| WS-C3850-48T-L | 40 Gbps | 48 | – | – | – | 4 | 4 | – | LAN Base | –*4 | 255 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-48T-S | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Base | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-48T-E | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Services | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-48P-L | 40 Gbps | 48 | – | – | – | 4 | 4 | – | LAN Base | –*4 | 255 | 48 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-48P-S | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Base | ● | 4094 | 48 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-48P-E | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Services | ● | 4094 | 48 | – | 435 W | 715 W AC | 1 RU |
| WS-C3850-48F-L | 40 Gbps | 48 | – | – | – | 4 | 4 | – | LAN Base | –*4 | 255 | 48 | – | 800 W | 1100 W AC | 1 RU |
| WS-C3850-48F-S | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Base | ● | 4094 | 48 | – | 800 W | 1100 W AC | 1 RU |
| WS-C3850-48F-E | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Services | ● | 4094 | 48 | – | 800 W | 1100 W AC | 1 RU |
| WS-C3850-48U-L | 40 Gbps | 48 | – | – | – | 4 | 4 | – | LAN Base | –*4 | 255 | 48 | 48 | 800 W | 1100 W AC | 1 RU |
| WS-C3850-48U-S | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Base | ● | 4094 | 48 | 48 | 800 W | 1100 W AC | 1 RU |
| WS-C3850-48U-E | 40 Gbps | 48 | – | – | – | 4 | 4 | – | IP Services | ● | 4094 | 48 | 48 | 800 W | 1100 W AC | 1 RU |
| WS-C3850-12X48U-L | 40 Gbps | 36 | 12 | – | – | 4 | 8 | 2 | LAN Base | –*4 | 255 | 48 | 48 | 630 W | 1100 W AC | 1 RU |
| WS-C3850-12X48U-S | 40 Gbps | 36 | 12 | – | – | 4 | 8 | 2 | IP Base | ● | 4094 | 48 | 48 | 630 W | 1100 W AC | 1 RU |
| WS-C3850-12X48U-E | 40 Gbps | 36 | 12 | – | – | 4 | 8 | 2 | IP Services | ● | 4094 | 48 | 48 | 630 W | 1100 W AC | 1 RU |
| WS-C3850-12S-S | 20 Gpbs | – | – | 12 | – | 4 | 2 | – | IP Base | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-12S-E | 20 Gpbs | – | – | 12 | – | 4 | 2 | – | IP Services | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-12XS-S | 40 Gbps | – | – | – | 12 | – | 4 | – | IP Base | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-12XS-E | 40 Gbps | – | – | – | 12 | – | 4 | – | IP Services | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24S-S | 20 Gpbs | – | – | 24 | – | 4 | 2 | – | IP Base | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24S-E | 20 Gpbs | – | – | 24 | – | 4 | 2 | – | IP Services | ● | 4094 | – | – | – | 350 W AC | 1 RU |
| WS-C3850-24XS-S | 40 Gbps | – | – | – | 24 | – | 8 | 2 | IP Base | ● | 4094 | – | – | – | 715 W AC | 1 RU |
| WS-C3850-24XS-E | 40 Gbps | – | – | – | 24 | – | 8 | 2 | IP Services | ● | 4094 | – | – | – | 715 W AC | 1 RU |
| WS-C3850-48XS-S | 40 Gbps | – | – | – | 48 | – | – | 4 | IP Base | ● | 4094 | – | – | – | 750 W AC | 1 RU |
| WS-C3850-48XS-E | 40 Gbps | – | – | – | 48 | – | – | 4 | IP Services | ● | 4094 | – | – | – | 750 W AC | 1 RU |
| WS-C3850-48XS-F-S | 40 Gbps | – | – | – | 48 | – | – | 4 | IP Base | ● | 4094 | – | – | – | 750 W AC | 1 RU |
| WS-C3850-48XS-F-E | 40 Gbps | – | – | – | 48 | – | – | 4 | IP Services | ● | 4094 | – | – | – | 750 W AC | 1 RU |

### ■ Network Module for the Cisco Catalyst 3850 Series

| SKU | Description | Supported Configuration (SFP/SFP+/QSFP) |
|---|---|---|
| C3850-NM-4-1G | Network Module equipped with SFP module slots for 24/48-port models, mGig models, 1 G fiber models | 4/0/0 |
| C3850-NM-2-10G | Network Module equipped with SFP+ module slots for 24/48-port models, mGig models, 1 G fiber models | 4/0/0, 3/1/0, 2/2/0, 0/2/0 |
| C3850-NM-4-10G | Network Module equipped with SFP+ module slots for 48-port models, mGig models, 10 G fiber models | 4/0/0, 3/1/0, 2/2/0, 1/3/0, 0/4/0 |
| C3850-NM-8-10G | Network Module equipped with SFP+ module slots for mGig models & 24-port 10 G fiber models | 8/0/0 |
| C3850-NM-2-40G | Network Module equipped with QSFP module slots for mGig models & 24-port 10 G fiber models | 0/0/2 |

### ■ Power Supply Module for the Cisco Catalyst 3850 Series

| SKU | Description | SKU | Description |
|---|---|---|---|
| PWR-C1-350WAC | 350 W AC Power Supply Module | PWR-C3-750WAC-R | 750 W AC Front-to-Back Airflow Power Supply Module for WS-C3850-48XS |
| PWR-C1-715WAC | 715 W AC Power Supply Module | PWR-C3-750WAC-F | 750 W AC Back-to-Front Airflow Power Supply Module for WS-C3850-48XS |
| PWR-C1-1100WAC | 1100 W AC Power Supply Module | PWR-C3-750WDC-R | 750 W DC Front-to-Back Airflow Power Supply Module for WS-C3850-48XS |
| PWR-C1-440WDC | 440 W DC Power Supply Module | PWR-C3-750WDC-F | 750 W DC Back-to-Front Airflow Power Supply Module for WS-C3850-48XS |

*1 48-ports 10 G fiber models are not supported. *2 Network Module for the Cisco Catalyst 3850 Series is required (Except for 48-port fiber models).
*3 For the default power supply configuration. *4 Cisco IOS IP Base/IP Services License is required.

## Additional Access Point License for the Cisco 3850 Series

| SKU | Additional | Primary Upgrade SKU |
|---|---|---|
| L-LIC-CTIOS-1A | 1 | L-LIC-CT3850-UPG |

## Cisco IOS XE Upgrade License for the Cisco Catalyst 3850 Series

| SKU | Description |
|---|---|
| L-C3850-12-S-E | Cisco IOS IP Services License for 12-port IP Base model |
| L-C3850-24-L-S | Cisco IOS IP Base License for 24-port LAN Base model |
| L-C3850-24-S-E | Cisco IOS IP Services License for 24-port IP Base model |
| L-C3850-24-L-E | Cisco IOS IP Services License for 24-port LAN Base model |
| L-C3850-48-L-S | Cisco IOS IP Base License for 48-port LAN Base model |
| L-C3850-48-S-E | Cisco IOS IP Services License for 48-port IP Base model |
| L-C3850-48-L-E | Cisco IOS IP Services License for 48-port LAN Base model |

## Cisco Catalyst 3850 Series Bundle

| SKU | Bundle | | | |
|---|---|---|---|---|
| | Model | Network Module | Number of Access Point Licenses | Cisco IOS |
| WS-C3850-24PW-S | WS-C3850-24P-S | – | 5 | IP Base |
| WS-C3850-24UW-S | WS-C3850-24U-S | – | 5 | IP Base |
| WS-C3850-24XUW-S | WS-C3850-24XU-S | – | 5 | IP Base |
| WS-C3850-48W-S | WS-C3850-48P-S | – | 5 | IP Base |
| WS-C3850-48PW-S | WS-C3850-48F-S | – | 5 | IP Base |
| WS-C3850-48UW-S | WS-C3850-48U-S | – | 5 | IP Base |
| WS-C3850-12X48UW-S | WS-C3850-12X48U-S | – | 5 | IP Base |
| WS-C3850-16XS-S | WS-C3850-12XS-S | C3850-NM-4-10G | 5 | IP Base |
| WS-C3850-16XS-E | WS-C3850-12XS-E | C3850-NM-4-10G | 5 | IP Services |
| WS-C3850-32XS-S | WS-C3850-24XS-S | C3850-NM-8-10G | 5 | IP Base |
| WS-C3850-32XS-E | WS-C3850-24XS-E | C3850-NM-8-10G | 5 | IP Services |

# Cisco Catalyst Multigigabit Technology (mGig)

## Challenges for Wired LAN Posed by 11ac "Gigabit Wireless LAN"

IEEE 802.11ac is a super high-speed wireless standard that delivers a theoretical maximum throughput of up to 6.9 Gbps. Wireless LAN is literally entering the "Gigabit era", but the migration to 11ac is presenting wired LAN with "old and new" challenges. In other words, these are the same old challenges that were experienced during the migration from 11a/g to 11n.

During the migration from 11a/g to 11n, it was obvious that Fast Ethernet switches (max 100 Mbps) had insufficient capacity to server as access switches for accommodating the access points. Similarly today, it is obvious that 1-Gigabit Ethernet switches (1 GE, max 1000 Mbps) have insufficient capacity when migrating from 11n to 11ac. Specifically:

- A bottleneck will occur if the uplink port of the access switches accommodating multiple 11ac compatible access points is 1 GE.
- A bottleneck will occur if the downlink port of the access switches accommodating 11ac Wave compatible access points is 1 GE.

Therefore, as was during the migration from 11a/g to 11n, replacement of access switches is therefore indispensable in order to unleash the full potential of 11ac.

The only current IEEE standard that is faster than 1 GE is 10 Gigabit Ethernet (10 GE) with copper or optical fiber cables. However, there are some difficulties associated with the deployment of 10 GE-compatible switches.

- Cable re-installation is required in many cases: Category 5e accounts for 46 % and Category 6 accounts for 28 % of the copper cables currently installed in corporations around the world, respectively. 10 GE via copper is not supported for Category 5e cables and is limited to a length of 55 meters for Category 6 cables. Installations of optical fiber cables and copper wire cables both require huge costs.
- Current 10 GE does not support PoE: Power supply units and power cables would be required for the access points.

## Cisco Catalyst Multigigabit Technology (mGig)

Cisco's innovative Cisco Catalyst Multigigabit Technology (mGig) has been developed to address all of these challenges posed by the deployment of 11ac. Largely, mGig offers the following three advantages:

- Multi-speed: Category 5e cables support 100 Mbps, 1 Gbps, 2.5 Gbps and 5 Gbps; and category 6a cables support 10 Gbps, respectively.
- Cable type: A wide variety of cable types are supported including Category 5e, Category 6, and Category 6a.
- PoE: PoE (15.4 W), PoE+ (30 W), and UPOE (60 W) are supported unlike the current 10 GE.

mGig is based on the technology of the NBASE-T Alliance established by Cisco in October 2014. A large number of vendors are participating in the NBASE-T Alliance; and IEEE standardization is currently being promoted for 2.5GBASE-T for 5GBASE-T.

### Advantages of mGig

11ac Wave 1 AP
Max 1.3 Gbps

11ac Wave 2 AP
Max 3.5 Gbps

mGig
Access Switch

mGig
Core Switch

Category 5e cables supports 2.5 Gbps and 5 Gbps. Category 6a cables support 10 Gbps.

PoE (15.4 W), PoE+ (30 W) and UPOE (60 W) are supported.
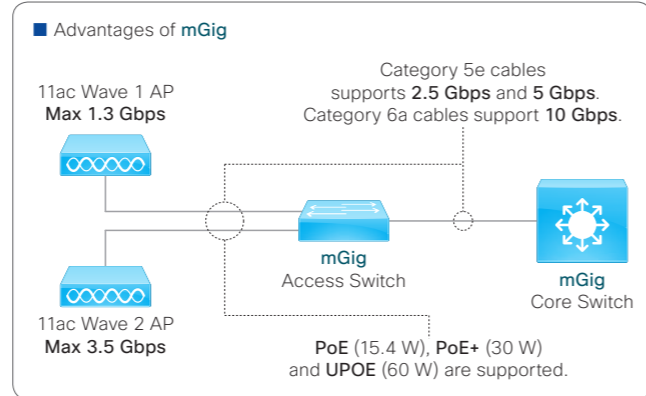
### Cisco Catalyst Multigigabit Technology (mGig): Speeds and Cables

| Cable Type | 1 Gbps | 2.5 Gbps | 5 Gbps | 10 Gbps |
|---|---|---|---|---|
| Cat 5e | ● | ● | ● | – |
| Cat 6 | ● | ● | ● | ●(55m) |
| Cat 6a | ● | ● | ● | ● |

# Modules & Accessories

## Cisco Redundant Power System (RPS) 2300

| SKU | Description | Compatible Series | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 95 - 500 | 2960-L | 2960-CX | 3560-CX | 2960-X | 3650 | 3850 |
| PWR-RPS2300 | Cisco RPS 2300 Chassis | – | – | – | – | ●[*1] | ●[*2] | – |
| C3K-PWR-750WAC | 750 W AC Power Supply Module for Cisco RPS 2300 | – | – | – | – | ●[*1] | ●[*2] | – |
| CAB-RPS2300= | Spare 14-pin RPS Cable for Cisco RPS 2300 | – | – | – | – | – | – | – |
| CAB-RPS2300-E= | Spare 22-pin RPS Cable for Cisco RPS 2300 | – | – | – | – | ●[*1] | ●[*2] | – |

## Cisco Transceiver Module

| SKU | Description | Max Distance | Compatible Series | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 95 - 500 | 2960-L | 2960-CX | 3560-CX | 2960-X | 3650 | 3850 |
| MGBT1 | 1000BASE-T SFP Module | 100 m | ● | – | – | – | – | – | – |
| MGBSX1 | 1000BASE-SX SFP Module | 500 m | ● | – | – | – | – | – | – |
| MGBLH1 | 1000BASE-LHSFP Module | 40 km | ● | – | – | – | – | – | – |
| GLC-FE-100FX | 100BASE-FX SFP Module | 2 km | – | – | – | – | – | – | – |
| GLC-GE-100FX | 100BASE-FX SFP Module | 2 km | – | – | ● | ● | ● | ● | ● |
| GLC-TE | 1000BASE-T SFP Module | 100 m | – | – | ● | ● | ● | ● | ● |
| GLC-SX-MMD | 1000BASE-SX SFP Module | 1 km | – | – | ● | ● | ● | ● | ● |
| GLC-LH-SMD | 1000BASE-LX SFP Module | 10 km | ● | – | ● | ● | ● | ● | ● |
| GLC-BX-D | 1000BASE-BX SFP Module | 10 km | – | – | ● | ● | ● | ● | ● |
| GLC-BX-U | 1000BASE-BX SFP Module | 10 km | ● | – | ● | ● | ● | ● | ● |
| GLC-EX-SMD | 1000BASE-EX SFP Module | 40 km | – | – | ● | ● | ● | ● | ● |
| GLC-ZX-SMD | 1000BASE-ZX SFP Module | 70 km | – | – | ● | ● | ● | ● | ● |
| SFP-H10GB-CU1M | 10GBASE-CU SFP Module | 1 m | ● | – | – | ● | ● | ● | ● |
| SFP-H10GB-CU1-5M | 10GBASE-CU SFP Module | 1.5 m | – | – | – | ● | ● | ● | ● |
| SFP-H10GB-CU2M | 10GBASE-CU SFP Module | 2 m | – | – | – | ● | ● | ● | ● |
| SFP-H10GB-CU2-5M | 10GBASE-CU SFP Module | 2.5 m | – | – | – | ● | ● | ● | ● |
| SFP-H10GB-CU3M | 10GBASE-CU SFP Module | 3 m | ● | – | – | ● | ● | ● | ● |
| SFP-H10GB-CU5M | 10GBASE-CU SFP Module | 5 m | ● | – | – | ● | ● | ● | ● |
| SFP-H10GB-ACU7M | 10GBASE-ACU SFP Module | 7 m | – | – | – | ● | ● | ● | ● |
| SFP-H10GB-ACU10M | 10GBASE-ACU SFP Module | 10 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC1M | 10GBASE-AOC SFP Module | 1 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC2M | 10GBASE-AOC SFP Module | 2 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC3M | 10GBASE-AOC SFP Module | 3 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC5M | 10GBASE-AOC SFP Module | 5 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC7M | 10GBASE-AOC SFP Module | 7 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-AOC10M | 10GBASE-AOC SFP Module | 10 m | – | – | – | ● | ● | ● | ● |
| SFP-10G-SR-S | S-class 10GBASE-SR SFP+ Module | 400 m | ● | – | – | – | ● | ● | ● |
| SFP-10G-SR | 10GBASE-SR SFP+ Module | 400 m | ● | – | – | – | ● | ● | ● |
| SFP-10G-LRM | 10GBASE-LRM SFP Module | 300 m | ● | – | – | ● | ● | ● | ● |
| SFP-10G-LR-S | S-class 10GBASE-LR SFP+ Module | 10 km | ● | – | – | – | ● | ● | ● |
| SFP-10G-LR | 10GBASE-LR SFP+ Module | 10 km | ● | – | – | ● | ● | ● | ● |
| SFP-10G-BXD-I | 10GBASE-BX SFP+ Module | 10 km | – | – | – | – | – | ● | ● |
| SFP-10G-BXU-I | 10GBASE-BX SFP+ Module | 10 km | – | – | – | – | – | ● | ● |
| SFP-10G-BX40D-I | 10GBASE-BX SFP+ Module | 40 km | – | – | – | – | – | ● | ● |
| SFP-10G-BX40U-I | 10GBASE-BX SFP+ Module | 40 km | – | – | – | – | – | ● | ● |
| SFP-10G-ER-S | S-class 10GBASE-ER SFP+ Module | 40 km | – | – | – | – | ● | ● | ● |
| SFP-10G-ER | 10GBASE-ER SFP+ Module | 40 km | – | – | ● | ● | ● | ● | ● |
| SFP-10G-ZR-S | S-class 10GBASE-ZR SFP+ Module | 80 km | – | – | – | – | ● | ● | ● |
| SFP-10G-ZR | 10GBASE-ZR SFP+ Module | 80 km | – | – | ● | ● | ● | ● | ● |
| QSFP-H40G-CU1M | 40GBASE-CU CFP Module | 1 m | – | – | – | – | – | – | ● |
| QSFP-H40G-CU3M | 40GBASE-CU CFP Module | 3 m | – | – | – | – | – | – | ● |
| QSFP-H40G-CU5M | 40GBASE-CU CFP Module | 5 m | – | – | – | – | – | – | ● |
| QSFP-H40G-ACU7M | 40GBASE-ACU CFP Module | 7 m | – | – | – | – | – | – | ● |
| QSFP-H40G-ACU10M | 40GBASE-ACU CFP Module | 10 m | – | – | – | – | – | – | ● |
| QSFP-40G-SR-BD | 40GBASE-SR CFP Module | 150 m | – | – | – | – | – | – | ● |
| QSFP-40G-SR4 | 40GBASE-SR4 CFP Module | 150 m | – | – | – | – | – | – | ● |
| QSFP-40G-CSR4 | 40GBASE-CSR4 CFP Module | 400 m | – | – | – | – | – | – | ● |
| QSFP-40G-LR4 | 40GBASE-LR4 CFP Module | 10 km | – | – | – | – | – | – | ● |

*1 LAN Base models only. *2 Mini models only.

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# Connect

## Wireless

## Cisco Mobility Express Solution

The **Cisco Mobility Express Solution** is specifically designed to help small and medium-sized networks easily and cost-effectively deliver enterprise-class wireless access to employees and customers. Cisco Mobility Express Solution is an on-premise, managed Wi-Fi solution that offers:

● The virtual **wireless controller** function supported on **Cisco Aironet 1815i/1815m/1815w/1830/1850/2800/3800/1540/1560 Series**[*1]
● Management and control over **Cisco Aironet Access Points** including existing models such as Cisco Aironet 700/1600/1700/2600/2700/3500/3600/3700 Series
● Easy, over-the-air interface for deployment in under **10 minutes**
● Small and medium-sized deployments of **50 access points** and **1,000 clients** on Cisco Aironet 1815i/1815m/1815w/1830/1850/1540 Series, and up to **100 access points** and **2,000 clients** on Cisco Aironet 2800/3800/1560 Series

In the Cisco Mobility Express Solution, one access point (AP), running the Cisco Mobility Express wireless controller, is designated as the **master AP**. Other access points, referred to as **subordinate APs**, associate to this master AP. The master AP operates as a **wireless controller**, to manage and control the subordinate APs, and also operates as an access point to serve clients. The subordinate APs behave as normal lightweight access points to serve clients.

3-step over-the-air wireless network configuration

**Master AP**
operates as
a wireless controller

**Subordinate APs**
behave as
normal lightweight APs

Aironet 1815i/1815m/1815w/
1830/1850/
2800/3800/
1540/1560

Aironet 1700/2700/3700
and so on
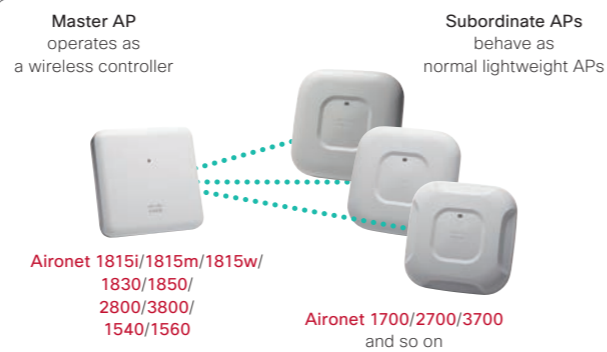
## Cisco Mobility Express Software for Cisco Wireless Release 8.5

In the **Cisco Wireless Release 8.5**, the following new features and functionalities have been introduced to the Cisco Mobility Express Software:

● Support for the following access points:
  ・Cisco Aironet 1815m
  ・Cisco Aironet 1540 Series
● Support for centralized NAT configuration
● Fastlane support on WLAN GUI
● Enhanced best practices with the following provisions in the GUI:
  ・Improved support for Apple devices through QoS Fastlane
  (for iOS application traffic prioritization)
  ・Support for ISE RADIUS
  ・Support for RF management through Flexible Radio Assignment (FRA)
● Support for external antenna configuration
● ACL enhancements in the GUI
● TACACS and RADIUS support for admin accounts
● Rogue AP detection
● External Syslog server support
● GUI enhancement to change AP configuration from Mobility Express to CAPWAP and vice versa
● Passpoint
● Support for Communications Assistance for Law Enforcement Act (CALEA)

■ RF Optimization in the Web User Interface
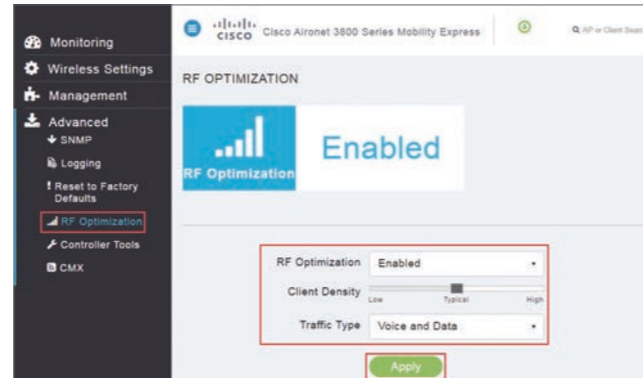
■ CMX Settings in the Web User Interface
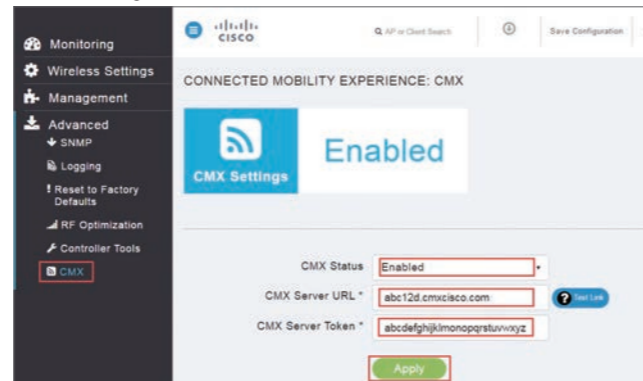
■ Scalability: Cisco Wireless Release 8.5

| Master APs | Subordinate APs | Clients |
|---|---|---|
| Aironet 1815i/m/w, 1830, 1850 | 50 | 1,000 |
| Aironet 2800 | 100 | 2,000 |
| Aironet 3800 | 100 | 2,000 |
| Aironet 1540 | 50 | 1,000 |
| Aironet 1560 | 100 | 2,000 |

## Single Point Setup

The **Single Point Setup (SPS)** is a multi-access point deployment technology supported on the **Cisco WAP Access Points**. It provides a unique centralized method to administer and control wireless services across multiple access points without controllers.
Via one access point on the LAN, you have a single view of the whole wireless LAN to replicate configuration, security, and management across all access points. With SPS, the wireless LAN can scale up to **4**, **8**, or **16** WAPs to provide broader coverage and support additional users as business needs change.

