Q. What are the Cisco® Catalyst® 3550 Series Switches?
A. The Cisco Catalyst 3550 Series Switches are a line of enterprise-class, stackable, multilayer switches that provide high availability, security, and quality of service (QoS) to enhance the operation of the network. With a range of Fast Ethernet and Gigabit Ethernet configurations, the Cisco Catalyst 3550 Series can serve as both a powerful access-layer switch for medium-sized enterprise wiring closets and as a backbone switch for midsized networks. For the first time, customers can deploy networkwide intelligent services, such as advanced QoS, rate-limiting, Cisco security access control lists (ACLs), multicast management, and high-performance IP routing while maintaining the simplicity of traditional LAN switching. Cisco Network Assistant offers centralized management and configuration of the Catalyst 3550 Series to simplify deployment and ongoing maintenance by using Cisco Smartports technology. Cisco Network Assistant is a PC-based network management application optimized for networks of small and medium-sized businesses (SMBs) with up to 250 users. Through a user-friendly GUI, users can easily apply common services such as configuration management, inventory reports, password synchronization, and Cisco IOS® Drag-and-Drop Upgrade across Cisco SMB-class switches, routers, and access points. Cisco Network Assistant is available at no cost and can be downloaded from Cisco.com.

The Cisco Catalyst 3550-24 PWR Switch can provide a lower total cost of ownership for deployments that incorporate Cisco IP phones and/or Cisco Aironet® wireless LAN access points. With up to 15 watts (W) of integrated inline power on every 10/100 port, the switch provides maximum device support and eases new technology deployments by eliminating the need for wall power to each IP phone or wireless LAN access point. Additionally, delivering power through the Cisco Catalyst 3550-24 PWR Switch eliminates the cost for additional electrical cabling that would otherwise be necessary in wireless LAN and IP phone deployments. Maximum power availability for a converged voice and data network is attainable when a Cisco Catalyst 3550 Series Switch is combined with the Cisco RPS 675 (RPS 675) for easy protection against internal power supply failures and an uninterruptible power supply (UPS) system to safeguard against power outages.

Table 1 shows the complete list of Cisco Catalyst 3550 Series Switches.

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Catalyst 3550-48</td>
<td>WS-C3550-48-EMI</td>
<td>- 48 10/100 ports and 2 GBIC-based Gigabit Ethernet ports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 1 rack unit (RU) stackable, multilayer switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Delivers enterprise-class intelligent services to the network edge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Enhanced Multilayer Software Image (EMI) installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provides advanced IP routing</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Product Name</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- 1 RU stackable, multilayer switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Delivers enterprise-class intelligent services and basic IP routing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Standard Multilayer Software Image (SMI) installed, upgradeable to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>advanced IP routing</td>
</tr>
<tr>
<td>Model</td>
<td>Model Number</td>
<td>Features</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Cisco Catalyst 3550-24 | WS-C3550-24-EMI | • 24 10/100 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch  
• Delivers enterprise-class intelligent services to the network edge  
• EMI installed  
• Provides advanced IP routing |
| Cisco Catalyst 3550-24 | WS-C3550-24-SMI | • 24 10/100 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch  
• Delivers enterprise-class intelligent services and basic IP routing to the network edge  
• SMI installed, upgradeable to advanced IP routing |
| Cisco Catalyst 3550-24 PWR | WS-C3550-24PWR-EMI | • 24 10/100 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch; integrated inline power  
• Delivers enterprise-class intelligent services to the network edge  
• EMI installed  
• Provides advanced IP routing |
| Cisco Catalyst 3550-24 PWR | WS-C3550-24PWR-SMI | • 24 10/100 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch; integrated inline power  
• Delivers enterprise-class intelligent services and basic IP routing to the network edge  
• SMI installed, upgradeable to advanced IP routing |
| Cisco Catalyst 3550-24 DC | WS-C3550-24-DC-SMI | • 24 10/100 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch, DC powered  
• Delivers enterprise-class intelligent services and basic IP routing to the network edge  
• SMI installed, upgradeable to advanced IP routing |
| Cisco Catalyst 3550-24 FX | WS-C3550-24-FX-SMI | • 24 100FX multimode fiber ports and 2 GBIC-based Gigabit Ethernet ports  
• 1 RU stackable, multilayer switch  
• Delivers enterprise-class intelligent services and basic IP routing to the network edge  
• SMI installed, upgradeable to advanced IP routing |
| Cisco Catalyst 3550-12G | WS-C3550-12G | • 10 GBIC-based Gigabit Ethernet ports and 2 10/100/1000 ports  
• 1.5 RU stackable, multilayer Gigabit Ethernet switch  
• Delivers enterprise-class intelligent services to the network edge  
• Provides advanced IP routing |
| Cisco Catalyst 3550-12T | WS-C3550-12T | • 10 10/100/1000 ports and 2 GBIC-based Gigabit Ethernet ports  
• 1.5 RU stackable, multilayer Gigabit Ethernet switch  
• Delivers enterprise-class intelligent services to the network edge  
• Provides advanced IP routing |
• Provides advanced IP routing |

