

# Cisco Catalyst 6500 Series: Mid Size Business

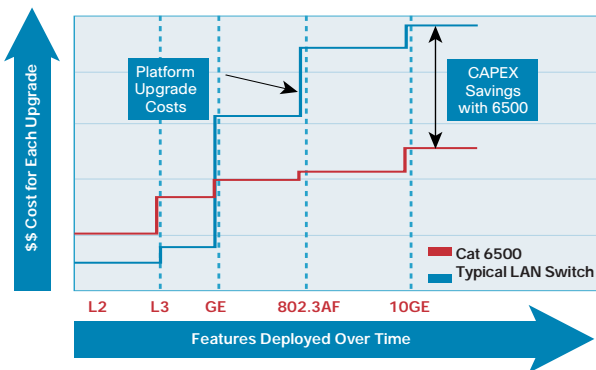
## At-A-Glance

### Why Is the Cisco Catalyst 6500 Series the Right Platform for the Mid Size Business?

The Cisco® Catalyst® 6500 Series switching platform offers a secure, scalable, and manageable platform for Mid Size businesses to raise their business resiliency and reduce operational costs for greater profitability.

- The Cisco Catalyst 6500 Series offers the right size solution at the right price. With a range of port densities, performance, and deployment options, the platform can be tailored for a head office or a branch site.
- The Cisco Catalyst 6500 Series is optimized to support converged services—security, voice, and wireless. The platform offers integrated hardware capability for delivering predictable performance.
- The Cisco Catalyst 6500 Series provides operational ease of use through common sparing, configuration consistency, management applications, and tools that simplify network deployment, management, and troubleshooting.
- The Cisco Catalyst 6500 Series platform integrates high-performance services modules like firewall, content switching, wireless LAN, network analysis module, intrusion detection, anomaly detection, and VPN.
- With its modular architecture, the Cisco Catalyst 6500 Series is able to support new and innovative technologies, providing a longer deployment lifecycle than other products. The platform offers significant value by reducing capital expenditures (CapEx) and lowering operating expense through common sparing and OS familiarity.

**Figure 1.** Cisco Catalyst 6500 Series Lowers CapEx as New Features Are Introduced

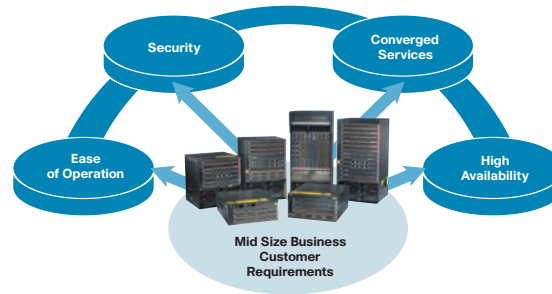


### Converged Services

The Cisco Catalyst 6500 Series platform provides enhanced services for deploying converged data, voice, and video applications.

- For IP telephony, an elegant, fully integrated VoIP platform provides maximum PoE ports per chassis to support devices like IP phones, access points, and security cameras.
- Wireless LAN service module provides Layer 3 wireless roaming capability for networks like medical grade networks.

**Figure 2.** Mid Size Business Customer Requirements



### High Availability

Availability and resiliency are crucial requirements for IP telephony deployments and other business applications that are mission critical.

- Redundant power supplies use independent circuits to lower the risk of outages due to circuit failure, helping ensure that PoE devices like IP phones always remain up.
- Cisco IOS® Software Modularity enables subsystem In Service Software Upgrades (ISSUs) that allow users to upgrade software without shutting down the system even with a single supervisor engine.
- All chassis can run redundant supervisor engines with subsecond failover to help ensure application continuity.
- Integrated online diagnostics monitor the system's vital signs when the system is running in addition to power-up diagnostics.

### Ease Of Operation

The Cisco Catalyst 6500 Series provides applications and tools to deploy, manage, and maintain complex networks. They make it easy to deploy important features like QoS, high availability, and security features to support converging applications.