● **100 Series WAP** supports **4** WAPs in a SPS cluster (except WAP 131)
● **300 Series WAP** supports **8** WAPs in a SPS cluster.
● **500 Series WAP** supports **16** WAPs in a SPS cluster.

You can easily create a SPS cluster of WAPs or add a new WAP to an existing SPS cluster, by the simple setup wizard or web-based configuration utility.
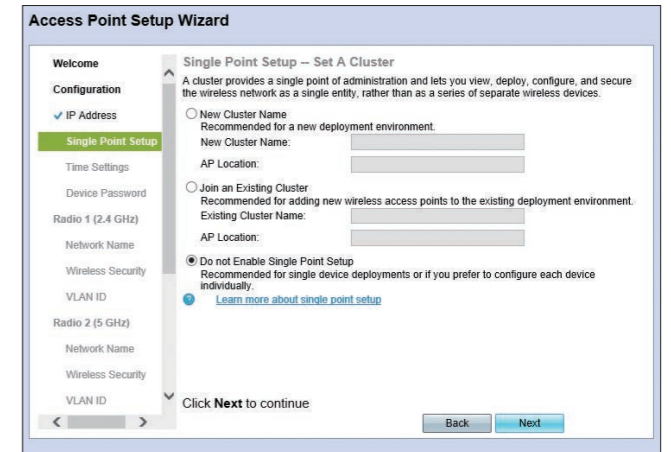
## Cisco High Density Experience (HDX) Technology

With the introduction of IEEE 802.11ac (11ac) technology, networks are only going to get more crowded. We have enhanced **Cisco High Density Experience (HDX)** suite of solutions, which automatically manages the airwaves and improves Wi-Fi performance. Available on the **Cisco Aironet 2700/2800/3700/3800 Series** Indoor Access Points and the **Cisco Aironet 1560/1570 Series** Outdoor Access Point, HDX is regularly updated with new features that alleviate high-density network strain and improve user experiences as 11ac and other trends load the airwaves with more traffic.

● Flexible Radio Assignment & Dual 5-GHz[*1]: Allows the access points to intelligently determine the operating mode of serving radios based on the RF environment. The Dual 5-GHz mode enables both radios to operate in 5-GHz client serving mode, allowing an industry-leading 5.2 Gbps (2 x 2.6 Gbps) over-the-air speed while increasing client capacity.
● Turbo performance: Dedicates CPU & RAM to each radio, allows access points to scale to 60 clients or more, with each client running media-rich video or interactive traffic, without any performance degradation.

● Cisco ClientLink for 11ac: improves downlink performance to all mobile devices, including one-, two-, and three-spatial-stream devices on 11a/b/g/n/ac while improving battery life on mobile devices such as smartphones and tablets.
● Cisco CleanAir for 11ac: enhanced with 80-, and 160-MHz channel support, provides proactive, high-speed spectrum intelligence to combat performance problems due to wireless interference.
● Optimized Roaming: Helps ensure that client devices associate with the access point in their coverage range that offers the fastest data rate available.
● Dynamic Bandwidth Selection: Automatically selects the optimal channel width for each radio. For example: If radar is detected on part, but not all, of the frequency, the access point can narrow the serving channel rather than moving entirely to a new frequency, enhancing spectrum efficiency.
● Zero Impact AVC[*1]: Uses dedicated hardware acceleration to improve the performance of line-speed applications such as Cisco Application Visibility and Control (AVC).

## Cisco ClientLink for 11ac

In a mixed environment with low-speed clients (e.g. 11a/g clients) and high-speed clients (e.g. 11n/ac clients), the communication performance of the entire wireless LAN network will be dragged down by the slower clients. The **Cisco ClientLink** technology implemented on Cisco Aironet Access Points uses the signal processing expansion function, which is embedded in the chipset, to analyze the uplink communication signals from the client and strengthen/optimize the downlink communication signals to enhance the communication performance of low-speed clients. **Cisco ClientLink 3.0/4.0** implemented on the **Cisco Aironet 1560/1570/2700/2800/3700/3800 Series** use the third or fourth antenna of the access points to also enhance the communication performance of 11n/ac-compatible clients supporting up to three data streams, including the iPhone, iPad and latest laptops.

Boost overall throughput
in mixed-client wireless networks

Does NOT require any special capabilities in the client device to work
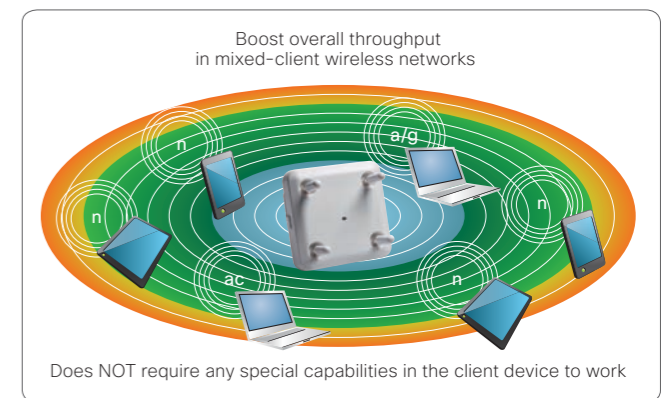
## Cisco CleanAir for 11ac

The **Cisco CleanAir** is an innovative technology for the Controller-based Wireless Solution that enables construction of self-recovering, self-optimizing wireless LAN environments.
In conventional technologies, the network administrators were required to move around carrying a sensor-equipped laptop in order to identify the source of radio interference. In Cisco CleanAir, the Cisco Aironet Access Points with built-in ASIC (a dedicated custom chip) serve the roles of a measuring instrument and an analyzer for the wireless environment; and the data obtained from

Cisco Aironet Access Points are presented in a visualized manner. This enables network administrators to identify the cause of a problem and fix it promptly and efficiently. This technology also offers the wireless resource management function which alleviates problems by automatically optimizing the frequency band after detecting a radio interference.
**Cisco Aironet 1570/2700/3700 Series** support the 80 MHz channel bandwidth of 11ac Wave 1, and **Cisco Aironet 1560/2800/3800 Series** support the 160 MHz channel bandwidth of 11ac Wave 2.

*1 Cisco Aironet 2800/3800 Series only.

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# Cisco WAP Access Points

Cisco WAP Access Points combine business-class features with the reliability and performance needed for small business networks. The Single Point Set-up(SPS) feature makes deployment of multiple access point easy and cost effective.

● Cisco 100 Series Wireless Access Points
Sleek and simple to configure, our 100 Series delivers the performance you need at an affordable price.
● Cisco 300 Series Wireless Access Points
Get Gigabit speed for your mobile devices. Use our simple controller-less management to manage multiple access points.
● Cisco 500 Series Wireless Access Points
Get exceptional performance and coverage for mobile devices and next-generation applications. Use our simple, controller-less management to expand your wireless network.

High →

Price, Performance

Aironet

11ac WAP581 NEW

11ac WAP371   11ac WAP571   11ac WAP571E Outdoor

11ac WAP125 NEW   11ac WAP150   11ac WAP361 PoE PSE

WAP121   WAP131   WAP561

Function, Flexibility, Scalability → More

■ Cisco 100 Series Wireless Access Points

| New SKU | Existing SKU | Wireless Data Rate | Active Users per Radio | IEEE 802 | | | 2.4 GHz | 5 GHz | Con current Radios | Ports | | | PoE Ports | | AC Power |
|---------|--------------|-------------------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | 11n | 11ac Wave 1 | 11ac Wave 2 | | | | FE | GE | mGig | Input | Output | |
| WAP121-x-K9-xx | n/a | 300 Mbps | 16 | ● | – | – | ● | – | – | 1 | – | – | 1*1 | – | External |
| WAP125-x-K9-xx NEW | n/a | 867 Mbps | 16 | ● | ● | – | ● | ● | – | – | 1 | – | 1*1 | – | External |
| WAP131-x-K9-xx | WAP4410N-xx | 300 Mbps | 16 | ● | – | – | ● | ● | ● | – | 1 | – | 1*1 | – | External |
| WAP150-x-K9-xx | n/a | 867 Mbps | 16 | ● | ● | – | ● | ● | ● | – | 1 | – | 1*1 | – | External |

■ Cisco 300 Series Wireless Access Points

| New SKU | Existing SKU | Wireless Data Rate | Active Users per Radio | IEEE 802 | | | 2.4 GHz | 5 GHz | Con current Radios | Ports | | | PoE Ports | | AC Power |
|---------|--------------|-------------------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | 11n | 11ac Wave 1 | 11ac Wave 2 | | | | FE | GE | mGig | Input | Output | |
| WAP361-x-K9 | n/a | 867 Mbps | 32 | ● | ● | – | ● | ● | ● | – | 5 | – | 1*2 | 1 | External |
| WAP371-x-K9 | n/a | 1299 Mbps | 32 | ● | ● | – | ● | ● | ● | – | 1 | – | 1*2 | – | External |

■ Cisco 500 Series Wireless Access Points

| New SKU | Existing SKU | Wireless Data Rate | Active Users per Radio | IEEE 802 | | | 2.4 GHz | 5 GHz | Con current Radios | Ports | | | PoE Ports | | AC Power |
|---------|--------------|-------------------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | 11n | 11ac Wave 1 | 11ac Wave 2 | | | | FE | GE | mGig | Input | Output | |
| WAP561-x-K9 | n/a | 450 Mbps | 64 | ● | – | – | ● | ● | ● | – | 1 | – | 1*2 | – | – |
| WAP571-x-K9 | n/a | 1299 Mbps | 32 | ● | ● | – | ● | ● | ● | – | 2 | – | 2*2 | – | – |
| WAP571E-x-K9 | n/a | 1299 Mbps | 32 | ● | ● | – | ● | ● | ● | – | 2 | – | 2*2 | – | – |
| WAP581-x-K9 NEW | n/a | 1733 Mbps | 64 | ● | ● | ● | ● | ● | ● | – | 1 | 1 | 2*2 | – | – |

*1  Power Adapter (included) or Power Injector is required when not using PoE receiving.   *2  Power Adapter or Power Injector is required when not using PoE receiving.

# Cisco Aironet Access Points

## Indoor Access Points

| | | | |
|---|---|---|---|
| 2.6 Gbps | | | Cisco Aironet 2800 Series (HDX, mGig)   Cisco Aironet 3800 Series (HDX, mGig) |
| 1.7 Gbps | | | Cisco Aironet 1850 Series |
| 1.3 Gbps | | Cisco Aironet 2700 Series (HDX)   Cisco Aironet 3700 Series (HDX) | |
| 867 Mbps | | Cisco Aironet 1700 Series | Cisco Aironet 1810/1810w Series   Cisco Aironet 1815i/m/t/w Series NEW   Cisco Aironet 1830 Series |
| | **11ac Wave 1** | | **11ac Wave 2** |

■ Cisco Aironet Indoor Access Points
All models of the Cisco Aironet Indoor Access Points are compatible with the IEEE 802.11n standard; and some models are also compatible with IEEE 802.11ac delivering high-speed and stable wireless LAN environments with a theoretical maximum throughput of between 300 Mbps and 2.6 Gbps. A broad selection of models is available for various installation environments and network requirements.

● Built-in antenna model: These models feature a streamlined body and an integrated LAN/power cable using PoE (Power over Ethernet) for a stylish installation that blends into the office environment.
● External antenna model: These models feature a rigid metal chassis and support a wide range of operating temperatures for use in factories, warehouses and stores where environmental requirements are very strict. A wide selection of antennas are available for these models to suit different installation environments.

There are two types of models for Cisco Aironet Indoor Access Points: Stand-alone or Mobility Express models, and Controller-based models. The Controller-based models are designed to operate in linkage with the Cisco Wireless Controllers.

■ Highlights
● IEEE 802.11n-compatible (All models)
● IEEE 802.11ac Wave 1-compatible (Cisco Aironet 1700/2700/3700 Series)
● IEEE 802.11ac Wave 2-compatible (Cisco Aironet 1810/1810w/1815i/1815m/1815t/1815w/1830/1850/2800/3800 Series)
● 2.4 GHz/5 GHz dual-band (All models)
● Cisco CleanAir Express (Controller-based models of the Cisco Aironet 1700 Series)
● Cisco CleanAir (Controller-based models of the Cisco Aironet 2700/2800/3700/3800 Series)
● Cisco OfficeExtend (Controller-based models, excluding some models)
● Cisco ClientLink (excluding some models)
● Cisco BandSelect (Controller-based models, excluding some models)

For details on Cisco Aironet Indoor Access Points, visit the following Web site:
http://www.cisco.com/go/ap

## Cisco Aironet Access Points Transition Guide

■ Cisco Aironet Indoor Access Points

| 11n | 11ac Wave 1 | 11ac Wave 2 |
|-----|-------------|-------------|
| Cisco Aironet 600 Series OfficeExtend | – | Cisco Aironet 1810 |
| Cisco Aironet 700 Series | – | Cisco Aironet 1815i/1830 Series |
| Cisco Aironet 700W Series | – | Cisco Aironet 1815w |
| Cisco Aironet 1040 Series / Cisco Aironet 1600 Series | Cisco Aironet 1700 Series | Cisco Aironet 1850 Series |
| Cisco Aironet 1140 Series / Cisco Aironet 1250 Series / Cisco Aironet 1260 Series / Cisco Aironet 2600 Series | Cisco Aironet 2700 Series | Cisco Aironet 2800 Series |
| Cisco Aironet 3500 Series / Cisco Aironet 3600 Series | Cisco Aironet 3700 Series | Cisco Aironet 3800 Series |

*1  Cisco Aironet 3600/3700 Series are planned to support 11ac Wave 2 via addition of a module.

# Cisco Aironet 1700 Series
Dimensions (Height x Width x Depth): 5.05 x 22.07 x 22.07 cm   Weight: 1.00 kg

| SKU | Stand alone | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-CAP1702I-x-K9 | –*2 | ● | ●*3 | ● | – | ● | ● | ● | 2*4 | – | ●*7 | ● | Built-in |

# Cisco Aironet 1810 Series OfficeExtend
Dimensions (Height x Width x Depth): 4.06 x 16.51 x 11.43 cm   Weight: 0.54 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-OEAP1810-x-K9 | – | ● | – | ● | – | – | ● | ● | 4*8 | – | ●*7 | ● | Built-in |

# Cisco Aironet 1810w Series
Dimensions (Height x Width x Depth): 4.06 x 16.51 x 11.43 cm   Weight: 0.54 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1810W-x-K9 | – | ● | – | – | – | ● | ● | ● | 4*8 | – | ●*7 | ● | Built-in |

# Cisco Aironet 1815i Series NEW
Dimensions (Height x Width x Depth): 3.30 x 15.24 x 15.24 cm   Weight: 0.40 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1815I-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 1 | – | ● | ● | Built-in |
| AIR-AP1815I-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 1 | – | ● | ● | Built-in |

# Cisco Aironet 1815m Series NEW
Dimensions (Height x Width x Depth): 3.30 x 15.24 x 15.24 cm   Weight: 0.46 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1815M-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 1 | – | ● | ● | Built-in |
| AIR-AP1815M-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 1 | – | ● | ● | Built-in |

# Cisco Aironet 1815t Series NEW
Dimensions (Height x Width x Depth): 3.81 x 15.24 x 10.16 cm   Weight: 0.37 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1815T-x-K9 | – | ● | – | – | – | ● | ● | ● | 4*8 | – | – | – | Built-in |

# Cisco Aironet 1815w Series NEW
Dimensions (Height x Width x Depth): 3.18 x 8.89 x 13.97 cm   Weight: 0.28 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1815W-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 4*8 | – | ●*7 | ● | Built-in |
| AIR-AP1815W-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 4*8 | – | ●*7 | ● | Built-in |

# Cisco Aironet 1830 Series
Dimensions (Height x Width x Depth): 5.08 x 21.08 x 21.08 cm   Weight: 1.42 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1832I-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 1 | – | ●*7 | ● | Built-in |
| AIR-AP1832I-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 1 | – | ●*7 | ● | Built-in |

# Cisco Aironet 1850 Series
Dimensions (Height x Width x Depth): 5.08 x 21.08 x 21.08 cm   Weight: 1.42 kg

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1852I-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 2*4 | – | ●*7 | ● | Built-in |
| AIR-AP1852E-x-K9C | ● | –*9 | – | – | – | ● | ● | ● | 2*4 | – | ●*7 | ● | External |
| AIR-AP1852I-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 2*4 | – | ●*7 | ● | Built-in |
| AIR-AP1852E-x-K9 | –*8 | ● | – | – | – | ● | ● | ● | 2*4 | – | ●*7 | ● | External |

# Cisco Aironet 2700 Series
Dimensions (Height x Width x Depth): 5.05 x 22.07 x 22.07 cm   Weight: 1.00 kg

| SKU | Stand alone | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-CAP2702I-x-K9 | –*2 | ● | ● | ● | ● | ● | ● | ● | 2*4 | – | ●*7 | ● | Built-in |
| AIR-CAP2702E-x-K9 | –*2 | ● | ● | ● | ● | ● | ● | ● | 2*4 | – | ●*7 | ● | External |

# Cisco Aironet 2800 Series
Dimensions (Height x Width x Depth): 5.51 x 22.00 x 22.05 cm   Weight: 1.60 kg*10

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP2802I-x-K9C | ● | –*9 | ● | ● | ● | ● | ● | ● | 2*4 | – | – | ● | Built-in |
| AIR-AP2802E-x-K9C | ● | –*9 | ● | ● | ● | ● | ● | ● | 2*4 | – | – | ● | External |
| AIR-AP2802I-x-K9 | –*8 | ● | ● | ● | ● | ● | ● | ● | 2*4 | – | – | ● | Built-in |
| AIR-AP2802E-x-K9 | –*8 | ● | ● | ● | ● | ● | ● | ● | 2*4 | – | – | ● | External |

# Cisco Aironet 3700 Series
Dimensions (Height x Width x Depth): 5.36 x 22.10 x 22.10 cm   Weight: 1.13 kg

| SKU | Stand alone | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-CAP3702I-x-K9 | –*2 | ● | ● | ● | ● | ● | ● | ● | 1 | – | ●*7 | ● | Built-in |
| AIR-CAP3702E-x-K9 | –*2 | ● | ● | ● | ● | ● | ● | ● | 1 | – | ●*7 | ● | External |
| AIR-CAP3702P-x-K9 | –*2 | ● | ● | – | ● | ● | ● | ● | 1 | – | ●*7 | ● | External |

# Cisco Aironet 3800 Series
Dimensions (Height x Width x Depth): 6.25 x 22.00 x 22.05 cm   Weight: 2.00 kg*11

| SKU | ME Master | Controller based | Clean Air | Office Extend | Client Link | Band Select | 11n | 11ac | GE | mGig | 802.3af | 802.3at | Antenna |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP3802I-x-K9C | ● | –*9 | ● | ● | ● | ● | ● | ● | 1 | 1 | – | ● | Built-in |
| AIR-AP3802E-x-K9C | ● | –*9 | ● | ● | ● | ● | ● | ● | 1 | 1 | – | ● | External |
| AIR-AP3802P-x-K9C | ● | –*9 | ● | ● | ● | ● | ● | ● | 1 | 1 | – | ● | External |
| AIR-AP3802I-x-K9 | –*8 | ● | ● | ● | ● | ● | ● | ● | 1 | 1 | – | ● | Built-in |
| AIR-AP3802E-x-K9 | –*8 | ● | ● | ● | ● | ● | ● | ● | 1 | 1 | – | ● | External |
| AIR-AP3802P-x-K9 | –*8 | ● | ● | – | ● | ● | ● | ● | 1 | 1 | – | ● | External |

# Cisco Hyperlocation Solution for the Cisco Aironet 3700 Series

| SKU | Description |
|---|---|
| AIR-RM3010L-x-K9= | Hyperlocation Module with Advance Security. |
| AIR-ANT-LOC-01= | Hyperlocation Antenna, Model 1, Attached Omni. |

*1 The Cisco Aironet Power Supply option is required when not using PoE receiving.   *2 Migration to the standalone mode is supported.
*3 Cisco CleanAir Express is supported in Cisco AireOS 8.0 or higher.   *4 AUX x 1 is included.   *5 A dedicated WAN port is included.   *6 PoE power supplying GE x 1 is included.
*7 Some features are disabled when powered via PoE (see datasheet).   *8 Migration to the Mobility Express model is supported.   *9 Migration to the controller-based mode is supported.
*10 Aironet 2802E – Dimensions (Height x Width x Depth): 6.35 x 22.00 x 22.28 cm, Weight: 2.10 kg
*11 Aironet 3802E and 3802P – Dimensions (Height x Width x Depth): 6.65 x 22.00 x 22.05 cm, Weight: 2.10 kg.

# Outdoor Access Points

## Cisco Aironet Outdoor Access Points
The Cisco Aironet Outdoor Access Points deliver high-speed and stable wireless LAN environments in various locations such as in a massive city-size area, inside a company building, a factory ground, or a mining field.
Featuring a chassis with IEC IP67 waterproof and NEMA Type 4X certified outdoor dust/rust resistance, a wide lineup of outdoor models is available to meet the diversifying customer needs in the harshest of environments.

- Built-in antenna models: Cisco Aironet 1542I/D, Cisco Aironet 1562I/D, and Cisco Aironet 1572IC have a polished exterior design that blends into the surrounding environment.
- External antenna models: A wide selection of antennas are available for Cisco Aironet 1562E and Cisco Aironet 1572EAC/EC to suit different installation environments.
- Built-in cable modem models: Cisco Aironet 1572IC/EC incorporate a cable modem that is compatible with DOCSIS 3.0 (24x8), an international standard for communication services via coaxial cables used for cable television, etc.