**Q. What is the difference between the EMI and the SMI?**

**A.** The Cisco Catalyst 3550-24, Catalyst 3550-48, and Catalyst 3550-24 PWR switches can be ordered with the SMI or the EMI. The Cisco Catalyst 3550-24 DC and Catalyst 3550-24 FX can only be ordered with the SMI preinstalled, but as with all switches running the SMI, they can be upgraded to the EMI version using an EMI upgrade kit. The Cisco Catalyst 3550-12T and Catalyst 3550-12G switches come installed with EMI. The EMI enables a richer set of enterprise-class features including advanced hardware-based IP unicast and multicast routing, Policy-Based Routing (PBR), and the Web Cache Communication Protocol (WCCP). Additional details about the differences between the SMI and EMI are provided later in this Q&A.
Q. Can I enable static IP routing using the SMI?
A. Yes, there is support for basic IP unicast routing via Static Routes and Routing Information Protocol (RIP) Versions 1 and 2 using the SMI. The EMI provides advanced IP unicast and multicast routing. These advanced routing protocols are Open Shortest Path First (OSPF), Interior Gateway Routing Protocol (IGRP), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol Version 4 (BGPv4), Protocol Independent Multicast (PIM), and PBR.

Q. Is the EMI required to allow Layer 3 and Layer 4 lookups for QoS and security?
A. No. Both the SMI and the EMI allow for Layer 3 and Layer 4 lookups for QoS and security.

Q. Why do I need intelligence at the edge of my network?
A. Networks today are evolving to address four new developments at the network edge:

- Increase in desktop computing power
- Introduction of bandwidth-intensive applications
- Expansion of highly sensitive data on the network
- Presence of multiple device types, such as IP phones and wireless LAN access points

These new demands are contending for resources with many existing mission-critical applications. As a result, IT professionals must view the edge of the network as critical to effectively manage the delivery of information and applications.

As companies increasingly rely on networks as the strategic business infrastructure, it is more important than ever to ensure their high availability, security, scalability, and control. By adding Cisco intelligent functionality to the wiring closet, customers can now deploy networkwide intelligent services that address these requirements in a consistent way from the desktop to the core and through the WAN.

With Cisco Catalyst switches, Cisco helps companies to realize the full benefits of adding intelligent services into their networks. Deploying capabilities that make the network infrastructure highly available to accommodate time-critical needs, scalable to accommodate growth, secure enough to protect confidential information, and capable of differentiating and controlling traffic flows is essential to further optimizing network operations.