- Smart ports, AutoQoS, and AutoSecure are tools that automate the process of configuring multiple ports with Cisco recommended configurations for deploying advanced services, to ease configuration processes and help eliminate inconsistencies.
- Cisco Network Assistant is a Web-based tool that helps in configuration, management, and troubleshooting of Cisco network devices including the Cisco Catalyst 6500 Series.
- Cisco View Device Manager is a Web-based management tool for configuring and visualizing Layer 4 through 7 services.
- Time Domain Reflectometer support on 10/100 and 10/100/1000 Ethernet interfaces helps with cable fault detection and isolation.
- ERSPAN enables traffic capture at an access layer switch to be transported across Layer 3 boundaries for centralized network analysis and troubleshooting.
- Automated system configuration check verifies configurations against a template of best practices to help minimize configuration errors.

### Security And System Protection

The Cisco Catalyst 6500 Series helps protect, mitigate, and recover from network intrusions or attacks, providing business continuity and resiliency.

### Control Network Access

The Catalyst 6500 offers Identity based networking services that allow network managers to identify users, based on 802.1x, and allow them network access, disable their access, or put them in a guest virtual LAN (VLAN). In addition to the standard 802.1x feature set, like port authentication, vlan assignment, voice vland support, etc, the Catalyst 6500 switch supports unique enhancements like:

- **802.1x with ACL/QoS**—As users move from port to port, ACL, QoS, and other port-based settings move with them.
- **802.1x with High Availability**—Should a Supervisor fail, the redundant supervisor takes over & the connected 802.1x clients remained connected without having to re-authenticate.
- **Network Admission Control**—The Catalyst 6500 Series enforces access privileges of a device based on its level of antivirus software and OS patch level.

### User Security

Mitigate man-in-the-middle attacks with Cisco Integrated Security Toolkit features like:

- **DHCP Snooping**—Protects against rogue DHCP servers.
- **Dynamic ARP Inspection**—Prevents malicious flooding of the Address Resolution Protocol (ARP) table.
- **IP Source Guard**—Prevents hackers from using spoofed IP addresses.

### Network Security

In many security attacks, the switch itself is a target. Cisco Catalyst 6500 Series features help prevent attacks and maintain availability:

- Hardware-based control-plane rate limiters and policers intercept malicious traffic directed to the CPU to counter denial-of-service attacks.
- Integrated NetFlow support in hardware on the Catalyst 6500 Series provides enhanced packet-capturing capability to detect anomalous traffic behavior. NetFlow is useful in traffic monitoring, network capacity planning, and applications like granular accounting for user-based billing.
- Extensive ACL capabilities in hardware help in maintaining security capabilities of the switch at all times without affecting system performance.



# Cisco Catalyst 6500 Series: Mid Size Business

The Cisco Catalyst 6500 Series is an ideal platform to be deployed in the head office and branch site as a core, distribution, data center, Internet edge, or wiring closet switch. The flexibility and scalability of the platform can support converged applications that are mission critical to Mid Size businesses.

This table lists recommended hardware and minimum software for different deployment options. For a comprehensive list of all Cisco Catalyst 6500 Series products, visit <http://www.cisco.com/en/US/products/hw/switches/ps708/index.html>.