## Highlights
- IEC IP67 waterproof (All models)
- NEMA Type 4X certified outdoor dust/rust resistance (All models)
- Designed for harsh outdoor environments (All models)
- Built-in SFP module slot (Cisco Aironet 1560/1570 Series)
- GPS (Cisco Aironet 1570 Series) *1
- IEEE 802.11ac Wave 1-compatible (Cisco Aironet 1570 Series)
- IEEE 802.11ac Wave 2-compatible (Cisco Aironet 1540/1560 Series)
- 2.4 GHz/5 GHz dual-band (All models)
- Cisco CleanAir (Cisco Aironet 1560/1570 Series)
- Cisco ClientLink (Cisco Aironet 1560/1570 Series)
- Cisco High Density Experience (HDX) (Cisco Aironet 1560/1570 Series)

Cisco Aironet 1542D / Cisco Aironet 1562E
Cisco Aironet 1572IC
Cisco Aironet 1542I/D / Cisco Aironet 1562I/D
Cisco Aironet 1572EAC/EC

| Model Name | Dimensions (Height x Width x Depth) | Maximum Weight |
|---|---|---|
| Cisco Aironet 1542I NEW | 20.07 x 14.99 x 6.10 cm | 1.25 kg |
| Cisco Aironet 1542D NEW | 20.07 x 14.99 x 6.10 cm | 1.25 kg |
| Cisco Aironet 1562I | 22.86 x 17.27 x 9.90 cm | 2.54 kg |
| Cisco Aironet 1562E | 22.86 x 17.27 x 9.90 cm | 2.54 kg |
| Cisco Aironet 1562D | 22.86 x 17.27 x 10.92 cm | 2.59 kg |
| Cisco Aironet 1572IC | 29.97 x 20.07 x 20.07 cm | 5.22 kg |
| Cisco Aironet 1572EAC | 29.97 x 20.07 x 16.00 cm | 6.12 kg |
| Cisco Aironet 1572EC | 29.97 x 20.07 x 16.00 cm | 6.12 kg |

## Cisco Aironet 1540 Series

| SKU | Clean Air | Client Link | GE | SFP | Cable | AC | DC | PoE+ (PSE) | PoE (PD) | PoE+ (PD) | UPOE (PD) | PoC (PD) | Built-in Omnidirectional | Built-in Directional | External Dual-band | External Single-band |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-CAP1542I-x-K9 | – | – | 1 | – | – | – | ● | – | ● | ● | – | – | 2 | – | – | – |
| AIR-CAP1542D-x-K9 | – | – | 1 | – | – | – | ● | – | ● | ● | – | – | – | 2 | – | – |

## Cisco Aironet 1560 Series

| SKU | Clean Air | Client Link | GE | SFP | Cable | AC | DC | PoE+ (PSE) | PoE (PD) | PoE+ (PD) | UPOE (PD) | PoC (PD) | Built-in Omnidirectional | Built-in Directional | External Dual-band | External Single-band |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1562I-x-K9 | ● | ● | 1 | 1 | – | – | ● | – | – | – | ● | – | 3 | – | – | – |
| AIR-AP1562E-x-K9 | ● | ● | 1 | 1 | – | – | ● | – | – | – | ● | – | – | – | 2 | 2 + 2 |
| AIR-AP1562D-x-K9 | ● | ● | 1 | 1 | – | – | ● | – | – | – | ● | – | 2 | – | – | – |

## Cisco Aironet 1570 Series

| SKU | Clean Air | Client Link | GE | SFP | Cable | AC | DC | PoE+ (PSE) | PoE (PD) | PoE+ (PD) | UPOE (PD) | PoC (PD) | Built-in Omnidirectional | Built-in Directional | External Dual-band | External Single-band |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-AP1572ICn-x-K9*2 | ● | ● | 2 | 1 | 1 | – | ● | – | – | – | – | ● | 4 | – | – | – |
| AIR-AP1572EAC-x-K9 | ● | ● | 2 | 1 | – | ● | ● | – | – | – | ● | – | – | – | 4 | 2 + 2 |
| AIR-AP1572ECn-x-K9*2 | ● | ● | 2 | 1 | 1 | – | ● | – | – | – | – | ● | – | – | 4 | 2 + 2 |

*1 GPS Antenna (AIR-ANT-GPS-1) is required.
*2 If "n" is "1", Diplex Filter split of: 5-42/88-1000 MHz. If "n" is "2", Diplex Filter split of: 5-85/108-1002 MHz. If "n" is "3", Diplex Filter split of: 5-65/108-1002 MHz.

## What is Meant by a "x" Included in the SKU (Cisco Aironet Access Points)

### Standalone Access Points*1

| Country | Australia | Brunei | China | Fiji | Hong Kong | India | Indonesia | Japan | Korea | Macau | Malaysia | Mongolia | New Zealand | Pakistan | Philippines | Singapore | Sri Lanka | Taiwan | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | Z | S | H | N | N | N | F | Q | K | C | C | E | Z | – | A | S | E | T | E | E |

### Controller-based Indoor Access Points*1

| Country | Australia | Brunei | China | Fiji | Hong Kong | India | Indonesia | Japan | Korea | Macau | Malaysia | Mongolia | New Zealand | Pakistan | Philippines | Singapore | Sri Lanka | Taiwan | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | Z | S | H | N | N, S | D, N | F | Q | K | C, S | C, K | E, H | Z | C,G | A | S | E | T | E, S | E, S |

### Controller-based Outdoor Access Points*1

| Country | Australia | Brunei | China | Fiji | Hong Kong | India | Indonesia | Japan | Korea | Macau | Malaysia | Mongolia | New Zealand | Pakistan | Philippines | Singapore | Sri Lanka | Taiwan | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | N, Z | S | C, H | N | S | D, N | F | Q | K | S | C, L | E | Z | G,M | A | S | E | T | E, S | S |

*1 Customers are responsible for verifying approval for use in their individual countries.
To verify approval that corresponds to a particular country, or the regulatory domain used in a specific country, see http://www.cisco.com/go/aironet/compliance.
Not all models available for all regulatory domains. Not all regulatory domains have been approved. As they are approved, the SKU will be available on the Global Price List.

# Cisco Aironet Antennas and Accessories

## ■ Cisco Aironet 2.4 GHz Omni-directional Antenna

| SKU | Installation/Dimensions | Gain (dBi) |
|---|---|---|
| AIR-ANT2420V-N | 12.70 x 2.54 cm | 2.0 |
| AIR-ANT2450V-N | 27.94 x 2.54 cm | 5.0 |
| AIR-ANT2480V-N | 49.53 x 2.22 cm | 8.0 |

## ■ Cisco Aironet 2.4 GHz Directional Antenna

| SKU | Installation/Dimensions/Weight | Gain (dBi) |
|---|---|---|
| AIR-ANT2413P2M-N | Patch 19.81 x 19.81 x 3.05 cm 0.61 kg | 13.0 |

## ■ Cisco Aironet Dual-band Omni-directional Antenna

| SKU | Installation/Dimensions/Weight | Gain (dBi) |
|---|---|---|
| AIR-ANT2524V4C-R | Ceiling mount 18.42 x 18.42 x 2.54 cm 0.59 kg | 2.0 (2.4 GHz) 4.0 (5 GHz) |
| AIR-ANT2544V4M-R | Wall mount 55.37 x 16.00 cm 0.67 kg | 4.0 (2.4 GHz) 4.0 (5 GHz) |
| AIR-ANT2547V-N | 28.19 x 3.18 cm 170 g | 4.0 (2.4 GHz) 7.0 (5 GHz) |
| AIR-ANT2547VG-N | 28.19 x 3.18 cm 170 g | 4.0 (2.4 GHz) 7.0 (5 GHz) |
| AIR-ANT2568VG-N | 37.59 x 3.81 cm 204 g | 6.0 (2.4 GHz) 8.0 (5 GHz) |

## ■ Cisco Aironet 5 GHz Omni-directional Antenna

| SKU | Installation/Dimensions | Gain (dBi) |
|---|---|---|
| AIR-ANT5140V-N | 12.70 x 2.54 cm | 4.0 |
| AIR-ANT5180V-N | 27.94 x 2.54 cm | 8.0 |

## ■ Cisco Aironet 5 GHz Directional Antenna

| SKU | Installation/Dimensions/Weight | Gain (dBi) |
|---|---|---|
| AIR-ANT5114P2M-N | Patch 19.81 x 19.81 x 3.05 cm 0.61 kg | 14.0 |

## ■ Cisco Aironet Dual-band Dipole Antenna

| SKU | Color/Dimensions/Weight | Gain (dBi) |
|---|---|---|
| AIR-ANT2524DB-R | Black 16.84 x 2.11 cm 36.85 g | 2.0 (2.4 GHz) 4.0 (5 GHz) |
| AIR-ANT2524DG-R | Grey 16.84 x 2.11 cm 36.85 g | 2.0 (2.4 GHz) 4.0 (5 GHz) |
| AIR-ANT2524DW-R | White 16.84 x 2.11 cm 36.85 g | 2.0 (2.4 GHz) 4.0 (5 GHz) |
| AIR-ANT2535SDW-R | White 8.38 x 3.18 cm 48.19 g | 3.0 (2.4 GHz) 5.0 (5 GHz) |

## ■ Cisco Aironet Dual-band Directional Antenna

| SKU | Installation/Dimensions/Weight | Gain (dBi) |
|---|---|---|
| AIR-ANT2566P4W-R | Patch 16.00 x 27.94 x 3.05 cm 0.64 kg | 6.0 (2.4 GHz) 6.0 (5 GHz) |
| AIR-ANT2566D4M-R | Patch 25.40 x 25.40 x 4.09 cm 1.36 kg | 6.0 (2.4 GHz) 6.0 (5 GHz) |
| AIR-ANT2588P3M-N | Patch 30.48 x 17.78 x 2.79 cm 0.45 kg | 8.0 (2.4 GHz) 8.0 (5 GHz) |
| AIR-ANT2513P4M-N | Patch 30.48 x 17.78 x 2.79 cm 0.45 kg | 13.0 (2.4 GHz) 13.0 (5 GHz) |

For details on Cisco Aironet Antennas, visit the following Web site:
http://www.cisco.com/go/antenna

## ■ Cisco Aironet 2.4 GHz Omni-directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT2420V-N | 2.0 | – | – | – | – | – | – | – | – | – | • |
| AIR-ANT2450V-N | 5.0 | – | – | – | – | – | – | – | – | • | • |
| AIR-ANT2480V-N | 8.0 | – | – | – | – | – | – | – | – | • | • |

## ■ Cisco Aironet 5 GHz Omni-directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT5140V-N | – | 4.0 | – | – | – | – | – | – | – | – | • |
| AIR-ANT5180V-N | – | 8.0 | – | – | – | – | – | – | – | – | • |

## ■ Cisco Aironet 2.4 GHz Directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT2413P2M-N | 13.0 | – | – | – | – | – | – | – | – | • | • |

## ■ Cisco Aironet 5 GHz Directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT5114P2M-N | – | 14.0 | – | – | – | – | – | – | – | • | • |

## ■ Cisco Aironet Dual-band Di-pole Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT2524DB-R | 2.0 | 4.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2524DG-R | 2.0 | 4.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2524DW-R | 2.0 | 4.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2535SDW-R | 3.0 | 5.0 | • | • | • | • | • | • | • | – | – |

## ■ Cisco Aironet Dual-band Omni-directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT2524V4C-R | 2.0 | 4.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2544V4M-R | 4.0 | 4.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2547V-N | 4.0 | 7.0 | – | – | – | – | – | – | – | • | • |
| AIR-ANT2547VG-N | 4.0 | 7.0 | – | – | – | – | – | – | – | • | • |
| AIR-ANT2568VG-N | 6.0 | 8.0 | – | – | – | – | – | – | – | • | • |

## ■ Cisco Aironet Dual-band Directional Antenna Model Compatibility Comparison

| SKU | Gain (dBi) 2.4 GHz | Gain (dBi) 5 GHz | 1852E | 2702E | 2802E | 3702E | 3702P | 3802E | 3802P | 1562E | 1572E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-ANT2566P4W-R | 6.0 | 6.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2566D4M-R | 6.0 | 6.0 | • | • | • | • | • | • | • | – | – |
| AIR-ANT2588P3M-N | 8.0 | 8.0 | – | – | – | – | – | – | – | • | • |
| AIR-ANT2513P4M-N | 13.0 | 13.0 | – | – | – | • | – | – | • | • | • |

## ■ Cisco Aironet Power Supply Options

| SKU | Description | 1810 | 1810w | 1815i | 1815m | 1815t | 1815w | 1830 | 1850 | 1700 | 2700 | 2800 | 3700 | 3800 | 1540 | 1560 | 1570 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-PWRINJ5= | Power Injector | • | • | • | • | – | • | •*1 | •*1 | • | •*2 | – | – | – | – | – | – |
| AIR-PWRINJ6= | Power Injector | • | • | • | • | – | • | • | • | • | • | • | • | • | • | •*3 | – |
| AIR-PWRINJ1500-2= | Power Injector | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | •*4 |
| AIR-PWRINJ-60RGD1= | Power Injector | – | – | – | – | – | – | – | – | – | – | – | – | – | • | • | • |
| AIR-PWRINJ-60RGD2= | Power Injector | – | – | – | – | – | – | – | – | – | – | – | – | – | • | • | • |
| AIR-PWR-B= | Power Supply Module | – | – | – | – | – | – | • | • | – | – | – | • | – | – | – | – |
| AIR-PWR-C= | Power Supply Module | – | – | – | – | – | – | – | – | • | • | – | – | – | – | – | – |
| AIR-PWR-D= | Power Supply Module | • | • | – | – | • | – | – | • | – | – | – | – | – | – | – | – |
| AIR-PWR-50= | Power Supply Module | – | – | – | – | – | – | – | – | – | – | – | – | – | • | – | – |
| AIR-PWRADPT-1530= | Power Supply Module | – | – | – | – | – | – | – | – | – | – | – | – | – | – | • | – |
| AIR-PWRADPT-RGD1= | Power Supply Module | – | – | – | – | – | – | – | – | – | – | – | – | – | – | • | – |

*1  Full features are supported when powered via PoE+, AIR-PWRINJ6= or AIR-PWR-C= (The AIR-PWRINJ5 supports PoE receiving only).
*2  Full features are supported when powered via PoE+, AIR-PWRINJ6= or AIR-PWR-B= (The AIR-PWRINJ5 supports PoE receiving only).
*3  Cisco Aironet 1562I: Full features are supported when powered via UPOE, AIR-PWRINJ-60RGD1/2= or AIR-PWRADPT-RGD1= (The AIR-PWRINJ6 supports PoE+ receiving only).
*4  Cisco Aironet 1572ICn is not supported.

# Cisco Wireless Controllers

| | | | | | |
|---|---|---|---|---|---|
| Appliance/<br>Virtual Machine | | 3500 Series<br>Wireless Controller | Virtual<br>Wireless Controller | 5500 Series<br>Wireless Controller | 8500 Series<br>Wireless Controller |
| Switch | | Catalyst<br>3650 Series | Catalyst<br>3850 Series | | |
| Access Point<br>（Mobility Express） | | Aironet<br>1815i/1815m/1815w/<br>1830/1850/1540 Series | Aironet<br>2800/3800/1560 Series | | |

## Number of Managed Access Points → More

Cisco Wireless Controllers is a platform that enables controller-based management of multiple Cisco Aironet Access Points including remote bases. An extensive lineup of products includes software products for VMware ESX/ESXi and Linux Kernel-based Virtual Machine (KVM), and dedicated hardware appliances. A flexible licensing system is adopted for the number of managed access points, making it one of the most cost-effective solutions in the industry.

The required number of managed access points can be selected based on the network requirements at the time of deployment; and the number of managed access points can be expanded flexibly based on the post-deployment network requirements.

### ■ Cisco Aironet 1815i/1815m/1815w/1830/1850/2800/3800/1540/1560 Series Access Points

| | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports[1] | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| Aironet 1800 | - | 50 | 50 | 1,000 | - | 1 Gbps | - | - | - | - | - | - | - |
| Aironet 2800/3800 | - | 100 | 100 | 2,000 | - | 1 Gbps | - | - | - | - | - | - | - |
| Aironet 1800 | - | 50 | 50 | 1,000 | - | 1 Gbps | - | - | - | - | - | - | - |
| Aironet 2800/3800 | - | 100 | 100 | 2,000 | - | 1 Gbps | - | - | - | - | - | - | - |

### ■ Cisco Catalyst 3650/3850 Series Switches

| Model | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports[1] | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| Catalyst 3650 | IOS XE | 0 | 25 | 1,000 | 1,000 | 20 - 40 Gbps | - | - | - | - | - | - | 1 RU |
| Catalyst 3850 | IOS XE | 0 | 50 | 2,000 | 1,000 | 20 - 40 Gbps | - | - | - | - | - | - | 1 RU |

### ■ Cisco 3500 Series Wireless Controller [NEW]
Dimensions (Height x Width x Depth): 4.39 x 24.13 x 21.59 cm   Maximum Weight: 1.59 kg

| Model | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| AIR-CT3504-K9 | AireOS | 0 | 150 | 3,000 | 3,000 | 4 Gbps | ● | ● | 4 | 1 | - | - | –[2] |

### ■ Cisco Virtual Wireless Controller

| SKU | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| L-AIR-CTVM-5-K9 | AireOS | 5 | 3,000 | 32,000 | 3,000 | 500 Mbps | ● | - | - | - | - | - | - |

### ■ Cisco 5500 Series Wireless Controller

| SKU | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| AIR-CT5520-K9 | AireOS | 0 | 1,500 | 20,000 | 25,000 | 20 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT5520-50-K9 | AireOS | 50 | 1,500 | 20,000 | 25,000 | 20 Gbps | ● | ● | - | - | - | 2 | 1 RU |

### ■ Cisco 8500 Series Wireless Controller（8510/8540）

| SKU | OS | Managed Access Points | | Clients | RF tags | Throughput | Office<br>Extend | Wireless<br>Mesh | Ports | | | | Rack<br>mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | | | GE | mGig | SFP | SFP + | |
| AIR-CT8510-300-K9 | AireOS | 300 | 6,000 | 64,000 | 50,000 | 10 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT8510-500-K9 | AireOS | 500 | 6,000 | 64,000 | 50,000 | 10 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT8510-1K-K9 | AireOS | 1,000 | 6,000 | 64,000 | 50,000 | 10 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT8510-3K-K9 | AireOS | 3,000 | 6,000 | 64,000 | 50,000 | 10 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT8510-6K-K9 | AireOS | 6,000 | 6,000 | 64,000 | 50,000 | 10 Gbps | ● | ● | - | - | - | 2 | 1 RU |
| AIR-CT8540-K9 | AireOS | 0 | 6,000 | 64,000 | 50,000 | 40 Gbps | ● | ● | - | - | - | 4 | 2 RU |
| AIR-CT8540-1K-K9 | AireOS | 1,000 | 6,000 | 64,000 | 50,000 | 40 Gbps | ● | ● | - | - | - | 4 | 2 RU |

*1  Depends on models.    *2  Rack Mounting Brackets (AIR-3504-RMNT=) is required.

---

### ■ Additional Access Point License for Cisco 3500 Series Wireless Controller[1]

| SKU | Additional | Compatible Models |
|---|---|---|
| LIC-CT3504-1A | 1 | 3504 |

### ■ Additional Access Point License for Cisco Virtual Wireless Controller[2]

| SKU | Additional | Compatible Models |
|---|---|---|
| L-LIC-CTVM-1A | 1 | - |
| L-LIC-CTVM-5A | 5 | - |
| L-LIC-CTVM-25A | 25 | - |

### ■ Additional Access Point License for Cisco 5500 Series Wireless Controller[3]

| SKU | Additional | Compatible Models |
|---|---|---|
| LIC-CT5520-1A | 1 | 5520 |

### ■ Additional Access Point License for Cisco 8500 Series Wireless Controller[4]

| SKU | Additional | Compatible Models |
|---|---|---|
| L-LIC-CT8500-1A | 1 | 8510 |
| L-LIC-CT8500-100A | 100 | 8510 |
| L-LIC-CT8500-500A | 500 | 8510 |
| L-LIC-CT8500-1000A | 1,000 | 8510 |
| LIC-CT8540-1A | 1 | 8540 |

*1  LIC-CT3504-UPG is required.    *2  L-LIC-CTVM-UPG is required.    *3  LIC-CT5520-UPG is required.    *4  L-LIC-CT8540-UPG is required.

## Cisco Wireless Controller Software

Unlike traditional products, the Cisco Catalyst 3650/3850 Series incorporate the Cisco IOS XE based wireless controller software. Rich features of the Cisco IOS including Flexible NetFlow, advanced QoS and dACL (downloadable Access Control List) can be provided for wireless LAN networks as well.

### ■ Cisco Wireless Controller Software Specification Comparison

| | AirOS | IOS-XE |
|---|---|---|
| Resilience | Client SSO, AP SSO, N+1, High-availability option SKU | AP SSO, Multiple LAG, High-availability option SKU |
| QoS | Alloy QoS | High level of QoS (MQC) |
| Security | Dynamic ACLs, SGA (SXP) | dACL |
| Roaming | L2 and L3 FSR, IEEE 802.11r, Neighbor List | L2 and L3 FSR |
| Service | Bonjour, AVC, Static Netflow | Flexible Netflow, AVC |
| Command Line Interface | Secure FTP | Cisco IOS CLI, Secure Shell, EEM/TCL/TK |

## Deployment Modes

Cisco's wireless solutions can be broadly classified into Standalone systems that operate Cisco Aironet Access Points individually and Controller-based systems that centrally manage multiple Cisco Aironet Access Points using a Cisco Wireless Controller. Multiple expansion modes are also supported in Controller-based systems.



Mobility Express — Integrates WLAN controller functions into the Aironet
FlexConnect
Converged Access — Integrates WLAN controller functions into the switch
Centralized

Aironet 1815i/m/w/ 1830/1850 2800/3800 1540/1560[1]
WAN
3650/ 3850/ 4500E (SUP8-E)
Intranet
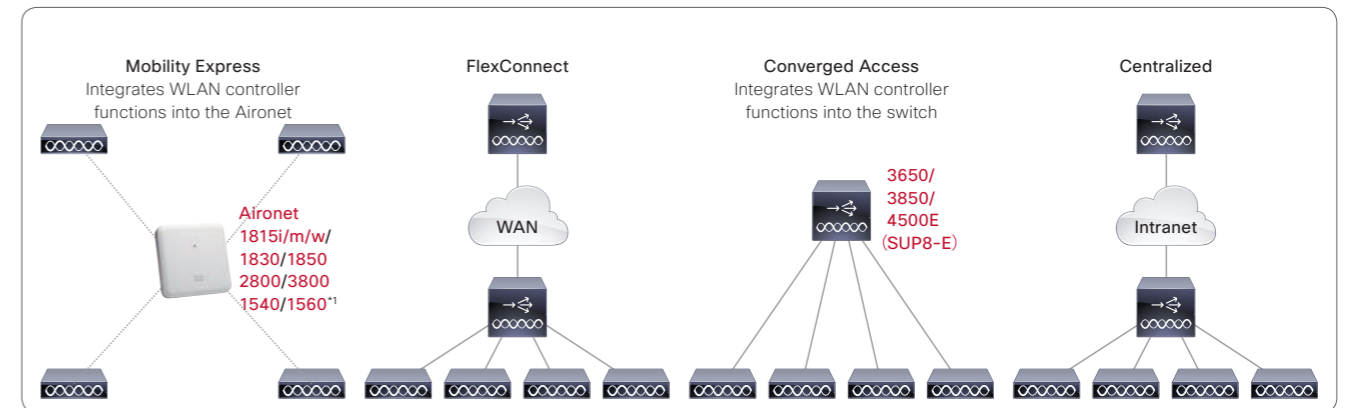
The Mesh Mode, FlexConnect + Mesh Mode, OfficeExtend Mode, Monitor Mode, Rogue Detector Mode, and Sniffer Mode are also supported.

### ■ Cisco Wireless Controller Deployment Mode Compatibility Comparison

| Platform | Deployment Modes | | | | | |
|---|---|---|---|---|---|---|
| | Mobility Express | FlexConnect | Converged Access | Centralized | Mesh | OfficeExtend |
| Cisco Aironet 1815i/1815m/1815w/1830/1850/2800/3800/1540/1560 Series Access Points | ● | - | - | - | - | - |
| Cisco Catalyst 3650/3850 Series Switches | - | - | ● | ● | - | - |
| Cisco 3500 Series Wireless Controller | - | ● | - | ● | ● | ● |
| Cisco Virtual Wireless Controller | - | ● | - | - | - | - |
| Cisco 5500 Series Wireless Controller | - | ● | ●[1][2] | ● | ● | ● |
| Cisco 8500 Series Wireless Controller | - | ● | - | ● | ● | ● |

*1  Cisco Wireless Controller Software release 7.3.112.0 is required.    *2  Cisco AireOS 8.1 and higher are not supported.