Q. Can you provide more details on how an intelligent switch from Cisco will help my network?
A. New applications are requiring higher bandwidth and the need to differentiate and control the traffic flow. Applications such as ERP (Oracle, SAP, etc.), voice (IP telephony traffic), video (videoconferencing or e-learning applications), and CAD/CAM require prioritization over less time-sensitive applications such as FTP or e-mail (SMTP). It would be highly undesirable to have a large file download destined to one port on a wiring closet switch and have quality implications such as increased latency in voice traffic that is destined to another port on this switch. This condition is avoided by ensuring that voice traffic is properly classified and prioritized throughout the network. Cisco switches implement superior QoS to help ensure that network traffic is classified and prioritized, and congestion is avoided.

Q. How does the Cisco Catalyst 3550 Series manage the security needs of a network?
A. With the rise in internal threats to a network, Cisco switches enhance data security through a wide range of features including Secure Shell (SSH) Protocol, Kerberos, Simple Network Management Protocol Version 3 (SNMPv3), ACLs, 802.1X, 802.1X with VLAN assignment, 802.1X with ACL assignment, 802.1X with voice VLAN, 802.1X with Port Security, Port Security, Private VLAN Edge, Dynamic Host Configuration Protocol (DHCP) Interface Tracker, MAC Address Notification, Switched Port Analyzer (SPAN) for Intrusion Detection System (IDS) support, and RADIUS/TACACS+. Depending on your security needs, the Cisco Catalyst 3550 Series complements devices such as firewalls, VPNs, and IDSS.
Q. **For security purposes, how can I prevent unauthorized users from accessing my network?**

A. The Cisco Catalyst 3550 Series supports 802.1X, which works in conjunction with a RADIUS server to authenticate users as they access a network. The 802.1X standard is considered port-level security and is commonly used for both wired and wireless LANs. Additionally, portions of the network can be restricted by using ACLs. Access can be denied based on Media Access Control (MAC) addresses, IP addresses, or Transmission Control Protocol (TCP)/User Datagram Protocol (UDP) ports. ACL lookups are done in hardware—thus forwarding and routing performance is not compromised when implementing ACL-based security. An additional protection method is to use Port Security, which allows only appropriate users on the network by limiting access to the port based on MAC addresses.

Q. **For security purposes, how can I allow mobility of the user base while also ensuring security?**

A. 802.1X in conjunction with a RADIUS server allows for dynamic port-based user authentication. 802.1X-based user authentication can be extended to dynamically assign a VLAN or an ACL based on a specific user regardless of where the user connects on the network. This intelligent adaptability allows IT departments to offer greater flexibility and mobility to their stratified user populations. By combining access control and user profiles with secure network connectivity, services, and applications, enterprises can more effectively manage user mobility and drastically reduce the overhead associated with granting and managing access to network resources.

Q. **For security purposes, how can I monitor or track activities in my network?**

A. IDSs are tailored to monitor and track activities in a network. The Cisco Catalyst 3550 Series supports SPAN enhancements that allow an IDS to take action if an intruder is detected. Additionally, the Cisco Catalyst 3550 Series can complement this through features such as MAC Address Notification, which will send an alert to a management station so that network administrators know when and where users came on to the network and can take appropriate actions. The DHCP Interface Tracker (Option 82) feature will track where a user is physically connected on a network by providing both switch and port ID to a DHCP server.

Q. **For security purposes, how do I protect administration passwords and traffic going to the switch during configuration or troubleshooting?**

A. To protect administration traffic during the configuration or troubleshooting of a switch (such as passwords or device configuration settings), the best approach is to encrypt the data. SSH, Kerberos, and SNMPv3 (crypto version) provide encryption of data during Telnet and SNMP sessions. These features require the use of an image with strong encryption technology. Because of export restrictions, this image does not ship preinstalled on the switches and must be downloaded from a special area on Cisco.com.

Q. **Are the Cisco Catalyst 3550 Series Switches available with Web-based setup?**

A. The Cisco Catalyst 3550 Series Switches will support Express Setup with the next Cisco IOS Software release. This feature is designed to simplify the initial “out-of-the-box” deployment of Cisco Catalyst fixed-configuration switches. In the past, users had to connect a computer to the console port of the switch (using a special rollover cable), launch a terminal emulation program, and then configure an IP address, switch name, password, etc. using the CLI. With Express Setup, the user can now simply connect a PC with an Ethernet cable into any port on the switch, hold the “mode” button to activate Express Setup, and launch a Web browser. The switch can then be set up using a single Webpage.