	Part Number	Description	Deployment	Minimum Software		
				Catalyst OS	Hybrid	Cisco IOS Software
<b>Chassis</b>	WS-C6504-E	4-slot E-Series chassis (2700W power supply)	Wiring closet, branch, Internet edge, small collapsed core/distribution, and server connectivity	8.4(2)	12.2(17d) SXB7	12.2(18) SXE1
	WS-C6506-E	6-slot E-Series chassis (3000W power supply for data only and 6000W for PoE)	Wiring closet, branch, Internet edge, small collapsed core/distribution, and server connectivity	• 5.4(2) • 8.4(1) for 6000 W power supply	12.2(14) SX2	12.2(14) SX
	WS-C6509-E	9-slot E-Series chassis (3000W power supply for data only and 6000W for PoE)	High-performance core, distribution, data center, collapsed core/distribution, and server connectivity	• 5.4(2) • 8.4(1) for 6000 W power supply	12.2(14) SX2	12.2(14) SX
<b>Catalyst Supervisor Engines</b>	WS-SUP32-GE-3B	Supervisor Engine 32 with eight GE SFP uplinks	Wiring closet, branch or collapsed core/distribution, and server connectivity	8.4(1)	12.2(17d) SXB7	12.2(18) SXF
	WS-SUP32-10GE-3B	Supervisor Engine 32 with two 10 GE Xenpak	Wiring closet or collapsed core/distribution, and server connectivity	8.4(4)	12.2(17d) SXB7	12.2(18) SXF
	WS-SUP720-3B	Supervisor Engine 720: two GE SFP uplinks, integrated 720-Gbps switch fabric	High-performance core, distribution, or data center	8.3(7)	12.2(17d) SXB1	12.2(17d) SXB1
<b>Gigabit Ethernet (GE)</b>	WS-X6408A-GBIC	8-port GE GBIC line card	Low-density GE fiber connectivity	5.3(1a) CSX	12.2(14) SX2	12.2(14) SX
	WS-X6724-SFP	24-port GE SFP line card (requires Supervisor Engine 720)	High-performance and medium-density GE fiber connectivity	8.1(2)	12.2(14) SX2	12.2(17a) SX
	WS-X6748-SFP	48-port GE SFP line card (requires Supervisor Engine 720)	High-performance and high-density GE fiber connectivity	8.3(2)	12.2(14) SX2	12.2(17d) SXB
<b>10/100/1000 Ethernet</b>	WS-X6148A-GE-45AF	48-port 10/100/1000 RJ-45 with PoE 802.3af, TDR, and Jumbo Frame support	Wiring closet requiring PoE	8.4(1)	12.2(17d) SXB7	12.2(18) SXF*
	WS-X6148A-GE-TX	48-port 10/100/1000 RJ-45 with TDR and Jumbo Frame support (upgradable to PoE)	Wiring closet, low-density server aggregation	8.4(1)	12.2(17d) SXB7	12.2(18) SXF*
	WS-X6748-GE-TX	48-port 10/100/1000 RJ-45 high performance GE-TX (requires Cisco Supervisor Engine 720)	High-performance data center access and server connectivity	8.1(2)	12.2(14) SX2	12.2(17a) SX
<b>10/100 Ethernet</b>	WS-X6148A-45AF	48-port 10/100 RJ-45 with PoE 802.3af and TDR support	Wiring closet requiring PoE	8.4(1)	12.2(17d) SXB7	12.2(18) SXF*
	WS-X6196-21AF	96-port 10/100 RJ-21 with PoE 802.3af	High-density wiring closet requiring PoE	8.4(1)	12.2(17d) SXB7	12.2(18) SXF*
<b>10 Gigabit Ethernet</b>	WS-X6704-10GE	4-port high-performance 10 GE line card	High-performance and high-density 10 GE connectivity	8.1(2)	12.2(17a) SX1	12.2(17a) SX
<b>Service Modules</b>	WS-X6066-SLB-S-K9	High-performance server load balancing module with integrated SSL functionality	Data center	—	—	12.2(18) SXE with CSMS 1.1.3
	WS-SVC-FWM-1-K9	High-performance firewall module with integrated virtualization functionality	Branch, Internet edge, data center, distribution	7.5(1)	12.2(17d) SXB7	12.2(18) SXE1
<b>Bundles</b>	WS-C6504E-S32-GE	Includes Supervisor Engine 32 with eight GE SFP uplinks and 4-slot chassis at a US\$5000 discount	Wiring closet, branch, Internet edge, small collapsed core/distribution, and server connectivity	8.4(4)	12.2(17d) SXB7	12.2(18) SXF

**Note:**

- The recommended software is the version that has gone general deployment (GD) status. Please choose the highest version of the software train when you configure a system that includes a mix of chassis, supervisor engines, line cards, and service modules.
- Cisco IOS Software Release 12.2(18) SXF\* is planned to be available in a rebuild image after its First Customer Shipment.
- This table is intended to be an educational resource and a starting point in planning your network solution; it is not a final recommendation from Cisco. To determine the deployment most appropriate for your company, work with a Cisco representative, Cisco channel partner, or a solutions provider.