# Mobility Services & Network Management Tools

## Cisco Mobility Services Engine (MSE)

Cisco Mobility Services Engine (MSE) is a platform that provides a wide range of mobility services including Cisco CleanAir, Cisco Base Location Services, Cisco Connected Mobile Experiences (CMX), and Cisco Wireless Intrusion Prevention System (wIPS). This platform is implemented as a software product on VMware ESX/ESXi or as a hardware appliance.

### ■ Cisco Connected Mobile Experiences (CMX) release 10

Cisco CMX 10 is a platform that enhances the Cisco wireless LAN by:

- Calculating the location of all wireless devices in a venue, including mobile devices, tags, rogue access points, and wireless interferers.
- Generating advanced location analytics (CMX Analytics).
- Providing a visitor wireless onboarding platform (CMX Connect).
- Calculating the location of Bluetooth Low Energy (BLE) beacons.

### ■ Cisco Connected Mobile Experiences (CMX) release 10 License

- **Cisco CMX Base License**
  Provides the ability to determine the location of Wi-Fi clients, Bluetooth low energy (BLE) beacons, devices, and RFID tags, CMX Connect, third-party integration using standard REST APIs.
- **Cisco CMX Advanced License**
  Provides all the CMX Base services and CMX Analytics, CMX Presence Analytics
- **Cisco wIPS Monitor Mode License**
  Provides wIPS for Cisco Aironet Access Points in monitor mode (will be available in a future release).
- **Cisco wIPS Enhanced Local Mode License**
  Provides wIPS for Cisco Aironet Access Points in local mode (will be available in a future release).

### ■ Cisco Mobility Services Engine (MSE)

| SKU | Description | Managed Access Points | |
| --- | --- | --- | --- |
| | | Location service CMX | wIPS Monitor Mode wIPS Enhanced Local Mode |
| L-MSE-7.0-K9 | Software product | 5,000 | 10,000 |
| AIR-MSE-3365-K9 | Hardware appliance | 10,000 | 10,000 |

### ■ Cisco CMX Base License

| SKU | | Supported Access Points |
| --- | --- | --- |
| MSE 8.0[*1] | CMX 10.x[*2] | |
| L-LS-1AP | L-LS-1AP-N | 1 |
| L-LS-100AP | – | 100 |
| L-LS-1000AP | – | 1,000 |

### ■ Cisco CMX Advanced License

| SKU | | Supported Access Points |
| --- | --- | --- |
| MSE 8.0[*1] | CMX 10.x[*2] | |
| L-AD-LS-1AP | L-AD-LS-1AP-N | 1 |
| L-AD-LS-100AP | – | 100 |
| L-AD-LS-1000AP | – | 1,000 |
| L-UPG-LS-1AP | L-UPG-LS-1AP-N | 1 |

### ■ Cisco wIPS Monitor Mode License

| SKU | | Supported Access Points |
| --- | --- | --- |
| MSE 8.0[*1] | CMX 10.x[*2] | |
| L-WIPS-MM-1AP | TBD | 1 |
| L-WIPS-MM-100AP | TBD | 100 |
| L-WIPS-MM-1000AP | TBD | 1,000 |

### ■ Cisco wIPS Enhanced Local Mode License

| SKU | | Supported Access Points |
| --- | --- | --- |
| MSE 8.0[*1] | CMX 10.x[*2] | |
| L-WIPS-ELM-1AP | TBD | 1 |
| L-WIPS-ELM-100AP | TBD | 100 |
| L-WIPS-ELM-1000AP | TBD | 1,000 |

## Cisco Prime Infrastructure

Cisco Prime Infrastructure is an integrated management platform that enables comprehensive management of the entire network including wired/wireless LAN at the headquarters and branches. This platform not only enables devices comprising wired/wireless LAN networks to be managed as physical assets but also enables the networks to be managed from the user service level perspective, based on the rich information collected from the devices.
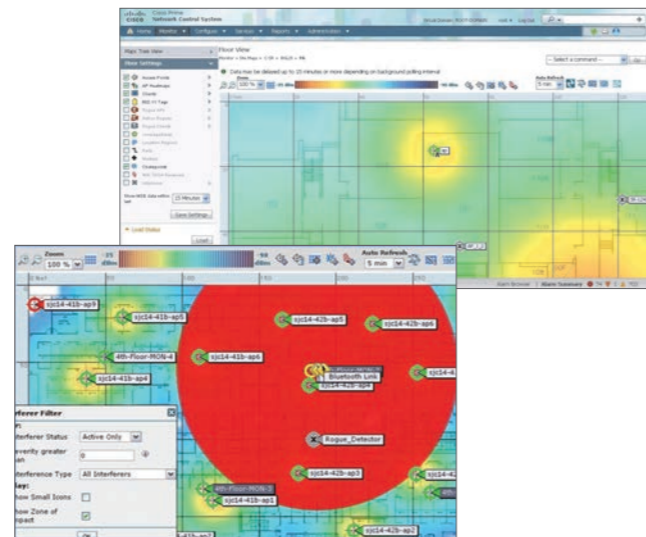
### ■ Cisco Prime Infrastructure 3.x Hardware Appliance

| SKU | Description |
| --- | --- |
| PI-UCS-APL-K9 | Generation 2 Hardware Appliance |
| PI-UCS-APL-U-K9 | Upgrade from Generation 1 |

### ■ Cisco Prime Infrastructure 3.x Software & Base License[*3]

| SKU | Description |
| --- | --- |
| R-PI30-SW-K9 | Prime Infrastructure 3.0 Software |
| L-MGMT3X-PI-BASE | Base License |

### ■ Cisco Prime Infrastructure 3.x High Availability License[*3]

| SKU | Description |
| --- | --- |
| L-MGMT3X-HA | High Availability License |

### ■ Cisco Prime Infrastructure 3.x Lifecycle & Assurance License[*3]

| SKU | Managed Devices | QTY |
| --- | --- | --- |
| L-MGMT3X-2K-K9 | Cisco Catalyst 2000 Series | 1 |
| L-MGMT3X-3K-K9 | Cisco Catalyst 3000 Series | 1 |
| L-MGMT3X-4K-K9 | Cisco Catalyst 4000 Series | 1 |
| L-MGMT3X-6K-K9 | Cisco Catalyst 6000 Series | 1 |
| L-MGMT3X-CSR1-K9 | Cisco CSR 1000 Series | 1 |
| L-MGMT3X-800SR-K9 | Cisco ISR 800 Series | 1 |
| L-MGMT3X-ISR1-K9 | Cisco ISR 1000 Series | 1 |
| L-MGMT3X-ISR2-K9 | Cisco ISR 2000 Series | 1 |
| L-MGMT3X-ISR3-K9 | Cisco ISR 3000 Series | 1 |
| L-MGMT3X-ISR4-K9 | Cisco ISR 4000 Series | 1 |

| SKU | Managed Devices | QTY |
| --- | --- | --- |
| L-MGMT3X-ASR1K9 | Cisco ASR 1000 Series | 1 |
| L-MGMT3X-AP-K9 | Cisco Aironet Access Point | 1 |
| L-MGMT3X-N2K-K9 | Cisco Nexus 2000 Series Fabric Extender (FEX) | 1 |
| L-MGMT3X-N3K-K9 | Cisco Nexus 3000 Series | 1 |
| L-MGMT3X-N5K-K9 | Cisco Nexus 5000 Series | 1 |
| L-MGMT3X-N6K-K9 | Cisco Nexus 6000 Series | 1 |
| L-MGMT3X-N7K-K9 | Cisco Nexus 7000 Series | 1 |
| L-MGMT3X-N93XX-K9 | Cisco Nexus 9300 Series | 1 |
| L-MGMT3X-N9K-K9 | Cisco Nexus 9000 Series | 1 |

*1 L-MSE-PAK is required.  *2 L-MSE-PAK-N is required.  *3 R-MGMT3X-N-K9 is required.

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## Cisco Connected Mobile Experiences (CMX) Solutions

The Cisco Connected Mobile Experiences (CMX) is a revolutionary solution that collects and analyzes the location of wireless LAN (Wi-Fi) devices such as smartphones and tablets for business utilization. This solution supports the monetization of wireless LAN in a wide range of sectors including retail, services, transportation, healthcare, education, and government offices. This solution already has an excellent deployment track record overseas. And in Asia Pacific, positive results have been obtained in demonstration experiments conducted at events such as Interop Tokyo 2013/2014; and its commercial deployment is already in the pipeline.
Cisco CMX provides the services described below.

For details on Cisco CMX, visit the following Web site:
http://www.cisco.com/go/cmx

### ■ Location Analysis

This function anonymously detects and traces Wi-Fi device signals to obtain, aggregate and visualize the number of Wi-Fi users and their movement for analysis.
In the Copenhagen Airport case study, for example, this function enabled analysis of the general movement route and staying area/time of travelers (i.e. Wi-Fi users) during their departure and arrival, enabling better understanding of their different behavior patterns. This has enabled optimization of personnel allocation based on crowding and adjustment of the facility layout for improved customer convenience, helping to deliver services that guarantee high levels of customer satisfaction in a cost-effective manner. This function has also facilitated effective attraction of customers through optimization of the advertisement layout, contributing to bursting the earnings of duty free shops and tenant stores.

### ■ Offering a Variety of Analysis Methods including Traffic Line Information and Residence Time
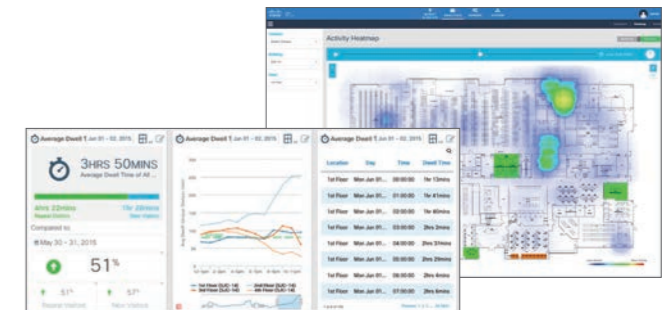
### ■ Customer Engagement

The ability to capture new and keep existing customers by delivering more value is essential to continued growth in all industries. Cisco CMX allows customers mobile users to connect through your onsite wireless LAN. It opens a direct channel of communication that lets you better understand and deliver what your guests want. When you more effectively engage your mobile users, you can:

- Increase loyalty of existing customers and attract new customers by providing them with a personalized experience
- Heighten the guest experience by providing wireless access and key information during their journey
- Increase brand exposure through social media check-in and feed streaming
- Increase visitor satisfaction by helping them make decisions more aligned with their needs

### ■ Venue Efficiency

By helping you better understand how your visitors actually behave while at your site, Cisco CMX helps you make the best use of your floor plan. With this improved insight, you can:

- Determine the most trafficked locations to position advertisements, products or services
- Adjust venue layout to optimize traffic flow in periods of high use
- Staff service locations to accommodate visitor flows and time of day
- Evaluate impact of floor plan adjustments

For your customers and your business, the Cisco CMX solution can deliver the right information at the right time.

### ■ Cisco CMX for Facebook Wi-Fi

Cisco has also begun a new Cisco CMX service called Cisco CMX for Facebook Wi-Fi in collaboration with Facebook. In hotels and shops that are deploying this service, Wi-Fi users can use free wireless LAN by checking in with the facility using the facility's wireless network.

This solution not only improves user convenience but also offers a variety of business benefits including better customer recognition thanks to the increased number of check-ins and marketing based on the customer information collected anonymously by Facebook.

## Cisco CMX Cloud

Cisco CMX Cloud revolutionizes the delivery of wireless guest access and in-venue analytics, integrating seamlessly with Cisco wireless infrastructure.
This cloud-delivered Software-as-a-Service (SaaS) offering is quick to deploy and intuitive to use. The affordable subscription-billing model helps reduce initial investments in equipment (capital expenditures [CapEx]) and IT resources. Ultimately, this solution accelerates how wireless infrastructure can deliver business outcomes by:

- Detecting all Wi-Fi devices (the "devices") in the venue and providing analytics on their presence, including dwell times, new vs. repeat visitors, and peak times
- Providing an easy-to-use guest-access solution for visitors through a custom portal using various authentication methods including social, self-registration, and Short Message Service (SMS)
- Engaging visitors directly on the guest portal page or mobile app with location-based content

### ■ Cisco Connected Mobile Experiences Cloud

| SKU | Description | SKU | Description |
| --- | --- | --- | --- |
| AIR-CMX-SVC-CX[*1] | CMX Cloud Connect. | AIR-CMX-SVC-CPAX[*1] | CMX Cloud Connect with Presence Analytics. |

**CMX On-Premises**
Best for Advanced Use Cases and Better Control

Detect   Connect
Engage   Analytics

**CMX Cloud**
Best for Ease of Deployment and Consumption

Different Deployment Options, Same Software

*1  AIR-CMX-CLOUD is required.

# Connect

## Routers

Secure

Connect

Collaborate

Compute

Meraki

Services

Connect

## Positioning Map of Cisco Routers

Previously, even the small-scale bases were required to install a wide range of devices including switches, wireless access points and WAN optimization appliances. The Cisco Integrated Services Routers (ISR) are "super routers" that are capable of integrating the network services provided by these multiple devices into a single platform. These routers are not only capable of integrating multiple services but also have the flexibility to add new services as required via license activation and/or addition of expansion modules. Adoption of these routers results in simpler network configuration, helping to reduce the device costs as well as operation and maintenance costs.

Routing

Switching

Wireless
(Access Points/Controller)

Security
(Firewall/IPS/VPN)

Unified Communication
(Call Control/Messaging)

WAN Optimization

Cisco ISR can integrate
the routing service & other services
into a single unit!

High →

← Performance, Function, Flexibility, Scalability

ASR

ISR 4400 Series

ISR 4300 Series

ISR 4200 Series

ISR 1900 Series

ISR 800 Series

RV Series

**Performance, Function, Flexibility, Scalability** → High

| Cisco RV Series | Fixed-configuration routers.<br>Suitable for the small-sized network. | → | P42 |
| Cisco ISR 800 Series | Fixed-configuration integrated services routers.<br>Suitable for deploymentin small-sized bases, home offices and Machine-to-Machine (M2M) environments. | → | P43 |
| Cisco ISR 4000 Series | Modular integrated services routers.<br>Suitable for deployment in bases that require a provision of application-aware services. | → | P44 |

## Selection of Cisco ISR

Routers with higher performance and expandability should be selected for traffic-intensive data centers than the bases. Cisco ISR not only allows selection of bundle models according to the services required at the data centers or bases, but also respond flexibly to changes in the business needs by means of license activation of Cisco IOS technologies and addition of expansion modules.

■ **Sample inter-base network configuration: small-scale network**

Cisco ISR 881
Base A

WAN

Cisco ISR 4431
Center

Cisco ISR 891F
Base B
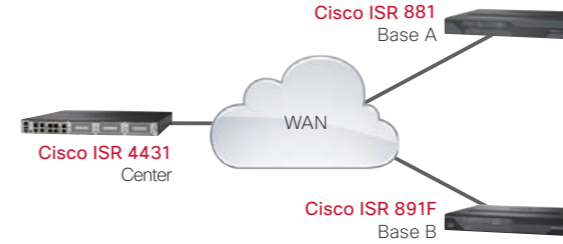
■ **Sample inter-base network configuration: Medium-scale network**

Cisco ISR 891F
Base A

WAN

Cisco ASR 1001-X
Center

Cisco ISR 4331
Base B
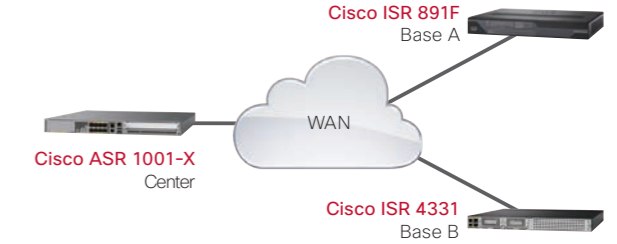
## Benefits of Migrating to Cisco ISR 4000 Series

The Cisco ISR 4000 Series build on 20 years of branch-office routers, adding services and horsepower for the needs of modern branch offices and allowing businesses to:

● Quickly open new remote offices or easily add additional services
● Operate an entire branch office with a single box
● Give IT departments more time for innovation by automating repetitive tasks and orchestrating security and application services

The Cisco ISR 4000 Series address the problems that modern branch offices face, without giving up any of the existing services of previous-generation Cisco ISRs. It also brings virtualization to networking so that IT can adopt services faster and repurpose resources as needs change. And it delivers additional computing power for local application survivability, data backup, and local analytics processing.
The new architecture of the Cisco ISR 4000 Series delivers up to 2 Gbps in a converged platform, typically 4 to 10 times faster than the previous-generation ISRs. The WAN and application optimization services of the Cisco ISR 4000 Series include Cisco Application Visibility and Control (AVC), allowing IT to assess capacity planning; and Cisco Performance Routing Version 3 (PfR v3), which automatically sends traffic across the best connection for current network conditions. Not only does this architecture allow a branch office to run the network with a single box, it also allows use of that box to converge network, computing, and storage resources in the same platform. The virtualization technology available both embedded within the Cisco ISR 4000 Series and through additional data center-class server modules (Cisco UCS E Series Servers) offers new levels of converged capability.

■ **Series Comparison**

| Branch Network Needs | Features | Cisco ISR 1800/2800/3800 Series | Cisco ISR 1900/2900/3900 Series | Cisco ISR 4000 Series | Benefits |
|---|---|---|---|---|---|
| Scale with high performance | Maximum throughput | Up to 50 Mbps | Up to 350 Mbps | Up to 2 Gbps | 4 to 10 times performance increase for the same price as the ISR G2 |
| | Separate data, control, and services planes | – | – | ● | Minimal performance impact as network services are added and throughput increases |
| | Integrated service container | – | – | ● | No need for additional branch appliances; add network services using pluggable virtual machines |
| | Integrated compute with Cisco UCS E-Series Servers | – | ● | ● | Local compute resources for applications, data back-up, and analytics |
| | Cisco IOS XE Operating System | – | – | ● | Higher availability for network services with multicore processing |
| Uncompromised user experience | Cisco Application Visibility and Control (AVC) | – | ● | ● | Visibility into 1000+ applications for capacity planning and prioritization |
| | Intelligent path selection (PfR v3) | – | ● | ● | Improve application experience and lower costs with path selection using real-time analytics |
| | WAN optimization (WAAS and Akamai) | – | ● | ● | Improve application performance and offload WAN with Layer 4–7 optimization and intelligent caching |
| Security | Sourcefire Intrusion Detection System (IDS) | – | ● | ● | Industry-leading advanced threat defense |
| | Cloud Web Security with Advanced Malware Protection (AMP) | – | ● | ● | Scale secure direct Internet access with consistent policy enforcement |
| | Multicore hardware VPN acceleration | – | – | ● | High-performance encryption for secure WAN |
| Reduced costs and increased business agility | Pay-as-you-grow performance and services | – | – | ● | Ability to buy what you need today and upgrade anytime without complete equipment upgrades |
| | Cisco ONE Software Suites | – | ● | ● | Predictable OpEx spend, license portability, and investment protection |
| | Intelligent WAN app with Cisco APIC Enterprise Module | – | ● | ● | Automated provisioning for faster deployment |

# Cisco RV Series

Cisco RV Series are affordable, highly secure network access devices, designed and built for small businesses. Cisco offers a broad range of small business routers to meet any requirement from basic Internet connectivity to high-capacity, business-critical networking.

**GE WAN**

11ac

RV340W [NEW]  RV345P [NEW]

RV340 [NEW]  RV345 [NEW]

RV130 WF  RV130W WF  RV320 WF  RV325 WF  ISR

11ac

RV130  RV130W  RV134W  RV042G  RV320  RV325

**FE WAN**

RV132W  RV215W  RV042

**Performance, Function, Flexibility, Scalability → High**

## ■ Cisco RV Series

| SKU | WAN Ports | | | | LAN Ports | | PoE | | | IPsec Throughput | IPsec VPN Tunnels | | Web Filtering | Wireless | | | | AC Power |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FE | GE | xDSL | 3G/4G | FE | GE | Ports | Power Budget | IEEE 802.3 | | Site-to-Site | Remote Access | | 11n | 11ac | 2.4 GHz | 5 GHz | |
| RV042 | 2 | – | – | – | 4 | – | – | – | – | 59 Mbps | 50 | 50 | – | – | – | – | – | External |
| RV042G-K9-xx | – | 2 | – | – | – | 4 | – | – | – | 75 Mbps | 50 | 50 | – | – | – | – | – | External |
| RV130-K9-xx | – | 1 | – | 1*1 | – | 4 | – | – | – | 50 Mbps | 10 | 10 | – | – | – | – | – | External |
| RV130-WB-K9-xx | – | 1 | – | 1*1 | – | 4 | – | – | – | 50 Mbps | 10 | 10 | ● | – | – | – | – | External |
| RV130W-x-K9-xx | – | 1 | – | 1*1 | – | 4 | – | – | – | 50 Mbps | 10 | 10 | – | ● | – | ● | – | External |
| RV130W-x-WB-K9-xx | – | 1 | – | 1*1 | – | 4 | – | – | – | 50 Mbps | 10 | 10 | ● | ● | – | ● | – | External |
| RV132W-x-K9-xx | 1 | – | 1 | 1*1 | 3 | – | – | – | – | 3 Mbps | 5 | 5 | – | ● | – | ● | – | External |
| RV134W-x-K9-xx | – | 1 | 1 | 1*1 | – | 4 | – | – | – | 20 Mbps | 5 | 5 | – | ● | ● | ● | ● | External |
| RV215W-x-K9-xx | 1 | – | – | 1*1 | 4 | – | – | – | – | 5 Mbps | 1 | 5 | – | ● | – | ● | – | External |
| RV320-K9-xx | – | 2 | – | 1*1 | – | 4 | – | – | – | 100 Mbps | 25 | 25 | ● | – | – | – | – | External |
| RV320-WB-K9-xx | – | 2 | – | 1*1 | – | 4 | – | – | – | 100 Mbps | 25 | 25 | – | – | – | – | – | External |
| RV325-K9-xx | – | 2 | – | 1*1 | – | 14 | – | – | – | 100 Mbps | 25 | 25 | – | – | – | – | – | External |
| RV325-WB-K9-xx | – | 2 | – | 1*1 | – | 14 | – | – | – | 100 Mbps | 25 | 25 | ● | – | – | – | – | External |
| RV340-K9-xx [NEW] | – | 2 | – | 1*1 | – | 4 | – | – | – | 650 Mbps | 50 | 50 | ●*2 | – | – | – | – | External |
| RV340W-x-xx [NEW] | – | 2 | – | 1*1 | – | 4 | – | – | – | 650 Mbps | 50 | 50 | ●*2 | ● | ● | ● | ● | External |
| RV345-K9-xx [NEW] | – | 2 | – | 1*1 | – | 16 | – | – | – | 650 Mbps | 50 | 50 | ●*2 | – | – | – | – | External |
| RV345P-K9-xx [NEW] | – | 2 | – | 1*1 | – | 16 | 8 | 120 W | af/at | 650 Mbps | 50 | 50 | ●*2 | – | – | – | – | External |

*1 3G/4G modem is required.　*2 Security License is required.

## New Models with Web Filtering

Your business and your employees are exposed to phishing, key loggers, spyware, drive-by malware, and other online threats. With the new **RV130/130W /320/325/340/340W/345/345P with web filtering (WF),** you can keep your employees and users safe from unwanted content and malicious websites. This is accomplished without compromising the users' online experience and can even help boost employee productivity and network performance by limiting Internet surfing to appropriate site categories and eliminating unwanted network traffic. Users are also automatically protected from malicious/compromised websites, regardless of site categorization.