Q. **What gigabit interface converters (GBICs) are supported on the Cisco Catalyst 3550 Series?**

A. The Cisco Catalyst 3550 Series supports the following Cisco GBICs: 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX, 1000BASE-T, 1000BASE-CWDM, and the Cisco GigaStack® Stacking GBIC.
Q. Is there any limit to the number of a particular GBIC or combination of different GBICs that can be used on a Cisco Catalyst 3550 Series Switch?
A. No. Users can populate all the GBIC ports of any Cisco Catalyst 3550 Series Switch with the same GBIC or with a combination of different GBICs.

Q. Does the Cisco Catalyst 3550 Series have redundant power system (RPS) support?
A. Yes, the Cisco RPS 300 supports all Cisco Catalyst 3550 Series Switches except the Cisco Catalyst 3550-24 PWR. The new RPS 675 supports the Cisco Catalyst 3550-24 PWR and all other Cisco Catalyst 3750, Catalyst 3550, Catalyst 2970, and Catalyst 2950 Series models. The RPS 675 does not support Cisco Catalyst 3524-PWR XL. The Cisco RPS 300 and RPS 675 provide superior internal power-source redundancy for up to six Cisco networking devices, resulting in improved fault tolerance and network uptime. Please see the Cisco RPS 300 Switch Compatibility matrix and the Cisco RPS 675 Switch Compatibility matrix for a list of Cisco devices supported by the RPS 300 and RPS 675.

Q. Does the Cisco Catalyst 3550 Series support Inter-Switch Link (ISL) virtual LAN (VLAN) trunking?
A. Yes, the Cisco Catalyst 3550 Series supports both 802.1Q trunking and ISL trunking. VLAN trunks can be created from any port using either standards-based 802.1Q tagging or the Cisco ISL VLAN architecture.

Q. Does it cost more for a Layer 3 or special-features license?
A. The Cisco Catalyst 3550-24 EMI, Catalyst 3550-48 EMI, Catalyst 3550-24 PWR EMI, Catalyst 3550-12T, and Catalyst 3550-12G are loaded with the EMI, so all feature license fees are part of the standard list price. However, the Cisco Catalyst 3550-24 SMI, Catalyst 3550-48 SMI, Catalyst 3550-24 PWR SMI, Catalyst 3550-24 DC SMI, and Catalyst 3550-24 FX SMI switches are loaded with the SMI; these switches can be upgraded to the EMI with the purchase of the EMI upgrade kit (part number CD-3550-EMI=).

Q. What features are only supported on the EMI?
A. The following features and functionality are only supported with the EMI:

- Advanced IP routing protocols for load balancing and constructing scalable LANs:
  - OSPF
  - IGRP and EIGRP
  - BGPv4
- WCCP to allow switch interaction with a cache for the purpose of redirecting content requests to a cache and performing basic load balancing across multiple caches
- PBR to allow specific policies to be implemented by causing selective traffic to take different paths
- PIM for IP multicast routing within a network that enables the network to receive the multicast feed requested and for switches not participating in the multicast to be pruned; support for PIM sparse mode (PIM SX), PIM dense mode (PIM DX), and PIM sparse-dense mode
- Distance Vector Multicast Routing Protocol (DVMRP) tunneling for interconnecting two multicast-enabled networks across non-multicast networks

Q. Are there five packs or multipacks for the Cisco Catalyst 3550 Series Switches?
A. No.
COMPARISON TO OTHER CISCO CATALYST FIXED-CONFIGURATION SWITCHES

Q. Are there plans to discontinue the Cisco Catalyst 3500 XL Series Switches?

Q. What is the positioning of the Cisco Catalyst 3550 Series relative to the Cisco Catalyst 3500 XL Series?
A. The Cisco Catalyst 3550 Series Switches are expected to be deployed in similar topological positions in the network as the Cisco Catalyst 3500 XL Series Switches. These positions include the access layer and network backbone of enterprise wiring closets and branch office networks. The Cisco Catalyst 3550 Series is ideal for those networks requiring multilayer services such as IP routing, advanced QoS, multicast management, and security ACLs.