● Dynamic Web Filtering
　Router checks URLs with Cisco cloud
　Router caches websites to speed up response time over time
● Classification System
　300 Million web URL's categorized and assigned reputation score
　Sophisticated website reputation scoring (think of credit score)
　80+ content categories
　Real-time updates
● No License Renewal are Necessary (RV130/130W/320/325)

# Cisco ISR 800 Series

Fixed-configuration Integrated Services Routers suitable for deployment in small-sized bases, home offices and Machine-to-Machine (M2M) environments. In addition to the routing service, a wide variety of services including switching, wireless security, unified communication, and WAN optimization can be integrated using a single router unit.

## ■ Highlights
● Cisco IOS Universal Image (**IP Base/Advanced Security/Advanced IP Services**)
● Built-in managed switch (All models)
● Built-in IEEE 802.11n-compatible wireless access point (**C819GW-LTE-LA-xK9/C881W-x-K9**)
● 4G LTE wireless WAN (Some models)

## ■ Cisco ISR 800 Series (1 of 2)

| SKU | Description | Dimensions (Height x Width x Depth) | Maximum Weight |
|---|---|---|---|
| C819H-K9 | Cisco ISR 819H M2M Hardened Model | 4.39 x 19.56 x 20.57 cm | 1.45 kg |
| C819G-LTE-LA-K9 [NEW] | Cisco ISR 819G 4G LTE 2.5 M2M Model | 4.24 x 19.56 x 18.29 cm | 1.04 kg |
| C819GW-LTE-LA-xK9*1 [NEW] | Cisco ISR 819G 4G LTE 2.5 Wireless M2M Model | 4.24 x 19.56 x 22.86 cm | 1.04 kg |
| C819HG-4G-G-K9 | Cisco ISR 819HG 4G LTE M2M Hardened Model | 4.39 x 19.56 x 20.57 cm | 1.45 kg |
| C867VAE | Cisco ISR 867VAE IP Base Model | 3.85 x 20.90 x 19.80 cm | 2.49 kg |
| C867VAE-K9 | Cisco ISR 867VAE Advanced Security Model | 3.85 x 20.90 x 19.80 cm | 2.49 kg |
| C881W-x-K9*1 | Cisco ISR 881W Wireless Model | 4.82 x 32.51 x 26.42 cm | 2.49 kg |
| C881-V-K9 | Cisco ISR 881-V Router | 4.82 x 32.51 x 24.89 cm | 2.49 kg |
| C891F-K9 | Cisco ISR 891F Router | 4.62 x 32.28 x 24.84 cm | 2.49 kg |
| C891-24X/K9 | Cisco ISR 891-24X | 4.62 x 43.82 x 30.48 cm | 2.49 kg |
| C892FSP-K9 | Cisco ISR 892FSP | 4.62 x 32.28 x 24.84 cm | 2.49 kg |
| C897VA-K9 | Cisco ISR 897VA | 4.62 x 32.28 x 24.84 cm | 2.49 kg |
| C897VAG-LTE-LA-K9 [NEW] | Cisco ISR 897VAG 4G LTE 2.5 Model | 4.82 x 32.51 x 26.42 cm | 2.58 kg |
| C898EAG-LTE-LA-K9 [NEW] | Cisco ISR 898EAG 4G LTE 2.5 Model | 4.82 x 32.51 x 26.42 cm | 2.58 kg |
| C899G-LTE-LA-K9 [NEW] | Cisco ISR 899G 4G LTE 2.5 Model | 4.82 x 32.51 x 26.42 cm | 2.58 kg |

## ■ Cisco ISR 800 Series (2 of 2)

| SKU | Cisco IOS | WAN Ports | | | | | | LAN Ports | | Wireless | | Security | | Voice | WAASX | Rack mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FE | GE | GE/SFP | ISDN | xDSL | Voice | FE | GE | AP | 4G LTE | FW | VPN | | | |
| C819H-K9 | Advanced IP Services | – | 1 | – | – | – | – | 4 | – | – | – | ● | ● | – | ● | –*5 |
| C819G-LTE-LA-K9 [NEW] | Advanced IP Services | – | 1 | – | – | – | – | 4 | – | – | ● | ● | ● | – | ● | –*5 |
| C819GW-LTE-LA-xK9 [NEW] | Advanced IP Services | – | 1 | – | – | – | – | 4 | – | ● | ● | ● | ● | – | ● | –*5 |
| C819HG-4G-G-K9 | Advanced IP Services | – | 1 | – | – | – | – | 4 | – | – | ● | ● | ● | – | ● | –*5 |
| C867VAE | IP Base | – | 1 | – | – | 1 | – | 3 | 2 | – | – | – | – | – | – | – |
| C867VAE-K9 | Advanced Security | – | 1 | – | – | 1 | – | 3 | 2 | – | – | ● | ● | – | – | – |
| C881W-x-K9 | Advanced Security | 1 | – | – | – | – | – | 4 | – | ● | – | ● | ● | – | – | – |
| C881-V-K9 | Advanced IP Services | 1 | – | – | – | – | 7*2 | 4 | – | – | – | ● | ● | ●*3 | – | – |
| C891F-K9 | Advanced IP Services | 1 | – | 1 | 1 | – | – | – | 8 | – | – | ● | ● | – | ●*4 | –*6 |
| C891-24X/K9 | Advanced IP Services | – | – | 2 | – | – | – | – | 24 | – | – | ● | ● | – | – | –*7 |
| C892FSP-K9 | Advanced IP Services | – | 1 | 1 | – | – | – | – | 8 | – | – | ● | ● | – | ●*4 | –*6 |
| C897VA-K9 | Advanced IP Services | – | – | 1 | 1 | 1 | – | – | 8 | – | – | ● | ● | – | ●*4 | –*6 |
| C897VAG-LTE-LA-K9 [NEW] | Advanced IP Services | – | – | 1 | – | 1 | – | – | 8 | – | ● | ● | ● | – | ●*4 | –*6 |
| C898EAG-LTE-LA-K9 [NEW] | Advanced IP Services | – | – | 1 | – | 1 | – | – | 8 | – | ● | ● | ● | – | ●*4 | –*6 |
| C899G-LTE-LA-K9 [NEW] | Advanced IP Services | – | 1 | 1 | – | – | – | – | 8 | – | ● | ● | ● | – | ●*4 | –*6 |

*1 The "x" corresponds to the supported domain.　*2 BRI x 2, FXS x 4, FXO x 1.　*3 Call control and messaging are not supported.　*4 Feature License is required.
*5 DIN Rail Mount and Floor/Wall Mount are supported (Optional).　*6 ACS-890-RM-19 is required.　*7 ACS-2901-RM-19 is required.

# Machine-to-Machine (M2M)

**Machine-to-Machine (M2M)** is a technology that aggregates the intercommunications between machines without human intervention. This technology is already used in a wide range of devices such as vending machines, surveillance systems and sensor-equipped measuring instruments; and its adoption is expected to continue at an accelerated pace. The most important elements for network devices offering the M2M technology are compactness, mobility and durability.
In the case of vending machines, for example, the network device needs to be compact to allow installation inside the machines. Mobility is also important as it is cheaper to use the mobile 4G network than installing a wired broadband line for each vending machine. Depending on the installation location, the network device must also have the durability to withstand the high temperatures in summer.
**Cisco 819H/G/HG** has been developed to address these issues. Both models feature a palm-sized compact chassis and are compatible with 4G LTE 2.0 wireless LAN. Furthermore, **Cisco 819H/HG** can operate in temperatures between -23 and +60 deg C and in up to 95% humidity and have superior vibration and impact resis-

tance to withstand industrial use. A wide variety of mounting options are supported including DIN rail, floor and wall mounting.

# Cisco ISR 4000 Series

Modular Integrated Services Routers suitable for deployment in bases that require a provision of application-aware services. In addition to the routing service, these routers can integrate a wide variety of services including security, switching, wireless, unified communication, WAN optimization and service virtualization. Since the control, data, and service resources are isolated at the hardware level, it is possible to deliver application-aware services with high availability even when at high loads.

■ Highlights
● ● Supports the Cisco UCS E Series Server

■ Cisco ISR 4000 Series Bundles Comparison

| Bundles | Characters Included in SKU | Bundled Licenses/Modules | | | |
|---|---|---|---|---|---|
| | | IOS SEC | IOS UC | IOS APP | PVDM4 |
| Security Bundles | SEC | ● | - | - | - |
| Voice Bundles | V | - | ● | - | ●*1 |
| Voice Security Bundles | VSEC | ● | ● | - | ●*1 |
| Application Experience Bundles | AX | ● | - | ● | - |
| Application Experience Voice Bundles | AXV | ● | ● | ● | ●*1 |

■ Cisco ISR 4000 Series

| SKU | Cisco IOS | Throughput | | Ports | | | Expansion Slots | | | Default Power Supply | Power Redundancy | Rack mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Upgradable | GE | SFP | GE/SFP | NIM | SM-X | PVDM | | | |
| ISR4221/K9 [NEW] | IP Base | 35 Mbps | 75 Mbps | 1 | - | 1 | 2 | - | - | External AC | - | 1 RU |
| ISR4221-SEC/K9 [NEW] | IP Base + SEC | 35 Mbps | 75 Mbps | 1 | - | 1 | 2 | - | - | External AC | - | 1 RU |
| ISR4221-AX/K9 [NEW] | IP Base + SEC + APP | 35 Mbps | 75 Mbps | 1 | - | 1 | 2 | - | - | External AC | - | 1 RU |
| ISR4321/K9 | IP Base | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4321-SEC/K9 | IP Base + SEC | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4321-V/K9 | IP Base + UC | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4321-VSEC/K9 | IP Base + SEC + UC | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4321-AX/K9 | IP Base + SEC + APP | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4321-AXV/K9 | IP Base + SEC + UC + APP | 50 Mbps | 100 Mbps | 1 | - | 1 | 2 | - | 1 | External AC | - | 1 RU |
| ISR4331/K9 | IP Base | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4331-SEC/K9 | IP Base + SEC | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4331-V/K9 | IP Base + UC | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4331-VSEC/K9 | IP Base + SEC + UC | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4331-AX/K9 | IP Base + SEC + APP | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4331-AXV/K9 | IP Base + SEC + UC + APP | 100 Mbps | 300 Mbps | 1 | 1 | 1 | 2 | 1 | 1 | Internal AC | - | 1 RU |
| ISR4351/K9 | IP Base | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4351-SEC/K9 | IP Base + SEC | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4351-V/K9 | IP Base + UC | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4351-VSEC/K9 | IP Base + SEC + UC | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4351-AX/K9 | IP Base + SEC + APP | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4351-AXV/K9 | IP Base + SEC + UC + APP | 200 Mbps | 400 Mbps | - | - | 3 | 3 | 2 | 1 | Internal AC | - | 2 RU |
| ISR4431/K9 | IP Base | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4431-SEC/K9 | IP Base + SEC | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4431-V/K9 | IP Base + UC | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4431-VSEC/K9 | IP Base + SEC + UC | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4431-AX/K9 | IP Base + SEC + APP | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4431-AXV/K9 | IP Base + SEC + UC + APP | 500 Mbps | 1 Gbps | - | - | 4 | 3 | - | 1 | Internal AC | ● | 1 RU |
| ISR4451-X/K9 | IP Base | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |
| ISR4451-X-SEC/K9 | IP Base + SEC | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |
| ISR4451-X-V/K9 | IP Base + UC | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |
| ISR4451-X-VSEC/K9 | IP Base + SEC + UC | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |
| ISR4451-X-AX/K9 | IP Base + SEC + APP | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |
| ISR4451-X-AXV/K9 | IP Base + SEC + UC + APP | 1 Gbps | 2 Gbps | - | - | 4 | 3 | 2 | 1 | Internal AC | ● | 2 RU |

# Modules & Accessories

■ Cisco IOS Technology Package Licenses

| SKU | Description | Compatible Models | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 800 | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| SL-4220-SEC-K9 [NEW] | Cisco IOS SEC License for Cisco ISR 4221 | - | ● | - | - | - | - | - |
| SL-4320-SEC-K9 | Cisco IOS SEC License for Cisco ISR 4321 | - | - | ● | - | - | - | - |
| SL-4330-SEC-K9 | Cisco IOS SEC License for Cisco ISR 4331 | - | - | - | ● | - | - | - |
| SL-4350-SEC-K9 | Cisco IOS SEC License for Cisco ISR 4351 | - | - | - | - | ● | - | - |
| SL-44-SEC-K9 | Cisco IOS SEC License for Cisco ISR 4400 Series | - | - | - | - | - | ● | ● |
| SL-4320-UC-K9 | Cisco IOS UC License for Cisco ISR 4321 | - | - | ● | - | - | - | - |
| SL-4330-UC-K9 | Cisco IOS UC License for Cisco ISR 4331 | - | - | - | ● | - | - | - |
| SL-4350-UC-K9 | Cisco IOS UC License for Cisco ISR 4351 | - | - | - | - | ● | - | - |
| SL-44-UC-K9 | Cisco IOS UC License for Cisco ISR 4400 Series | - | - | - | - | - | ● | ● |
| SL-4220-APP-K9 [NEW] | Cisco IOS APP License for Cisco ISR 4221 | - | ● | ● | - | - | - | - |
| L-SL-4320-APP-K9 | Cisco IOS APP License for Cisco ISR 4321 | - | - | ● | - | - | - | - |
| L-SL-4330-APP-K9 | Cisco IOS APP License for Cisco ISR 4331 | - | - | - | ● | - | - | - |
| L-SL-4350-APP-K9 | Cisco IOS APP License for Cisco ISR 4351 | - | - | - | - | ● | - | - |
| L-SL-44-APP-K9 | Cisco IOS APP License for Cisco ISR 4400 Series | - | - | - | - | - | ● | ● |

■ Cisco IOS Feature Licenses

| SKU | Description | Compatible Models | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 800 | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| FL-4320-HSEC-K9 | Cisco IOS HSEC License for Cisco ISR 4321*1 | - | - | ● | - | - | - | - |
| FL-4330-HSEC-K9 | Cisco IOS HSEC License for Cisco ISR 4331*1 | - | - | - | ● | - | - | - |
| FL-4350-HSEC-K9 | Cisco IOS HSEC License for Cisco ISR 4351*1 | - | - | - | - | ● | - | - |
| FL-44-HSEC-K9 | Cisco IOS HSEC License for Cisco ISR 4400 Series*1 | - | - | - | - | - | ● | ● |
| SW-CCME-UL-ESS | Cisco Unified CME Phone License - Essential | - | - | ● | ● | ● | ● | ● |
| SW-CCME-UL-BASIC | Cisco Unified CME Phone License - Basic | - | - | ● | ● | ● | ● | ● |
| SW-CCME-UL-ENH | Cisco Unified CME Phone License - Enhanced | - | - | ● | ● | ● | ● | ● |
| L-FL-CME-SRST-5 | Cisco Unified CME or SRST 5 License*2*3 | ● | - | ● | ● | ● | ● | ● |
| L-FL-CME-SRST-25 | Cisco Unified CME or SRST 25 License *2 | - | - | ● | ● | ● | ● | ● |
| L-FL-CME-SRST-100 | Cisco Unified CME or SRST 100 License *2 | - | - | ● | ● | ● | ● | ● |
| FL-CUBEE-5-RED | Cisco Unified BEe 5 Redundant Configuration License*2 | - | - | ● | ● | ● | ● | ● |
| FL-CUBEE-25-RED | Cisco Unified BEe 25 Redundant Configuration License*2 | - | - | ● | ● | ● | ● | ● |
| FL-CUBEE-100-RED | Cisco Unified BEe 100 Redundant Configuration License*2 | - | - | ● | ● | ● | ● | ● |
| L-FL-C800-APP | Cisco IOS APP License for Cisco ISR 800 Series*5 | ● | - | - | - | - | - | - |
| SL-200-AKC | Cisco IWAN with Akamai Connect 200 Connections License *4 | - | ● | ● | ● | ● | - | - |
| SL-750-AKC | Cisco IWAN with Akamai Connect 200 Connections License *4 | - | - | - | ● | ● | ● | - |
| SL-1300-AKC | Cisco IWAN with Akamai Connect 1,300 Connections License *4 | - | - | ● | ● | ● | ● | - |
| SL-2500-AKC | Cisco IWAN with Akamai Connect 2,500 Connections License *4 | - | - | ● | ● | ● | ● | - |
| SL-6K-AKC | Cisco IWAN with Akamai Connect 6,000 Connections License *4 | - | - | ● | ● | ● | - | - |
| FL-4220-PERF-K9 [NEW] | Cisco IOS Performance-on-Demand License for Cisco ISR 4221 | - | ● | - | - | - | - | - |
| FL-4320-PERF-K9 | Cisco IOS Performance-on-Demand License for Cisco ISR 4321 | - | - | ● | - | - | - | - |
| FL-4330-PERF-K9 | Cisco IOS Performance-on-Demand License for Cisco ISR 4331 | - | - | - | ● | - | - | - |
| FL-4350-PERF-K9 | Cisco IOS Performance-on-Demand License for Cisco ISR 4351 | - | - | - | - | ● | - | - |
| FL-44-PERF-K9 | Cisco IOS Performance-on-Demand License for Cisco ISR 4400 Series | - | - | - | - | - | ● | ● |

*1 Cisco IOS SEC License is required. *2 Cisco IOS UC License is required. *3 Cisco ISR 800 Series only supports Cisco 881-V. *4 Cisco IOS APP License is required.
*5 Cisco ISR 800 Series only supports Cisco 891F/892FSP/897VA/899G.

## Cisco Intelligent WAN (IWAN) with Akamai Connect

Cisco Intelligent WAN (IWAN) with Akamai Connect is a suite of integrated WAN optimization, application acceleration, and intelligent caching features in Cisco ISRs running Application Experience services.
The solution extends the well-known Akamai Intelligent Platform with HTTP caching across the last mile into the branch office, turbo charging the application optimization features of the Cisco IWAN. Akamai Connect caching integrates with Cisco IWAN features such as Application Visibility and Control (AVC), Cisco Performance Routing (PfR), and Cisco Wide Area Application Services (WAAS). It is available across the Cisco ISR portfolio and Cisco WAAS Appliances, allowing you to deploy full-service branch-office operations.
Users can access bandwidth-intensive applications instantly, over any network, regardless of where the application is hosted — data center, private cloud, public cloud, or the Internet.

■ Mobile Assisted Selling Application Benchmark Results in Seconds (s)

| | Without Akamai Connect | With Akamai Connect 1st Hit | With Akamai Connect 2nd Hit |
|---|---|---|---|
| ERP App | 57 s | 18 s | 2 s |
| Repair App | 70 s | 28 s | < 1 s |
| Catalog App | 28 s | 13 s | < 1 s |

■ Training/Digital Signage Application Benchmark Results in Pixels (p) and Seconds (s)

| | Without Akamai Connect | With Akamai Connect |
|---|---|---|
| Default Quality | 144 p | 720 p (HD Automatic) |
| Time to Load (720 p HD) | 14 s | Instant |

Secure

Connect

Collaborate

Compute

Meraki

Services

■ Cisco Layer 2/3 EtherSwitch Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-ES2-4 | EtherSwitch Module (L2, 4-port GE) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-ES2-8 | EtherSwitch Module (L2, 8-port GE) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-ES2-8-P | EtherSwitch Module (L2, 8-port GE/PoE+) | NIM | - | ● | ● | ● | ● | ● |
| SM-X-ES3-16-P | SM-X EtherSwitch Module (L2/L3, 16-port GE/PoE+) | SM-X | - | - | ● | ● | - | ● |
| SM-X-ES3-24-P | SM-X EtherSwitch Module (L2/L3, 24-port GE/PoE+) | SM-X | - | - | ● | ● | - | ● |
| SM-X-ES3D-48-P | SM-X EtherSwitch Module (L2/L3, 48-port GE/PoE+) | SM-X | - | - | - | ● | - | ● |

■ Cisco Gigabit Ethernet WAN Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-1GE-CU-SFP | GE/SFP Module (1-port) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-2GE-CU-SFP | GE/SFP Module (2-port) | NIM | - | ● | ● | ● | ● | ● |
| SM-X-6X1G | GE/SFP Service Module (6-port) | SM-X | - | - | ● | ● | - | ● |
| SM-X-4X1G-1X10G | GE/SFP (4-port) or SFP+ (1-port) Service Module | SM-X | - | - | ● | ● | - | ● |

■ Cisco Serial WAN Interface Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-1T | Serial WAN Module (1-port) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-2T | Serial WAN Module (2-port) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4T | Serial WAN Module (4-port) | NIM | - | ● | ● | ● | ● | ● |
| SM-X-1T3/E3 | T3/E3 Module (1 port) | SM-X | - | - | ● | ● | - | ● |

■ Cisco Async WAN Interface Modules for Cisco ISR 4000 Series NEW

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-16A | Asynchronous Module (16-port) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-24A | Asynchronous Module (24-port) | NIM | ● | ● | ● | ● | ● | ● |

■ Cisco Multimode VDSL2 and ADSL2/2+ Network Interface Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-VAB-A | Multi Mode VDSL2/ADSL/2/2+ (Annex A) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-VA-B | Multi Mode VDSL2/ADSL/2/2+ (Annex B) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-VAB-M | Multi Mode VDSL2/ADSL/2/2+ (Annex M) | NIM | ● | ● | ● | ● | ● | ● |

## 4G LTE Wireless WAN Solutions

Mobile 4G LTE networks can be deployed rapidly as primary or backup WAN by incorporating the 4G LTE Wireless WAN Module on Cisco ISR 4000 Series. Bandwidth can be utilized even more efficiently by using the module in combination with Cisco Wide Area Application Services (WAAS).

■ Deployed as Primary WAN

Small-scale Bases
Mobile 4G LTE Network
Head Office
Primary WAN
Mobile Bases

■ Deployed as Backup WAN

Mobile 4G LTE Network
Bases
Backup WAN
Head Office
Primary WAN
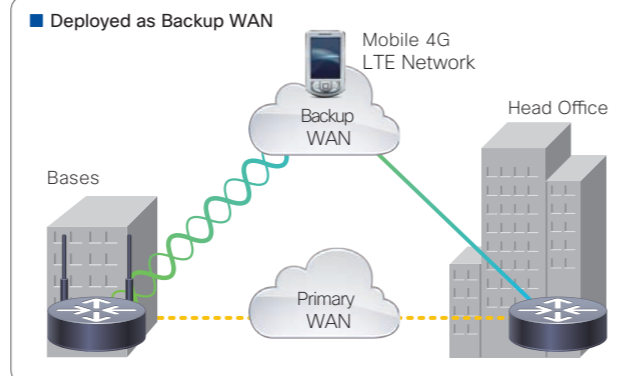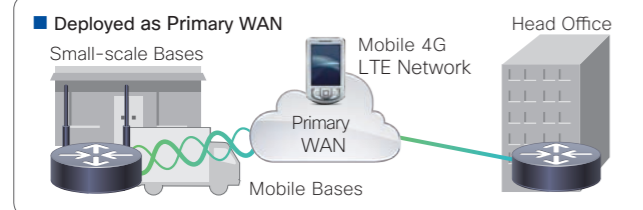
■ Cisco 4G LTE 2.0 Network Interface Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-4G-LTE-GA | 4G LTE Module for Global | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4G-LTE-NA | 4G LTE Module for North America | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4G-LTE-ST | 4G LTE Module for Sprint | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4G-LTE-VZ | 4G LTE Module for Verizon | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4G-LTE-LA NEW | 4G LTE Module for Asia Pacific, Australia and Latam | NIM | ● | ● | ● | ● | ● | ● |
| NIM-LTEA-EA NEW | LTE Advanced Module for Europe and North America | NIM | ● | ● | ● | ● | ● | ● |
| NIM-LTEA-LA NEW | LTE Advanced Module for Asia Pacific, Australia and Latam | NIM | ● | ● | ● | ● | ● | ● |

■ Cisco T1/E1 Voice and WAN Network Interface Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-1MFT-T1/E1 | Voice/WAN Module (1-port T1/E1) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-2MFT-T1/E1 | Voice/WAN Module (2-port T1/E1) | NIM | ● | ● | ● | ● | ● | ● |
| NIM-4MFT-T1/E1 | Voice/WAN Module (4-port T1/E1) | NIM | - | ● | ● | ● | ● | ● |
| NIM-8MFT-T1/E1 | Voice/WAN Module (8-port T1/E1) | NIM | - | ● | ● | ● | ● | ● |
| NIM-1CE1T1-PRI | Voice/WAN Module (1-port T1/E1/G.703) | NIM | - | ● | ● | ● | ● | ● |
| NIM-2CE1T1-PRI | Voice/WAN Module (2-port T1/E1/G.703) | NIM | - | ● | ● | ● | ● | ● |
| NIM-8CE1T1-PRI | Voice/WAN Module (8-port T1/E1/G.703) | NIM | - | ● | ● | ● | ● | ● |

■ Cisco Analog Voice Network Interface Modules for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| NIM-2FXS | Voice Module (2-port FXS) | NIM | - | ● | ● | ● | ● | ● |
| NIM-4FXS | Voice Module (4-port FXS) | NIM | - | ● | ● | ● | ● | ● |
| NIM-2FXO | Voice Module (2-port FXO) | NIM | - | ● | ● | ● | ● | ● |
| NIM-4FXO | Voice Module (4-port FXO) | NIM | - | ● | ● | ● | ● | ● |
| NIM-2FXS/4FXO | Voice Module (2-port FXS and 4-port FXO) | NIM | - | ● | ● | ● | ● | ● |
| NIM-4E/M | Voice Module (4-port E/M) | NIM | - | ● | ● | ● | ● | ● |
| NIM-2BRI-NT/TE | Voice Module (2-port BRI) | NIM | - | ● | ● | ● | ● | ● |
| NIM-4BRI-NT/TE | Voice Module (4-port BRI) | NIM | - | ● | ● | ● | ● | ● |

■ Cisco Packet Voice Digital Signal Processor Modules (PVDMs) for Cisco ISR 4000 Series

| SKU | Description | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| PVDM4-32 | High-density Voice DSP Module (16-channel) | PVDM4 | - | ● | ● | ● | ● | ● |
| PVDM4-64 | High-density Voice DSP Module (32-channel) | PVDM4 | - | ● | ● | ● | ● | ● |
| PVDM4-128 | High-density Voice DSP Module (64-channel) | PVDM4 | - | ● | ● | ● | ● | ● |
| PVDM4-256 | High-density Voice DSP Module (128-channel) | PVDM4 | - | ● | ● | ● | ● | ● |
| SM-X-PVDM-500 | High-density Voice DSP Module (768-channel) | SM-X | - | - | ● | ● | - | ● |
| SM-X-PVDM-1000 | High-density Voice DSP Module (1,024-channel) | SM-X | - | - | ● | ● | - | ● |
| SM-X-PVDM-2000 | High-density Voice DSP Module (2,048-channel) | SM-X | - | - | ● | ● | - | ● |
| SM-X-PVDM-3000 | High-density Voice DSP Module (3,080-channel) | SM-X | - | - | - | ● | - | ● |

■ Cisco UCS E Series Servers for Cisco ISR 4000 Series

| SKU | CPU Cores | Memory | | Internal Drive Slots | RAID | Slot | Compatible Models | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Default | Maximum | | | | 4221 | 4321 | 4331 | 4351 | 4431 | 4451 |
| UCS-EN140N-M2/K9 | 4 | 8 GB | 8 GB | 1 | - | NIM | - | ● | ● | ● | ● | ● |
| UCS-EN120S-M2/K9 | 2 | 4 GB | 16 GB | 2 | 0/1 | SM-X | - | - | ● | ● | - | ● |
| UCS-E140S-M2/K9 | 4 | 8 GB | 16 GB | 2 | 0/1 | SM-X | - | - | ● | ● | - | ● |
| UCS-E160S-M3/K9 | 6 | 8 GB | 32 GB | 2 | 0/1 | SM-X | - | - | ● | ● | - | ● |
| UCS-E160D-M2/K9 | 6 | 8 GB | 96 GB | 3 | 0/1/5 | SM-X | - | - | - | ● | - | ● |
| UCS-E180D-M2/K9 | 8 | 8 GB | 96 GB | 3 | 0/1/5 | SM-X | - | - | - | ● | - | ● |

*1  Also supported by a PVDM4 slot on Voice NIMs.　*2  Supports up to 1,024 channels.

# Collaborate

## Collaboration



### Why Cisco?

**■ The New Collaborative Environment**
Opportunity comes from the combination of technology and people. The collaborative workspace environment gives people the flexibility to be where they need to be to do the best work they can.
Cisco uses an architectural approach, integrating mobility, video, and cloud to bring people together **anytime**, **anywhere**, on **any device**. Connect employees, customers, and suppliers to make decisions, resolve customer issues, or address supply-chain challenges. The architecture cost-effectively supports scalability, security, and accessibility. The Cisco collaboration strategy and architecture account for not only the technology, but also for what it means to your processes and culture.

Implement collaboration solutions to:

● Flatten organizational hierarchy and better communicate with all levels of the organization
● Elevate and personalize communications to improve the quality and speed of decisions
● Save time, simplify workflows, and increase workforce interaction and productivity
● Build trust and understanding across time zones and within teams through video communications
● Improve customer responsiveness by facilitating faster access to experts and information

In addition to productivity improvements, these solutions can help you reduce travel, real-estate costs, and greenhouse gas emissions by supporting virtual meetings and telecommuting.

**■ Reimagine Collaboration: In Every Room, On Every Desk and In Every Pocket**

| | | |
|---|---|---|
| **In Every Room** |  | Cisco TelePresence SX Series | Cisco Spark Room Kit Series / Cisco Spark Board |
| **On Every Desk** |  | Cisco IP Phones | Cisco DX Series |
| **In Every Pocket** |  | Cisco Spark | Cisco WebEx |

| | | |
|---|---|---|
| Cisco Business Edition 4000/6000 (BE4000/6000) | Purpose-built collaboration solutions for small-scale and medium-scale deployments. Support for multiple collaboration applications on single, centrally-managed platform options. | P49 |
| Cisco IP Phones | VoIP and Video Phones to Meet Your Business Needs. Integrated and affordable, with capabilities beyond traditional phones and video systems. | P50 |
| Cisco DX Series | Work with anyone, anywhere in the world using desktop video. You can see and hear each other as if you're in the same room. | P52 |
| Cisco TelePresence SX Series | Transforms flat-panel video displays into high-definition telepresence systems. Bring teams together with video for collaboration experiences delivered at greater value. | P52 |
| Cisco Spark | Streamline communications and enhance mobile productivity with collaboration on any device. Bring your teams together in a place that makes it easy to keep people and work connected. | P53 |
| Cisco WebEx | Meet with anyone online to present, share, and collaborate. Accelerate decisions, keep projects on track and exchange ideas. | P55 |

## Call Control

## Cisco Business Edition 4000/6000 (BE4000/6000)



BE7000H
1,000 to 5,000 Users
3,000 to 15,000 Devices

BE7000M
1,000 to 5,000 Users
3,000 to 15,000 Devices

BE6000H
Up to 1,000 Users
Up to 2,500 Devices

BE6000M
Up to 1,000 Users
Up to 1,200 Devices

BE6000S
Up to 150 Users
Up to 300 Devices

BE4000 NEW
Up to 200 Users
Up to 200 Devices

Deployment Scale → High
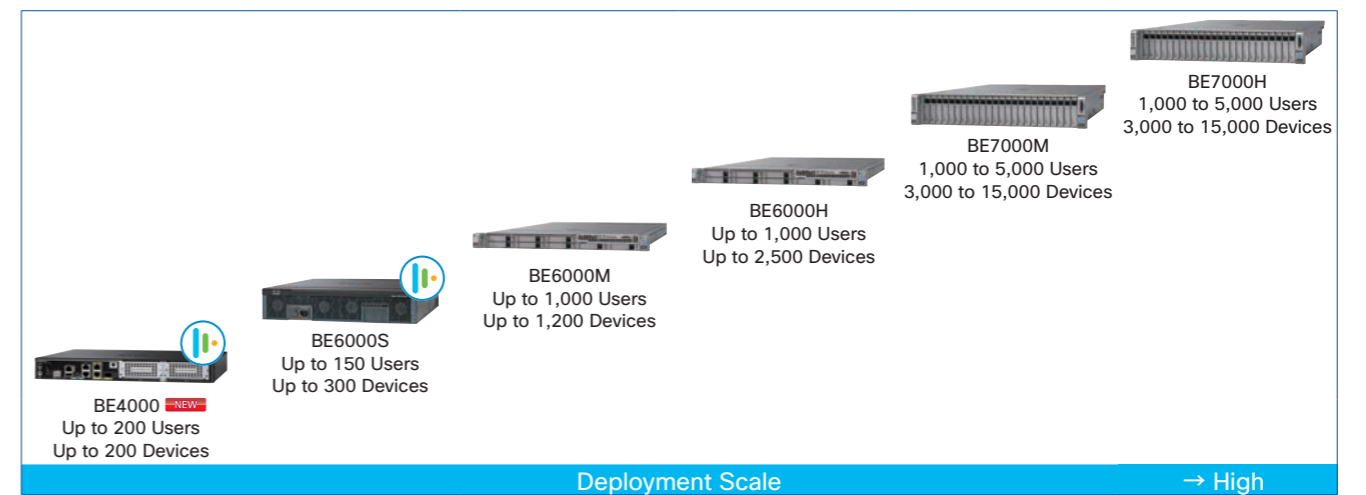
**■ Cisco Business Edition 4000 (BE4000) NEW**
The **Cisco Business Edition 4000 (BE4000)** is a dedicated voice appliance that provides essential IP telephony and voicemail features for small businesses with up to **200 devices (phones)**. The appliance includes a public switched telephone network (PSTN) gateway function and may be ordered with a range of line cards (PRI, BRI, FXO, and FXS). The solution is entirely managed via the Cisco Business Edition Management **cloud** portal and is offered with **1-, 3-, or 5-year prepaid, fixed-term subscription**.

**■ Cisco Business Edition 6000 (BE6000)**
The **Cisco Business Edition 6000 (BE6000)** gives employees a full range of collaboration tools: **premium voice**, **video**, **messaging**, **instant messaging** and **presence**, **conferencing**, **video conferencing**, **contact center services**, **mobility capabilities**, and more. With these tools your small or midsize business can boost productivity among employees and strengthen relationships with customers and business partners. And they can help you speed decision making and reduce time to market.



BE4000
Cloud-Managed Audio Telephony Platform

BE6000S
5 Fixed Collaboration Applications

Call Control — Unified Communications Manager Express
Messaging — Unity Express

Call Control — Unified Communications Manager
Messaging — Unity Connection
IM & Presence — Jabber
Paging — Paging Server
System Management — Prime Collaboration

Attendant Console — Unified Attendant Console
Contact Center — Unified Contact Center Express
Emergency Services — Unified Emergency Responder

Video Conferencing
Control — TelePresence Conductor
Media Processing — TelePresence Server
Scheduling — TelePresence Management Suite
Record & Stream — TelePresence Content Server

Collaboration Edge — Expressway/ TelePresence VCS

BE6000M
4 Collaboration Applications + 1 System Management

BE6000H
8 Collaboration Applications + 1 System Management

**■ Cisco Business Edition 4000 NEW**

| SKU | Description |
|---|---|
| BE4S-V-K9 | Cisco BE4000 Appliance |

**■ Cisco Business Edition 6000**

| SKU | Description |
|---|---|
| BE6S-PRI-M2-K9 | Cisco BE6000S Appliance (1 x PRI, 10 x CUBE) |
| BE6S-FXO-M2-K9 | Cisco BE6000S Appliance (4 x FXO, 10 x CUBE) |
| BE6S-BRI-M2-K9 | Cisco BE6000S Appliance (4 x BRI, 10 x CUBE) |
| BE6M-M4-K9= | Cisco BE6000M Appliance |
| BE6H-M4-K9= | Cisco BE6000H Appliance |

**■ Cisco Business Edition 4000 Licenses NEW**

| SKU | Description |
|---|---|
| A-BE4K-1YR-SEAT[*1] | 1 Year per Seat License |
| A-BE4K-3YR-SEAT[*2] | 3 Year per Seat License |
| A-BE4K-5YR-SEAT[*3] | 5 Year per Seat License |

**■ Cisco Business Edition 6000 License Starter Bundles[*4]**

| SKU | Description |
|---|---|
| BE6K-START-UCL35 | Starter Bundle with 35 Enhanced UCL and Voicemail Licenses |
| BE6K-START-UWL35 | Starter Bundle with 35 UWL Licenses |
| BE6K-START-MTG35 | Starter Bundle with 35 UWL Meetings Licenses |

*1  A-BE4K-1YR-K9 is required.  *2  A-BE4K-3YR-K9 is required.  *3  A-BE4K-5YR-K9 is required.  *4  R-CBE6K-K9 is required.

## Cisco IP Phones

### ■ Leading the Way in Collaboration

The **Cisco IP Phones** empower your business with a new collaboration experience that connects the right people with the right information at the right time, so you can accelerate team performance and maximize your business results. Effective collaborative experiences among teams, communities, and individuals can also help you:

- Unlock the value of your company's information with relevant, contextual
- collaboration, whether at the desktop or if mobile within a campus.
- Harness the power of your busy professional staff by enabling them to collaborate confidently with customers, partners, colleagues, and suppliers.
- Maximize interaction with subject-matter experts (SMEs) by taking advantage of pervasive presence and conferencing capabilities.
- Transform business processes and reduce costs with interactive high-quality, businessgrade high-definition video communications.
- Get access to a broad suite of optional thirdparty endpoint applications and accessories to innovate new workflows.

Cisco began developing voice over IP (VoIP) communications and collaboration solutions in 1997 and has provided them longer than any other vendor in the industry. According to Synergy Research, Cisco is the number one overall voice and video communications equipment vendor in the world and the leader in most unified communications categories, including conferencing and messaging.

Cisco leads the unified communications and collaboration market with:

- **More unified communications installations**: Cisco has more than 100,000 unified communications customers worldwide.
- **More IP endpoints**: Cisco has shipped 95 million IP phones since its entry into VoIP communications.
- **Competitive advantage**: More than 95 percent of Fortune 500 companies now use Cisco Collaboration Solutions to build competitive advantage.

In today's 24x7 global economy, your business must meet the needs of a wide range of users with different communications styles and distinct workspaces. Workers are more geographically dispersed spanning different time zones. Use of conferencing (audio and video) is increasing exponentially in order to connect workers who often work in teams. Yet, the internet is full of media reports that postulate that the death of the desk phone has arrived.

### ■ Cisco SPA300 Series IP Phones

| Models | Display | HD Video (720p) | Line Keys | Wideband Audio | Hands-free | Ethernet Switch | PoE Class | Wi-Fi | Signaling Protocal | Supported Cisco Call Control |
|---|---|---|---|---|---|---|---|---|---|---|
| SPA301 | – | – | – | – | ● | – | 1 x FE | – | – | SIP/SPCP | – |
| SPA303 | 128 x 63 Monochrome | – | 3 | ● | ● | 2 x FE | – | – | SIP/SPCP | – |

### ■ Cisco SPA500 Series IP Phones

| Models | Display | HD Video (720p) | Line Keys | Wideband Audio | Hands-free | Ethernet Switch | PoE Class | Wi-Fi | Signaling Protocal | Supported Cisco Call Control |
|---|---|---|---|---|---|---|---|---|---|---|
| SPA501G | – | – | 8 | ● | ● | 2 x FE | 2 | – | SIP/SPCP | – |
| SPA502G | 128 x 64 Monochrome Backlight | – | – | ● | ● | 2 x FE | 2 | – | SIP/SPCP | – |
| SPA504G | 128 x 64 Monochrome Backlight | – | 4 | ● | ● | 2 x FE | 2 | – | SIP/SPCP | – |
| SPA508G | 128 x 64 Monochrome Backlight | – | 8 | ● | ● | 2 x FE | 2 | – | SIP/SPCP | – |
| SPA509G | 128 x 64 Monochrome Backlight | – | 12 | ● | ● | 2 x FE | 2 | – | SIP/SPCP | – |
| SPA512G | 128 x 64 Monochrome Backlight | – | – | ● | ● | 2 x GE | 2 | – | SIP/SPCP | – |
| SPA514G | 128 x 64 Monochrome Backlight | – | 4 | ● | ● | 2 x GE | 2 | – | SIP/SPCP | – |
| SPA525G2 | 320 x 240 Color | – | 5 | ● | ● | 2 x FE | 2 | 11g | SIP/SPCP | – |

### ■ Cisco IP Phone 7800 Series

| Models | Display | HD Video (720p) | Line Keys | Wideband Audio | Hands-free | Ethernet Switch | PoE Class | Wi-Fi | Signaling Protocal | Supported Cisco Call Control |
|---|---|---|---|---|---|---|---|---|---|---|
| 7811 | 384 x 106 Monochrome | – | – | –*1 | ● | 2 x FE | 1 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 9.1.2 ～ Spark 11.0 ～ |
| 7821 | 396 x 162 Monochrome White Backlight | – | 2 | ● | ● | 2 x FE | 1 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 9.1.2 ～ Spark 11.0 ～ |
| 7832 Conference Station **NEW** | 384 x 128 Monochrome LED Backlight | – | – | ● | ● | 1 x FE | 2 | – | SIP | Spark 11.0 ～ |
| 7841 | 396 x 162 Monochrome White Backlight | – | 4 | ● | ● | 2 x GE | 1 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 9.1.2 ～ Spark 11.0 ～ |
| 7861 | 396 x 162 Monochrome White Backlight | – | 16 | ● | ● | 2 x FE | 1 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 9.1.2 ～ Spark 11.0 ～ |

### ■ Cisco IP Phone 8800 Series

| Models | Display | HD Video (720p) | Line Keys | Wideband Audio | Hands-free | Ethernet Ports | PoE Class | Wi-Fi | Signaling Protocal | Supported Cisco Call Control |
|---|---|---|---|---|---|---|---|---|---|---|
| 8811 | 5" (800 x 480) Monochrome White Backlight | – | 5 | ● | ● | 2 x GE | 2 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |
| 8831 Conference Station | 396 x 162 Monochrome White Backlight | – | 1 | ● | ● | 1 x GE | 3 | – | SIP | Unified CME 10.0 ～ BE 8.6.5 ～ Unified CM 7.1.5 ～ HCS 8.6.2 ～ |
| 8841 | 5" (800 x 480) WVGA Color | – | 5 | ● | ● | 2 x GE | 2 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |
| 8845 | 5" (800 x 480) WVGA Color | ● | 5 | ● | ● | 2 x GE | 2 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |
| 8851 | 5" (800 x 480) WVGA Color | – | 5 | ● | ● | 2 x GE | 3 | – | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |
| 8861 | 5" (800 x 480) WVGA Color | – | 5 | ● | ● | 2 x GE | 4 | 11ac | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |
| 8865 | 5" (800 x 480) WVGA Color | ● | 5 | ● | ● | 2 x GE | 4 | 11ac | SIP | BE 8.6.2 ～ Unified CM 8.5.1 ～ HCS 8.6.2 ～ Spark 11.0 ～ |

*1　Wideband audio available with purchase of wideband handset.

# Cisco DX Series

## ■ Cisco DX70/80

Discover a delightful new approach to working that is simple-to-use and offers a no-compromise collaboration experience. Upgrade your desktop with a virtual collaboration experience so stunning you will feel as though you and other participants are in the same room. Say goodbye to desktop clutter with a sleek Cisco DX70/80. Say hello to all-in-one desktop collaboration featuring high-definition (HD) video, unified communications features, a display for your laptop, and expanded capabilities.

### ■ Cisco DX Series

| Models | Display | Touch Screen | Video Frame Rate | Supported PC Resolutions | Camera | Bandwidth Consumption | Video Standards | Audio Standards | Wi-Fi | Optional Hardware Components |
|---|---|---|---|---|---|---|---|---|---|---|
| DX70 | 14-inch 1920 x 1080 | ● | Up to 30 fps | Up to 1080p (1920 x 1080) at 30fps | Integrated HD | Up to 3 Mbps | H.263 H.263+ H.264 | G.711 G.722 G.722.1 G.729ab AAC-LD OPUS | 11n | VESA Mounting Kit Jabra Handset 450 |
| DX80 | 23-inch 1920 x 1080 | ● | Up to 30 fps | Up to 1080p (1920 x 1080) at 30fps | Integrated HD | Up to 3 Mbps | H.263 H.263+ H.264 | G.711 G.722 G.722.1 G.729ab AAC-LD OPUS | 11n | VESA Mounting Kit Jabra Handset 450 |

### ■ Cisco DX70

| SKU | Description |
|---|---|
| CS-DX70-K9= | DX70 for Spark Registration[*1] |
| CP-DX70-W-K9= | DX70 for VCS or Unified CM Registration[*1] |
| CP-DX70-W-NR-K9= | DX70 No Radio for VCS or Unified CM Registration[*1] |

### ■ Cisco DX80

| SKU | Description |
|---|---|
| CS-DX80-K9= | DX80 for Spark Registration[*1] |
| CP-DX80-K9= | DX80 for VCS or Unified CM Registration[*1] |
| CP-DX80-NR-K9= | DX80 No Radio for VCS or Unified CM Registration[*1] |

# Cisco TelePresence SX Series

## ■ Cisco TelePresence SX10 Quick Set

The Cisco TelePresence SX10 Quick Set is an all-in-one unit designed to video-enable your small collaboration spaces, offering great affordability for small-to-medium businesses just starting out with telepresence.

## ■ Cisco TelePresence SX20 Quick Set

The Cisco TelePresence SX20 Quick Set can transform any flat panel display into a sleek and powerful video conferencing system. It is designed to deliver high definition video and multiparty conferencing with the flexibility to accommodate various room size and configurations - all at a value price.

### ■ Cisco TelePresence SX Series

| Models | Video Frame Rate | Supported PC Resolutions | Camera | Bandwidth Consumption | Video Standards | Audio Standards | Multipoint Support | Mount | Optional Hardware Components |
|---|---|---|---|---|---|---|---|---|---|
| SX10 Quick Set | Up to 30 fps | SVGA (800 x 600) up to 1080p (1920 x 1080) at 30fps | Integrated HD 5x Zoom | Up to 3 Mbps | H.263 H.263+ H.264 | G.711 G.722 G.722.1 G.729ab AAC-LD OPUS | – | Screen or Wall | TelePresence Touch 10 Screen Mount Kit Additional Microphone |
| SX20 Quick Set | Up to 60 fps | SVGA (800 x 600) up to 1080p (1920 x 1080) at 5fps | PrecisionHD 4x or 12x Optical Zoom | Up to 6 Mbps | H.263 H.263+ H.264 | G.711 G.722 G.722.1 G.728 G.729ab AAC-LD OPUS | 4 | Wall | TelePresence Touch 10 Wall Mount Kit Additional Microphone |

### ■ Cisco TelePresence SX10 Quick Set

| SKU | Description |
|---|---|
| CTS-SX10N-K9 | SX10 Quick Set |

### ■ Cisco TelePresence SX20 Quick Set

| SKU | Description |
|---|---|
| CTS-SX20N-P40-K9 | SX20 Quick Set with Precision 40 Camera |
| CTS-SX20N-12X-K9 | SX20 Quick Set with PrecisionHD 12x Camera |

### ■ Cisco TelePresence SX20 Quick Set License*1

| SKU | Description |
|---|---|
| L-SX20-MS | SX20 MultiSite option |

*1   L-SX-SERIES-PAK is required.