Q. How is the Cisco Catalyst 2970 Series positioned relative to the Cisco Catalyst 3550 Series?
A. The Cisco Catalyst 2970 Series Switches are standalone Gigabit Ethernet switches, whereas the Cisco Catalyst 3550 Series comprises stackable 10/100 switches with GBIC-based gigabit connectivity for the access layer and gigabit switches for the network backbone. Cisco Catalyst 3550 Series customers who are migrating to gigabit should first consider their needs for IP routing, fiber uplinks, increased availability and scalability, ease of use, and stacking, which are all offered in the Cisco Catalyst 3550 Series.

Q. What is the positioning of the Cisco Catalyst 3550 Series relative to the Cisco Catalyst 2950 Series?
A. The Cisco Catalyst 3550 Series and the Cisco Catalyst 2950G switches are capable of delivering intelligent services such as advanced QoS, rate-limiting, security filtering, and multicast management to the network edge. The Cisco Catalyst 3550 Series Switches are the premium fixed-configuration switches and offer greater product family breadth, a richer set of enterprise-class features, and a platform that supports dynamic, hardware-based IP routing.

Q. Are the Cisco Catalyst 3550 Series Switches compatible with the Cisco Catalyst 3500 XL Series Switches?
A. The Cisco Catalyst 3550 Series Switches are completely compatible with the Cisco Catalyst 3500 XL Series Switches. Committed to protecting customers’ investments in desktop switches, Cisco Systems® has ensured that all desktop switching platforms including the Cisco Catalyst 3750, Catalyst 3550, Catalyst 2970, Catalyst 2950, Catalyst 2940, Catalyst 3500 XL, Catalyst 2900 XL, Catalyst 2900 LRE XL, and Catalyst 1900 Series can be mixed and managed using the Cisco Network Assistant Software. Additionally, the GBIC ports on the Cisco Catalyst 3550 Series support the Cisco GigaStack GBIC for point-to-point or cascade stacking configurations. These investments deliver long-term value for Cisco customers.

Q. What is the positioning of the Cisco Catalyst 3550 Series relative to the Cisco Catalyst 4908G-L3 and 2948G-L3?
A. The Cisco Catalyst 3550 Series Switches are next-generation, fixed-configuration multilayer switches. Cisco expects customers to migrate to the Cisco Catalyst 3550-12G from the Catalyst 4908G-L3, and to the Catalyst 3550-48 from the Catalyst 2948G-L3. This migration is expected because the Cisco Catalyst 3550 Series Switches are able to provide some features not supported by the Catalyst 4908G-L3 and Catalyst 2948G-L3 switches-such as support for 802.1p, 802.1p-to-DSCP mapping, and SPAN-at a significantly lower price per port.

Q. Does the Cisco Catalyst 3550-24 PWR Switch support the 802.3af inline power standard?
A. No, this switch supports Cisco Pre-Standard Power over Ethernet. The Catalyst 3750 Series and Catalyst 3560 Series support the Cisco Pre-Standard Power over Ethernet and IEEE 802.3af Power over Ethernet.
SOFTWARE UPDATES

Q. For which fixed-configuration and stackable Cisco Catalyst switch product series can I obtain a “no additional cost” Cisco IOS Software update?

A. Cisco offers ongoing Cisco IOS Software updates for the following fixed-configuration and stackable Cisco Catalyst switch product series at no additional cost. For the life of the product, updates within the Cisco IOS package purchased (such as LAN Base, IP Base, IP Services, etc.) will be made available to customers.