# Cisco Spark

## ■ A Cloud-Based Business Collaboration Service

Communication is about more than simply being able to dial or send a message to employees or partners. It's about being able to message, meet, and call instantly in a way that strengthens relationships and increases productivity. And now communication needs to be agile. Mobile. Collaborative. All thanks to mobile devices and evolving innovations in infrastructure and applications for voice, video, messaging, and content sharing. The Cisco Spark service makes instant communications and live meetings possible through a deeply integrated set of industry-leading communications tools for an unmatched collaboration experience—that only the Cisco cloud can deliver.

## ■ Message. Meet. Call.

With the Cisco Spark solution, you can:

● **Message**: Business messaging lets you prepare, share, and iterate on content. Enjoy 1:1 and team messaging in virtual rooms with persistent content and context for team interactions. Cisco Spark services break down communication barriers and make it incredibly simple to work with anyone.
● **Meet**: Connect teams and meet customers easily with the added benefits of messaging and content sharing before, during, and after the meeting. It's easy to schedule or join a meeting at a main office, a branch office, at home, on the road, or from a room-based video system. Every meeting is video-centric. Users shouldn't have to think about what type of conferencing they need before scheduling; after all, it's just a meeting.
● **Call**: The service enables voice and video communications via mobile, desktop, and room-based devices. Simply connect your existing PSTN1 services to Spark to enjoy one-touch directory dialing and join meetings from anywhere on any device. Mobile users get features such as single number reach, single voicemail service, video services, and the ability to seamlessly move between devices during a call.

**One Experience**

**Message** 1:1 and Team Messaging

**Meeting** Audio, Video, and Web

**Call** Voice and Video Calling

**One Offer**

Spark Room · File Preview · Add a File into a Spark Room · Screen Sharing · Room Moderation · Calendar Entry That Can Become a Spark Room
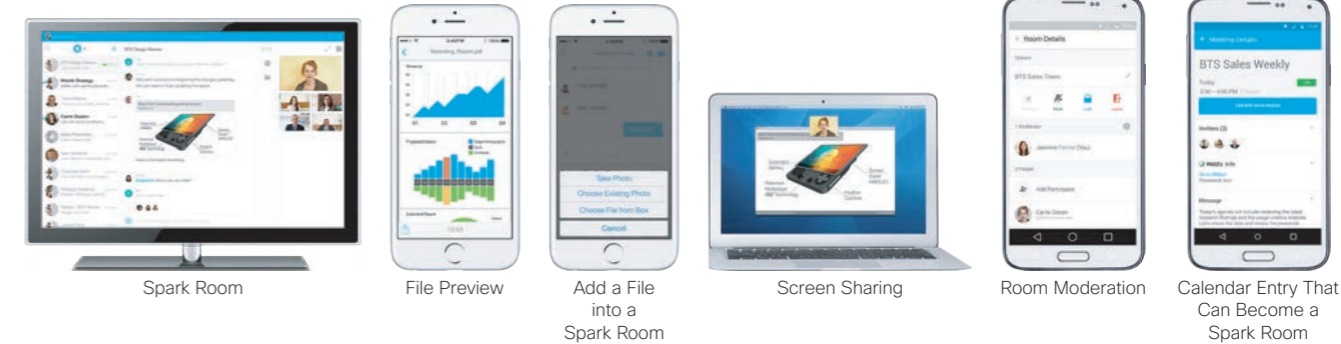
### ■ Cisco Spark Subscriptions*1

| | Free | Business Messaging | Business Messaging and Basic Meetings | Business Messaging and Advanced Meetings |
|---|---|---|---|---|
| Named User SKU[*1] | – | A-SPK-NU-M1 | A-SPK-NU-M2 | A-SPK-NU-M3 |
| Messaging | ● | ● | ● | ● |
| File Sharing | ● | ● | ● | ● |
| 1:1 Video Calling with Screen Sharing | ● | ● | ● | ● |
| Meetings with Screen Sharing in Rooms with 3 Participants | ● | ● | ● | ● |
| Mobile Calendar and Contacts Integration | ● | ● | ● | ● |
| Online Self-Service Support | ● | ● | ● | ● |
| End-to-End Content Encryption and In-Transit and Media Encryption | ● | ● | ● | ● |
| Room Moderation | – | ● | ● | ● |
| External Participants Indication | – | ● | ● | ● |
| Directory Sync | – | ● | ● | ● |
| Single Sign-On | – | ● | ● | ● |
| Live Support | – | ● | ● | ● |
| Meetings with Screen Sharing in Rooms with up to 25 Participants | – | – | ● | ● |
| Entitlement to WebEx Meeting Center or Enterprise Edition | – | – | – | ● |

*1   A-SPK-NAMED-USER is required.

Secure

Connect

Collaborate

Compute

Meraki

Services

## Cisco Spark Room Kit Series `NEW`

■ **Cisco Spark Room Kit Series: Team Collaboration Innovation in a Box**
The Cisco Spark Room Kit and the Cisco Spark Room Kit Plus are powerful collaboration solutions that integrate with flat panel displays to bring more intelligence and usability to your small to large-sized meeting rooms.
These newest integrator solutions deliver the unmatched video and audio experience that customers have come to expect from Cisco. In addition, new capabilities enable even smarter meetings, smarter presentations, and smarter room and device integrations – further removing the barriers to usage and deployment of video collaboration.

■ **Highlights**
● **Powerful Collaboration Solutions**: Integrate with flat panel displays to bring more intelligence and usability to your medium to large-sized meeting rooms
● **Smart Meetings**: Powerful, integrated cameras deliver intelligent view capabilities, such as automatic framing and speaker tracking
● **Smart Presentations**: Dual screens, dual content sources, wireless sharing, and 4K content make for great presentations
● **Smart Integrations**: People count for usage metrics and resource allocation; tight integrations with screens for enhanced functionalities
● **Registration Flexibility**: Built for both cloud and on-premises deployment, protecting your investment



● **Cisco Spark Room Kit**
All-in-one device
For rooms that seat up to 7 people



● **Cisco Spark Room Kit Plus**
Codec plus separate quad-camera bar
For larger and deeper rooms of up to 14 people

## Cisco Spark Board `NEW`

The Cisco Spark Board, like no other, is a new team collaboration device that combines wireless presentation, digital white boarding, and video conferencing. It is fully cloud- and touch-based and designed for rich team collaboration, securely connecting physical and virtual meeting rooms. It resides in physical meeting rooms but is connected to the Cisco Spark service to facilitate continuous workflow before the meeting starts and even after everyone has left the physical room. Through the Cisco Spark app, team members both in the physical conference room and attending remotely can meet, message, call, and, now, white board from anywhere through their Cisco Spark app-enabled device of choice.

■ **Highlights**
● **Wireless Presentation**: Share your presentation, locally in the room or remotely, without any need for wires, dongles, adapters, or typing in PIN codes.
● **Digital Whiteboarding**: Easily white board with the Cisco Spark Pen or your finger and automatically save content to a Cisco Spark virtual space; multiple people can white board – in the room or remotely on any Cisco Spark app-enabled device.
● **Video Conferencing**: Make your high-definition video or high-fidelity audio calls directly on the Cisco Spark Board.
● **Continuous Workflow**: Connect the Cisco Spark Board to a virtual Cisco Spark space and your whiteboard creations and other shared documents will live there persistently and securely, to be reviewed and edited by any member of the team from another Cisco Spark Board or any Cisco Spark app-enabled device



● **Cisco Spark Board 55**
Screen: 55-inch edge LED LCD
Camera: 83-degree field of view



● **Cisco Spark Board 70**
Screen: 70-inch edge LED LCD
Camera: 83-degree field of view

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■ **Cisco Spark Room Kit Series**

| Models | | Video Frame Rate | Supported PC Resolutions | Camera | Bandwidth Consumption | Video Standards | Audio Standards | Mount | Optional Hardware Components |
|---|---|---|---|---|---|---|---|---|---|
| Spark Room Kit | | Up to 60 fps | Up to 1080p at 60fps Up to 4K at 30fps | Integrated 5K Ultra HD | Up to 6 Mbps | H.264 H.265 | G.711 G.722 G.722.1 G.729 AAC-LD OPUS | Screen or Wall | Additional Microphone |
| Spark Room Kit Plus | | Up to 60 fps | Up to 1080p at 60fps Up to 4K at 30fps | Quad Camera 5K Ultra HD | Up to 6 Mbps | H.264 H.265 | G.711 G.722 G.722.1 G.729 AAC-LD OPUS | Wall | Wall Mount Kit for Codec Additional Microphone |

■ **Cisco Spark Room Kit**

| SKU | Description |
|---|---|
| CS-KIT-MSRP-K9 | For Spark Registration |
| CS-KIT-K9 | For VCS or Unified CM Registration |
| CS-KIT-NR-K9 | No Radio, for VCS or Unified CM Registration |

■ **Cisco Spark Room Kit Plus**

| SKU | Description |
|---|---|
| CS-KITPLUS-MSRP-K9 | For Spark Registration |
| CS-KITPLUS-K9 | For VCS or Unified CM Registration |
| CS-KITPLUS-NR-K9 | No Radio, for VCS or Unified CM Registration |

■ **Cisco Spark Board**

| SKU | Display | Touch Screen | Video Frame Rate | Supported PC Resolutions | Camera | Bandwidth Consumption | Video Standards | Audio Standards | Mount | Optional Hardware Components |
|---|---|---|---|---|---|---|---|---|---|---|
| SPARK-BOARD55-K9 | 55-inch 4K | ● | Up to 30 fps | Up to 1080p at 60fps Up to 2160p at 30fps | Integrated 4K | Up to 1.72 Mbps | H.264 | OPUS | Wall | Floor Stand Kit Wall Stand Kit |
| SPARK-BOARD70-K9 | 70-inch 4K | ● | Up to 30 fps | Up to 1080p at 60fps Up to 2160p at 30fps | Integrated 4K | Up to 1.72 Mbps | H.264 | OPUS | Wall | Floor Stand Kit Wall Stand Kit |

■ **Cisco Spark Room Kit Series License**[1]

| SKU | Description |
|---|---|
| A-SPK-SH-RMK | Monthly or 1-, 2-, 3-, 4-, or 5-year options |

■ **Cisco Spark Board License**[1]

| SKU | Description |
|---|---|
| A-SPK-SH-ND-BRD | Monthly or 1-, 2-, 3-, 4-, or 5-year options |

*1 A-SPK-SH is required.

# Conferencing

## Cisco WebEx

■ **Use People-Centric Web Conferencing Collaboration**
Take advantage of industry-leading web conferencing capabilities to facilitate compelling, productive team meetings. With the Cisco WebEx online collaboration solutions, organizations of any size can:

● Promote collaboration with anyone globally, anywhere, anytime, on any device
● Increase productivity with an engaging, interactive web conferencing meeting experience
● Improve day-to-day efficiency and streamline meeting activities
● Save time and money by reducing the need to travel

■ **Reduce Costs, Optimize Investments**
Cisco WebEx web conferencing solutions help reduce costs and optimize IT resources. Delivered through the Cisco WebEx Cloud, these solutions are easy to implement and scale throughout your organization. Cisco WebEx solutions:

● Require no large, up-front investment, and offer a predictable cost and licensing model
● Offer quick global deployment and easy adoption for users inside or outside firewalls
● Help you cut costs on hardware, software, and maintenance
● Give you the time to focus on strategic business projects instead of conferencing operations
● Integrate web conferencing with existing Cisco investments such as Cisco Jabber, Cisco Spark, and Cisco TelePresence solutions

■ **Meetings Available for Anyone at Any Time on Any Device**
Whether you use Cisco Systems, Polycom, or other SIP or H.323 based video conferencing systems, you can easily connect to a WebEx meeting with the Cisco Collaboration Meeting Rooms (CMR) Cloud.
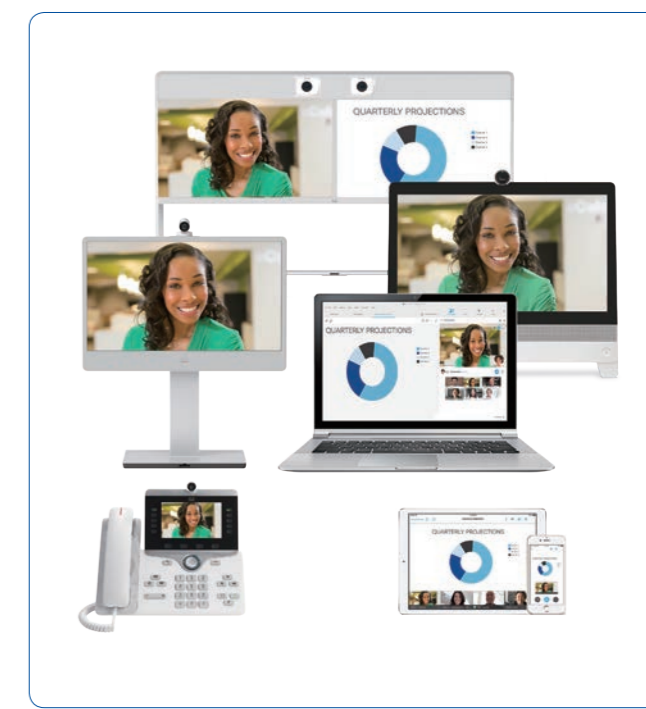
# Compute

## Servers – Unified Computing

## Positioning Map of Cisco UCS C-Series Rack Servers

■ **Cisco UCS C-Series Rack Servers**
The Cisco UCS C-Series Rack Servers provide a rack-server entry point to Cisco UCS. With world-record-setting performance for 2- and 4-socket servers, Cisco UCS C-Series Rack Servers can integrate into Cisco UCS through a single set of cables. Cisco UCS C-Series Rack Servers provide a wide range of I/O, memory, internal disk, and solid-state disk (SSD) drive capacity, enabling you to easily match servers to workloads.

■ **Cisco UCS M5 Rack Servers** —NEW—
Designed to provide your computing infrastructure now and into the future, Cisco UCS M5 rack servers give you the benefits of the latest Intel Xeon Platinum processors:

- ● **More cores** to accelerate parallelized virtualized and bare-metal workloads
- ● **Larger memory capacity** for better performance and larger in-memory databases
- ● **Higher memory bandwidth** to accelerate the flow of information to and from the CPU
- ● **Ready for Intel 3D XPoint** nonvolatile memory
- ● **Up to 6 PCIe GPU accelerators** for a smooth user experience in virtual desktop environments
- ● **Cloud management ready**

**Massive Storage Capacity for Data-intensive Workloads**

**Performance and Expandability for Enterprise-class Workloads**

**Superior Performance for Mission-Critical Workloads**

Cisco UCS S3260

Cisco UCS C220 M5
Cisco UCS C220 M4

Cisco UCS C240 M5
Cisco UCS C240 M4
Up to 2 NVIDIA GPUs

Cisco UCS C480 M5
Up to 6 NVIDIA GPUs

Cisco UCS C460 M4
Up to 2 NVIDIA GPUs

SAP Workloads
Database Applications
Larger Virtualization

Big Data Analytics
Virtualization
Graphics-rich Applications
Bare-metal Applications

Virtualization
Collaboration
Bare-metal Applications

Software Defined Storage
Unstructured Data Repositories
Microsoft Exchange
Backup and Archival
Media Streaming
Content Distribution

All models support
**Cisco UCS Virtual Interface Card (VIC)**
in PCIe or MLOM form factor

### ■ Cisco UCS C-Series Rack Servers

| Model Name | Processor | | | Memory | | Internal Storage | | | | | PCIe Gen3 Slots | Embedded NIC | | | | Rack mount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Processor Supported | Sockets | Max Cores per Socket | Slots | Max Memory | Slots | SAS/ SATA | NVMe/ SSD | Optional RAID | Max Internal Storage | | GE | 10GB-T | Mgmt GE | mLOM Slots | |
| UCS C220 M4 | Intel Xeon E5-2600 v3/v4 | 2 | 22 | 24 | 1.5 TB | 8 (SFF) 4 (LFF) | ● | ● (SFF) – (LFF) | 0/1/5/6/ 10/50/60 | 30.4 TB (SFF) 40 TB (LFF) | 2 | 2 | – | 1 | 1 | 1 RU |
| UCS C220 M5 —NEW— | Intel Xeon Scalable | 2 | 28 | 24 | 3 TB | 10 (SFF) 4 (LFF) | ● | ● (SFF) – (LFF) | 0/1/5/6/ 10/50/60 | 76 TB (SFF)[*1] 80 TB (LFF)[*2] | 2 | – | 2 | 1 | 1 | 1 RU |
| UCS C240 M4 | Intel Xeon E5-2600 v3/v4 | 2 | 22 | 24 | 1.5 TB | 26 (SFF) 12 (LFF) | ● | ● (SFF) – (LFF) | 0/1/5/6/ 10/50/60 | 91.2 TB (SFF) 120 TB (LFF) | 6 | 2 | – | 1 | 1 | 2 RU |
| UCS C240 M5 —NEW— | Intel Xeon Scalable | 2 | 28 | 24 | 3 TB | 26 (SFF) 12 (LFF) | ● | ● (SFF) – (LFF) | 0/1/5/6/ 10/50/60 | 197.6 TB (SFF)[*3] 120 TB (LFF)[*4] | 6 | – | 2 | 1 | 1 | 2 RU |

*1  76 TB SSD + 2x M.2 960 GB + 15.5 TB PCIe NVMe.   *2  80 TB HDD + 2x M.2 960 GB + 15.5 TB PCIe NVMe.   *3  197.6 TB SSD + 2x M.2 960 GB + 46.2 TB PCIe NVMe.
*4  120 TB HDD + 2x M.2 960 GB + 46.2 TB PCIe NVMe.

## Three Advantages over a White-Box Server

❶ **Simple, Flexible, and Powerful Management Capabilities:**
   Cisco Integrated Management Controller (IMC)
The Cisco Integrated Management Controller (IMC) is a baseboard management controller that provides embedded server management for Cisco UCS C-Series Rack Servers. The Cisco IMC enables system management in the datacenter and across distributed branch-office locations. Cisco IMC supports multiple management interfaces, including a web user interface (Web UI), a command-line interface (CLI), and an XML API that is consistent with the one used by the Cisco UCS Manager. Cisco IMC also supports industry-standard management protocols, including Simple Network Management Protocol Version 3 (SNMPv3) and Intelligent Platform Management Interface Version 2.0 (IPMIv2.0).

Dedicated Management Port for Cisco IMC

over LAN/WAN
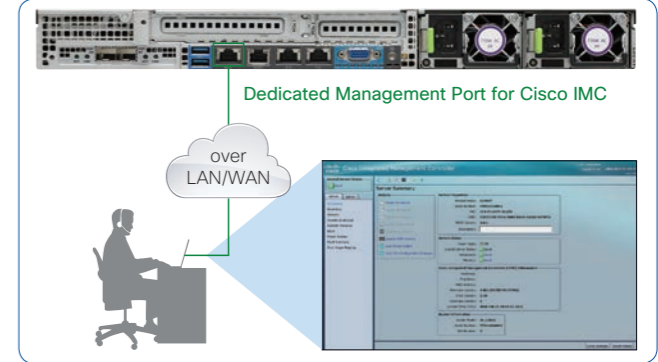
❷ **Powerful and Configurable Networking:**
   Cisco Virtual Interface Cards (VIC)
The Cisco Virtual Interface Cards (VIC) is PCIe-compliant interfaces that support up to 256 PCIe devices with dynamically configured type (NIC or HBA), identity (MAC address or worldwide name [WWN]), fabric failover policy, bandwidth, and QoS policy settings. With Cisco VICs, server configuration—including I/O configuration—becomes configurable on demand, making servers stateless resources that can be deployed to meet any workload need at any time, without any physical reconfiguration or recabling required.

### ■ Cisco UCS Virtual Interface Card (VIC)

| | UCS VIC 1385 | UCS VIC 1387 |
|---|---|---|
| Form Factor | PCIExpress (half height) | Modular LOM |
| Connectivity | PCIe 3.0 x 16 form factor | PCIe 3.0 x 8 form factor |
| Network Thoughput | 80 GB | 80 GB |
| VXLAN/NVGRE | ● | ● |
| SMB Direct | ● | ● |
| RDMA | ● | ● |
| usNIC | ● | ● |

■ **Cisco UCS VIC 1380 Architecture**

8 x 10GBASE-KR Unified Network Fabric

KR KR KR KR    KR KR KR KR

Hardware Port Channels

Up to 256 Programmable Virtual Interfaces

Ethernet NICs    Fibre Channel HBAs
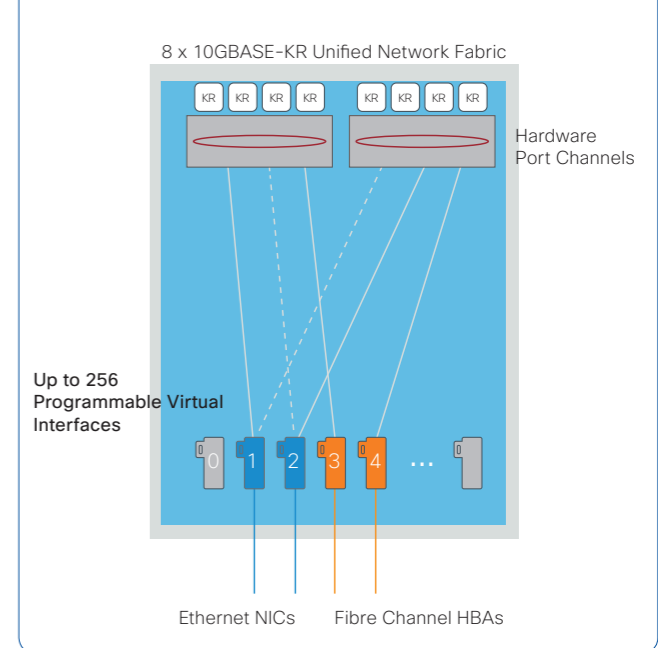
❸ **Ability to Integrate into a Fully Managed Environment**
   Cisco UCS Manager & Cisco UCS Fabric Interconnects
The Cisco UCS Manager integrates blade and rack servers into a single self-aware, self-integrating, unified system. It quickly and accurately configures computing, network, storage, and storage-access resources to increase compliance and reduce the chance of errors that can cause downtime. It uses a role- and policy-based approach that helps organizations more easily align policies and configurations with workloads, and it automates system configuration through a "create once, deploy many" approach. Cisco UCS Manager acts as a single point of management and monitoring for the entire system. It is embedded software that runs on the system's fabric interconnects, typically in a redundant, high-availability configuration. It can be accessed through an intuitive GUI, command-line interface (CLI), or XML API.
The Cisco UCS Fabric Interconnects provide a single point of connectivity and management for the entire system. Typically deployed as an active-active pair, the system's fabric interconnects integrate all components into a single, highly available management domain controlled by Cisco UCS Manager. The fabric interconnects manage all I/O efficiently and securely at a single point, resulting in deterministic I/O latency regardless of a server or virtual machine's topological location in the system.

- ● **Cisco UCS 6200 Series Fabric Interconnects** support line-rate, lossless 10 Gigabit Ethernet and FCoE connectivity.
- ● **Cisco UCS 6200 Series Fabric Interconnects** can be used to create Cisco UCS domains containing blade or rack servers.
- ● **Cisco UCS 6300 Series Fabric Interconnects** support line-rate, lossless 40 Gigabit Ethernet and FCoE connectivity.
- ● **Cisco UCS 6324 Fabric Interconnects** can be used to create a self-contained Cisco UCS Mini solution for branch offices and remote locations.