- Cisco Catalyst Express 500 Series Switches
- Cisco Catalyst 2900 XL Series Switches
- Cisco Catalyst 2940 Series Switches
- Cisco Catalyst 2948G-GE-TX Series Switch
- Cisco Catalyst 2950 Series Switches
- Cisco Catalyst 2950 LRE Series Switches
- Cisco Catalyst 2955 Series Switches
- Cisco Catalyst 2960 Series Switches
- Cisco Catalyst 2970 Series Switches
- Cisco Catalyst 3500 XL Series Switches
- Cisco Catalyst 3550 Series Switches
- Cisco Catalyst 3560 Series Switches
- Cisco Catalyst 3750 Series Switches
- Cisco ME 2400 Series Ethernet Access Switches
- Cisco ME 3400 Series Ethernet Access Switches

Note that upgrades are different from updates. For example, an upgrade from the IP Base Package to the IP Services Package provides significant new functions; therefore, this upgrade requires the purchase of a software license upgrade. Updates are incremental software features and bug fixes that are released within a Cisco IOS package for which you own a license.

This statement supersedes any previous warranty or software statement and is subject to change without notice.

Q. How do I get a "no additional cost" Cisco IOS Software update for my fixed-configuration and/or stackable Cisco Catalyst switch?

A. Customers that own a software license for any of the aforementioned fixed-configuration and/or stackable Cisco Catalyst switch product series (listed previously) may obtain a software update at the Cisco.com Website.

Go to the following URL: http://tools.cisco.com/support/downloads/pub/MDFTree.x?butype=switches or from http://www.cisco.com click on “Downloads” and select “Switch Software”. To download software, you will be required to log in using your Cisco.com username and password. If you do not have a Cisco.com username, you can obtain one by clicking on “Register” at the top of any Cisco.com Webpage (http://tools.cisco.com/RPF/register/register.do).
WARRANTY AND SERVICE

Limited Lifetime Warranty
The hardware warranty available on Cisco Catalyst 3750, Catalyst 3560, Catalyst 3550, Catalyst 2970, Catalyst 2960, Catalyst 2950, Catalyst 2940, Catalyst Express 500, Catalyst 3500 XL, and Catalyst 2900 XL Series Switches is the Limited Lifetime Hardware Warranty. This warranty automatically comes with the purchase of eligible Cisco Catalyst products, free of charge. Additionally, it offers free advance replacement of products within 10 business days. For details on the Limited Lifetime Hardware Warranty, visit: http://www.cisco.com/univercd/cc/td/doc/es_inpck/lhbenv.htm

Q. What type of service and support is available for the Cisco Catalyst 3550 Series?
A. A full complement of lifecycle service and support is available for the Cisco Catalyst 3550 Series. From implementation to operation and optimization, Cisco offers Technical Support Service and Advanced Service delivered either directly by Cisco or through one of its best-in-class partners.

TECHNICAL SUPPORT SERVICE
Technical Support Service is available through Cisco SMARTnet® service and SMARTnet Onsite. Cisco SMARTnet service augments the resources of your operations staff by providing them with access to a wealth of expertise, both online and via telephone, and a range of hardware Advance Replacement options. Cisco SMARTnet Onsite complements the hardware Advance Replacement feature by adding the services of a field engineer, services that can be critical for those locations where staffing is insufficient or unavailable to replace parts. For more information on Cisco SMARTnet service, visit: http://www.cisco.com/en/US/products/svcs/ps3034/ps2827/ps2978/serv_group_home.html

PRODUCT AND CONTACT INFORMATION
Q. Where can I find technical and product specifications and other additional information on the Cisco Catalyst 3550 Series?
A. For a variety of product literature including data sheets and product specifications, please refer to the Cisco Catalyst 3550 Series Website at: http://www.cisco.com/go/catalyst3550

FOR MORE INFORMATION


To subscribe to receive end-of-life/end-of-sale information, go to: http://www.cisco.com/cgi-bin/Support/FieldNoticeTool/field-notice.