Service Profile

Server Deployment with Service Profiles Takes Only Minutes

UCS Manager Embedded in UCS Fabric Interconnect
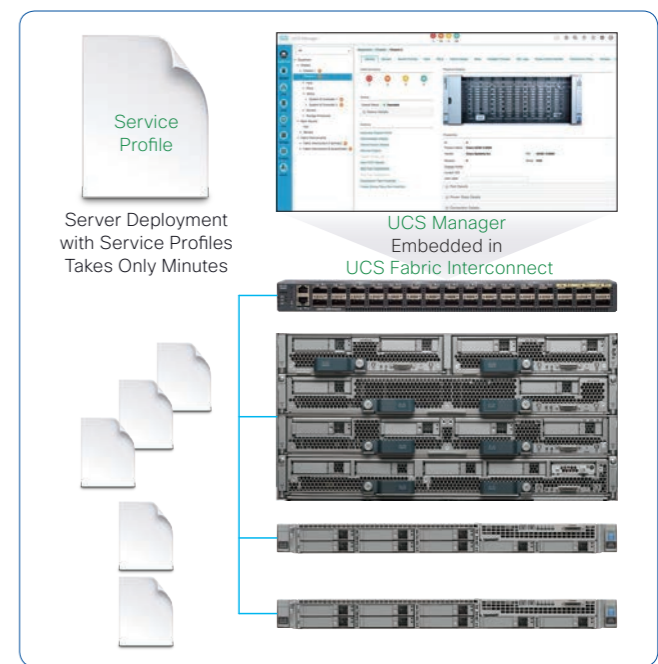
# 100 % Cloud Managed Networking

The Cisco Meraki portfolio of networking devices are centrally managed from the cloud. This feature-rich, easy-to-use cloud architecture enables customers to solve new business problems and reduce operating costs.

- Manage entire network from a single dashboard
- Control users, applications, and devices
- No controller or management hardware to install and maintain
- Secure (PCI and HIPAA-compliant) cloud infrastructure
- Scales from small sites to million-user deployments
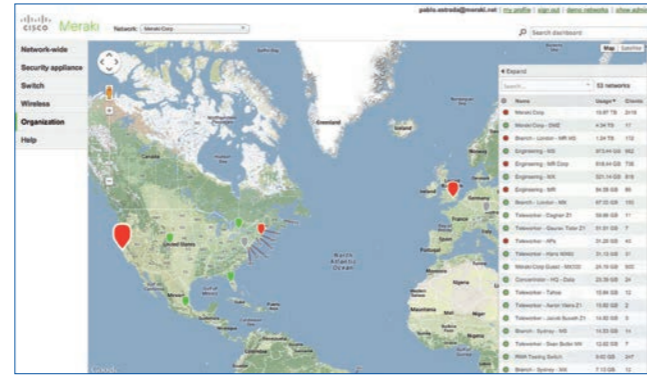
# Cisco Meraki Cloud Managed Products

■ **Cloud Managed Wireless**
- Indoor and outdoor access point models
- IEEE 802.11ac and 802.11n with ultra-high performance, up to 2.5 Gbps
- Integrated wireless security and guest access
- Third radio dedicated to security and RF optimization (indoor models)
- Ideal for high-density campuses, branches, teleworkers, and rugged/outdoor environments
- Built-in traffic shaping, location analytics, group policies—all configurable with just a few mouse clicks

■ **Cloud Managed Switches**
- GE access switches and 40 GE aggregation switches
- Centrally managed with monitoring and alerts
- Ultra reliable and includes lifetime warranty
- Optimized for voice and video traffic with PoE+ available on all ports

■ **Cloud Managed Security Appliances**
- Complete networking, security, and application control
- Centrally managed from the cloud
- Includes firewall, auto VPN, WAN optimization, and branch routing
- Six models scale from small branches to campuses

■ **Cloud Managed Security Cameras**
- Cloud-augmented edge storage eliminates infrastructure
- Suitable for deployments of all sizes: 1 camera or 1000+
- Intelligent motion indexing with search engine
- Easily export and share historical video
- Secure encrypted control architecture
- Granular user access controls

■ **Mobility Management**
- Network-wide visibility and control
- No on-site controller hardware
- Automatic monitoring and alerts
- Seamless over-the-web upgrades

For details on Cisco Meraki, visit the following Web site:

http://meraki.cisco.com

# Use Cases: Features Most Used by Our Customers

| | Retail | Education | Corporate Office |
|---|---|---|---|
| MX Security | Site-to-Site VPN | Content Filtering | IPS with Sourcefire Advanced Malware Protection (AMP) |
| MS Switching | Cloning Configurations | Virtual Stacking | Layer 3 and Redundancy |
| MR Wireless | Cloud CMX Analytics | High-Density WiFi | BYOD Policies |
| MV Security Cameras | Motion Search | Remote Viewing and Management | Granular Access Controls |
| SM Mobility | Tablet Management | Application Management | Security Policy Enforcement |

# Introduction to Cisco Meraki MX Cloud Managed Security Appliance Series

Cisco Meraki MX Cloud Managed Security Appliance Series are ideal for organizations with large numbers of distributed sites. Since the MX is 100% cloud managed, installation and remote management is simple.

■ **Key Features**
- **Cloud Based Management and Monitoring**
  Built-in centralized management
  Zero-touch provisioning, ideal for branches
- **Auto VPN (Site-to-Site VPN)**
  Two-click setup
  Automatic failover to MPLS, 4G, or 2nd WAN link
  Data center redundancy
- **Best-in-class Layer 7 Security**
  SourceFire-based IPS
  Advanced Malware Protection (AMP)
  BrightCloud URL filtering with 85 categories
  Web (Google/Bing) SafeSearch
  MaxMind based Geo-IP security
- **SD-WAN**
  Active-Active VPN: Build VPN tunnels over all available uplinks for load balancing and faster failover
  Policy-Based Routing (PbR): Assign different VPN paths for different types of traffic
  Dynamic path selection: Set performance thresholds for dynamic performance-based failover between VPN paths, per application
- **Application Traffic Shaping**
  Prioritize business critical apps like VoIP and video
  Reduce Internet costs
  Web caching for faster Internet access

■ **Selection Guide**
- **MX64/MX65: Up to 50 users**
  Retail locations or small branches
  Cost-conscious end customer
  Customers who want a wired-wireless combo (MX64W/MX65W)
- **MX84: Up to 100 users**
  1 TB built-in HDD for web caching
- **MX100: Up to 500 users**
  Large branches or mid-size K-12 campuses
  Needs more than 4 ports or SFP (fiber) connectivity
- **MX250/MX400: Up to 2,000 users**
  Mid-size campus deployments
  VPN concentrator for large deployments
- **MX450/600: More than 2,000 users**
  Large campus deployments
  VPN concentrator for very large deployments
- **vMX100: Virtual MX for Amazon Web Services**
  Virtual MX is a virtual instance of a Meraki security appliance, dedicated specifically to providing the simple configuration benefits of site-to-site Auto VPN for customers running or migrating IT services to an Amazon Web Services Virtual Private Cloud (VPC).

■ **License Editions**

| | Enterprise | Advanced Security |
|---|---|---|
| Stateful Firewall, NAT, DMZ | ● | ● |
| Active/Passive HA | ● | ● |
| Layer 7 Traffic Shaping | ● | ● |
| Cloud-based Management | ● | ● |
| Monitoring and Alerts | ● | ● |
| Link Aggregation and Failover | ● | ● |
| Web Caching | ● | ● |
| Site to Site (IPsec) VPN | ● | ● |
| Client VPN | ● | ● |
| IDS/IPS | – | ● |
| Content Filtering with SafeSearch | – | ● |
| Anti-Virus and Anti-Phishing | – | ● |
| Geo-IP Firewall Rules | – | ● |

■ **Key Hardware Specifications**

| | MX64 MX65 | MX84 | MX100 | MX250 | MX400 | MX450 | MX600 |
|---|---|---|---|---|---|---|---|
| Recommended Users | 50 | 200 | 500 | 2,000 | 2,000 | 10,000 | 10,000 |
| Firewall (Mbps) | 250 | 500 | 750 | 4,096 | 1,000 | 6,144 | 1,000 |
| VPN (Mbps) | 85 | 200 | 375 | 1,024 | 900 | 2,048 | 900 |
| Max VPN Peers | 25 | 100 | 250 | 1,000 | 1,000 | 5,000 | 5,000 |
| Dual WAN Links | ● | ● | ● | ● | ● | ● | ● |
| Web Caching | – | ● | ● | ● | ● | ● | ● |
| Fiber Connectivity | – | – | SFP | SFP+ | SFP+ | SFP+ | SFP+ |
| Dual Power Supply | – | – | – | ● | ● | ● | ● |

# Cloud Managed Wireless

■ Cisco Meraki MR Cloud Managed Wireless Access Points

| Model | Indoor Access Points | | | | Outdoor Access Points | | | Teleworker Gateway | Model |
|---|---|---|---|---|---|---|---|---|---|
| | MR30H | MR33 | MR42 | MR52 | MR53 | MR74 NEW | MR84 | Z1 | |
| Radios Specification | 1 x 11b/g/n radio 1 x 11a/n/ac radio | 1 x 11b/g/n radio 1 x 11a/n/ac radio | 1 x 11b/g/n radio 1 x 11a/n/ac Wave 2 radio 1 x BLE radio | 1 x 11b/g/n radio 1 x 11a/n/ac Wave 2 radio 1 x BLE radio | 1 x 11b/g/n radio 1 x 11a/n/ac Wave 2 radio 1 x BLE radio | 1 x 11b/g/n radio 1 x 11a/n/ac Wave 2 radio 1 x BLE radio | 1 x 11b/g/n radio 1 x 11a/n/ac Wave 2 radio 1 x BLE radio | 1 x 11b/g/n radio 1 x 11a/n radio | Radios Specification |
| 11n and 11ac Capabilities | 2 x 2 MU-MIMO 2 streams | 2 x 2 MU-MIMO 2 streams | 3 x 3 MU-MIMO 3 streams | 4 x 4 MU-MIMO 4 streams | 4 x 4 MU-MIMO 4 streams | 2 x 2 MU-MIMO 2 streams | 4 x 4 MU-MIMO 4 streams | 2 x 2 MIMO 2 streams | 11n and 11ac Capabilities |
| Max Data Rate[*1] | 1.3 Gbps | 1.3 Gbps | 1.9 Gbps | 2.5 Gbps | 2.5 Gbps | 1.3 Gbps | 2.5 Gbps | 600 Mbps | Max Data Rate[*1] |
| Interface | 1 x GE | 1 x GE | 1 x GE | 2 x GE | 1 x GE 1 x mGig (Up to 2.5 Gbps) | 1 x GE | 1 x GE 1 x mGig (Up to 2.5 Gbps) | 1 x GE WAN 4 x GE LAN | Interface |

*1  Combined aggregate dual-band data rate.

*1  Combined aggregate dual-band data rate.

# Cloud Managed Switches

■ Cisco Meraki MS Cloud Managed Switches

| Model | Layer 2 Access Switches | | | Basic Layer 3 Access Switches | | Premium | Layer 3 Access Switches | Aggregation Switches | | | | | Model |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MS220-8 MS220-8P | MS225-24 MS225-24P | MS225-48 MS225-48LP MS225-48FP | MS250-24 MS250-24P | MS250-48 MS250-48LP MS250-48FP | MS350-24 MS350-24P | MS350-24X | MS350-48 MS350-48LP MS350-48FP | MS410-16 | MS410-32 | MS425-16 | MS425-32 | |
| Downlinks | 8 x GE | 24 x GE | 48 x GE | 24 x GE | 48 x GE | 24 x GE | 16 x GE, 8 x mGig | 48 x GE | 16 x SFP | 32 x SFP | 16 x SFP/SFP+ | 32 x SFP/SFP+ | Downlinks |
| Uplinks | 2 x SFP | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 4 x SFP/SFP+ | 2 x SFP/SFP+ | 4 x SFP/SFP+ | 2 x QSFP+ | 2 x QSFP+ | Uplinks |
| Stacking | Virtual | Physical (80 G) + Virtual | Physical (80 G) + Virtual | Physical (80 G) + Virtual | Physical (80 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Physical (160 G) + Virtual | Stacking |
| PoE/PoE+ Power Budget | 124 W (8P) | 370 W (24P) | 370 W (48LP) 740 W (48FP) | 370 W (24P) | 370 W (48LP) 740 W (48FP) | 370 W (24P) | 740 W[*1] | 370 W (48LP) 740 W (48FP) | – | – | – | – | PoE/PoE+ Power Budget |
| Switching Capacity | 20 Gbps | 128 Gbps | 176 Gbps | 128 Gbps | 176 Gbps | 128 Gbps | 432 Gbps | 176 Gbps | 72 Gbps | 144 Gbps | 480 Gbps | 800 Gbps | Switching Capacity |

*1  UPOE (60 W) is supported.

# Cloud Managed Security Appliances

■ Cisco Meraki MX Cloud Managed Security Appliance Series

| Model | Small Branch | | Medium Branch | | Large Branch, Campus / Concentrator | | | | Virtual Appliances |
|---|---|---|---|---|---|---|---|---|---|
| | MX64 MX64W | MX65 MX65W | MX84 | MX100 | MX250 | MX400 | MX450 | MX600 | vMX100 |
| Recommended Max Users | 50 | 50 | 200 | 500 | 2,000 | 2,000 | 10,000 | 10,000 | – |
| Stateful Firewall Throughput | 250 Mbps | 250 Mbps | 500 Mbps | 750 Mbps | 4 Gbps | 1 Gbps | 6 Gbps | 1 Gbps | – |
| Maximum VPN Throughput | 85 Mbps | 85 Mbps | 200 Mbps | 375 Mbps | 1 Gbps | 900 Mbps | 2 Gbps | 900 Mbps | 500 Mbps |
| Maximum VPN Tunnels | 25 | 25 | 100 | 250 | 1,000 | 1,000 | 5,000 | 5,000 | – |
| Interfaces | 5 x GE | 12 x GE (2 PoE+) | 10 x GE 2 x SFP | 9 x GE 2 x SFP | 8 x GE 8 x SFP 10 x SFP+ | 4 x GE | 8 x GE 8 x SFP 10 x SFP+ | 4 x GE | 1 Virtual |
| Wireless (MX64W/MX65W) | 1 x 11b/g/n radio 1 x 11a/n/ac radio 2 x 2 MIMO, 2 streams 1.2 Gbps | | – | – | – | – | – | – | – |

# Cloud Managed Security Cameras

■ Cisco Meraki MV Cloud Managed Security Cameras

| Model | Indoor | Outdoor |
|---|---|---|
| | MV21 | MV71 |
| Camera | 1/3.2″ 5MP (2560x1920) progressive CMOS image sensor | |
| | 3 - 10mm vari-focal lens with variable aperture f/1.3 - f/2.5 | |
| | Variable field of view: 28 - 82°  (Horizontal), 21 - 61°  (Vertical), 37 - 107°  (Diagonal) | |
| | 1/5 sec. to 1/32,000 sec. shutter speed | |
| | Minimum illumination 0.27 Lux @ F1.3 (color) 0.001 Lux @ F1.3 (B&W) | |
| Video | 720p HD video recording (1280x720) with H.264 encoding | |
| Storage | 128 GB high endurance SSD | |
| Interface | 1 x FE | |
| Dimensions | 166 mm x 116.5 mm | 173.3 mm x 115 mm |
| Weight | 1.028 kg | 1.482 kg |
| Lens Adjustment Range | 65°  Tilt, 350°  Rotation, 350°  Pan | |
| Weather-Proof IP66 | – | ● |
| Vandal-Proof IK10 | – | ● |

# Services

## Cisco Support Essentials

The Cisco Support Essentials is designed for customers with business networks that utilize basic Cisco routers, switches and wireless access points. Their network is important to their business but not mission critical. They do not need premium support options like 2-hour hardware replacement, onsite support, or around-the clock TAC access. This service provides non-urgent callback TAC support that is accessible only during normal business hours (8 x 5, Monday through Friday), and next-business-day hardware replacement. Cisco Support Essentials help you:

- Improves operational reliability of the business network with the technical expertise and responsiveness needed to minimize downtime
- Increases productivity by helping to reduce the effects of a potential network problem and allows IT staff to quickly resolve any issues and focus on the company's core business
- Protects network investment by extending the life of Cisco network solutions
- Provides support above and beyond product warranties
- Reduces costs, since a single uncovered service transaction can cost more than a one-year Cisco Support Essentials contract

### ■ Cisco Support Essentials & Cisco Smart Net Total Care Service Comparison
Cisco Support Essentials is part of a broader Cisco Services portfolio. Be sure to consider Cisco Smart Net Total Care (SNTC) as an alternative product support offer if your customer has more critical technical service needs.
If your customer is looking for support for their software products, introduce them to the Cisco Software Support Service (SWSS).
Premium Services such as Cisco Solution Support and Cisco Technical Services (TS) Advantage may also be useful to your customer.

| | Equipment Covered | Duration | Hardware Replacement | Cisco OS Updates | TAC Support | Additional Cisco.com Access/Benefits | Smart Entitlement |
|---|---|---|---|---|---|---|---|
| Smart Net Total Care | All*1 | Renewable Contracts | Advance Replacement: - 24 x 7 x 2-hours - 24 x 7 x 4-hours - 8 x 5 x 4-hours - 8 x 5 x Next Business Day (NBD) - Onsite Options | Minor and Maintenance Releases for Licensed Feature Set*2 | 24 x 7*3 | ●*4 | ● |
| Support Essentials | Commercial Focused | Renewable Contracts | 8 x 5 x NBD | Maintenance Releases | 8 x 5 (Callback) | ●*4 | ●*3 |

*1 Some equipment exclusions may apply. Consult a service sales representative for more details.　*2 Cisco UCS also includes ongoing downloads of BIOS, drivers, firmware, and UCS Manager.
*3 TAC support for portal and collections requires purchase of Smart Assist service.　*4 Includes access to smart capabilities: Smart Net Total Care portal/collections.

## Cisco Software Support Service

### ■ Protect Your Applications, Protect Your Business
The Cisco Software Support Service (SWSS) delivers the right support for Cisco software products and suites. It will keep your business applications performing as expected and protects your investment. The value of your investment increases as new features are added, at no additional cost. For Cisco ONE Software purchases, license portability extends the life of your software.
Cisco SWSS complements Cisco Support Essentials or Cisco Smart Net Total Care (SNTC), where the purchase has a combination of Software and hardware. The following options are available under the SWSS framework:

- **Basic** – Provides TAC support, software release updates, and online access to Cisco resources. When sold as a subscription, the support is embedded in the product purchase price.
- **Enhanced** – Provides proactive software support and technical adoption with faster response times
- **Premium** – Prescriptive software support, designated service management, advanced technical adoption, and the fastest response times.

For details on Cisco Software Support Service, visit the following Web site:
(you can find Q&As and other resources)

WEB http://www.cisco.com/go/swss

For partners, download the following pdf:

https://www.cisco.com/c/dam/en/us/services/collateral/se/SWSS-PartnersPres.pdf

## Product Warranties & Service Contract Comparison

| Warranty | Standard Warranty | Limited Lifetime Warranty | Enhanced Limited Lifetime Warranty | Service Support Contract |
|---|---|---|---|---|
| 24 x 7 TAC Support | Limited Lifetime Warranty | Service Support Contract | 90 days support from date of purchase (access only during business hours) | ●*1 |
| Cisco OS Updates and Upgrades | – | – | – | ●*2 |
| Application Software Updates and Upgrades | – | – | – | ●*3 |
| Online Technical Resources (Cisco.com) | Guest Access | Guest Access only | Guest Access | ● |
| Hardware Replacement in as Little as 2 Hours | – | 10 Business Days | Next Business Day Ship to original address | ●*4 |
| Proactive Diagnostics and Alerts | – | – | – | ●*5 |
| Renewable Contracts | – | – | – | ● |

*1　Cisco Support Essentials supports 8 x 5 (Callback).　*2　Cisco Support Essentials supports maintenance release update only.　*3　Cisco Software Support Service (SWSS) contract is required.
*4　24 x 7 x 2 Service Level contract is required.　*5　Cisco Smart Call Home contract is required.

## Cisco Smart Net Total Care

Your IT infrastructure is the lifeline that connects your business to customers and suppliers. Business success requires maintaining high service levels for your network while reducing costs and expanding your network as your business grows. Cisco Smart Net Total Care (SNTC) can help you meet these objectives by providing technical services and smart capabilities that:

- **Resolve Problems Faster**
  Identify issues quickly and streamline your incident management processes to reduce network downtime and improve IT service levels.

- **Reduce Risk**
  Access to Cisco technical experts combined with smart, proactive tools and capabilities minimizes risks to business continuity.

- **Increase Operational Efficiency**
  Proactive management and automated processes mean fewer support resource requirements and lower costs for managing your network.

Cisco SNTC helps reduce downtime with fast, expert technical support and flexible hardware coverage provided by the Cisco Technical Assistance Center (TAC). It also offers integrated smart capabilities, providing current information about your installed base, contracts, and security alerts to enhance the efficiency of your support workflows.
The Cisco TAC is staffed by Cisco experts and is accessible 24 hours a day, 365 days per year. Technical services available through the TAC are backed by advance hardware replacement options and fast response time, including 2-hour, 4-hour, and next-business-day options (where available). Online self-help tools include our extensive knowledge library, software downloads, and support tools designed to help you resolve network issues quickly without opening a case.
Smart capabilities are delivered through the Smart Net Total Care portal, providing actionable information and automation to support your Cisco products. Customizable screens show you up-to-date information about the service coverage, product lifecycles, and security and product alerts that apply to your network.

### ■ Features and Benefits: Smart Net Total Care Capabilities
Cisco SNTC includes a broad range of capabilities that span four primary functional areas.

| | | Faster Problem Resolution | Risk Mitigation | Operational Efficiency |
|---|---|---|---|---|
| | Technical Service and Incident Management ● Fast expert technical support from Cisco TAC ● Advance hardware replacement ● Automated streamlined processes for incident management | ● | ● | ● |
| | Security and Product Alerts ● Actionable security alerts ● Relevant product notices (Hardware and software) ● Service availability alerts (Hardware and software) | – | ● | ● |
| | Service Coverage Management ● Covered/uncovered, right coverage ● Renewal preparation and planning ● Budget planning | – | ● | ● |
| | Product Lifecycle Management ● Up-to-date installed base information ● EoS/EoL, software version mismatches ● Automation to reduce cost and risk of manual processes | – | ● | ● |

### ■ Advance Hardware Replacement
With our customized hardware support service plans, you can have confidence knowing that your hardware can support your ongoing business needs. Cisco offers multiple service levels with different shipment options.

| Service Level | Description |
|---|---|
| Smart Net Total Care 24 x 7 x 2 | 2-hour response, 24 hours a day, 7 days per week, including holidays |
| Smart Net Total Care 24 x 7 x4 | 4-hour response, 24 hours a day, 7 days a week, including holidays |
| Smart Net Total Care 8 x 5 x4 | 4-hour response, local business hours based on depot time, 5 days a week |
| Smart Net Total Care 8 x 5 x Next Business Day | Next-business-day delivery, local business hours based on depot time, 5 days a week |

### ■ Onsite Support
Cisco is committed to providing professional, customer-focused support services in person at your location. Smart Net Total Care Onsite service includes installation of advance replacement parts.

| Service Level | Description |
|---|---|
| Smart Net Total Care Onsite 24 x 7 x 2 | 2-hour response, 24 hours a day, 7 days per week, including holidays |
| Smart Net Total Care Onsite 24 x 7 x 4 | 4-hour response, 24 hours a day, 7 days a week, including holidays |
| Smart Net Total Care Onsite 8 x 5 x 4 | Based on depot time. 4-hour response, 9 a.m. to 5 p.m., if the request is received before 1 p.m., the service (including parts, labor, and materials) will be provided the same day. For requests received after 1 p.m., the service will be provided the following business day. |
| Smart Net Total Care Onsite 8 x 5 x NextBusiness Day | Based on depot time. Next business day, 9 a.m. to 5 p.m., if the request is received before 3 p.m., the service (including parts, labor, and materials) will be provided the next business day. After 3 p.m., the service (including parts, labor, and materials) will be provided the following business day. |