

Cisco Catalyst 3750 Series Switches

The Cisco® Catalyst® 3750 Series Switches (Figures 1 through 4) are innovative switches that improve LAN operating efficiency by combining industry-leading ease of use and high resiliency for stackable switches. This product series features Cisco StackWise™ technology, a 32-Gbps stack interconnect that allows customers to build a unified, highly resilient switching system, one switch at a time.

Figure 1. Cisco Catalyst 3750 Series Switches for 10/100 and 10/100/1000 Access and Aggregation



Figure 2. Cisco Catalyst 3750-24PS and Cisco Catalyst 3750-48PS Switches with IEEE 802.3af Power



Figure 3. Cisco Catalyst 3750G-16TD Switch



Figure 4. Cisco Catalyst 3750G-48TS Switch, Cisco Catalyst 3750G-48PS Switch with IEEE 802.3af Power, Cisco Catalyst 3750G-24TS-1U Switch, and Cisco Catalyst 3750G-24PS Switch with IEEE 802.3af Power



Product Overview

For midsized organizations and enterprise branch offices, the Cisco Catalyst 3750 Series eases deployment of converged applications and adapts to changing business needs by providing configuration flexibility, support for converged network patterns, and automation of intelligent network services configurations. In addition, the Cisco Catalyst 3750 Series is optimized for high-density Gigabit Ethernet deployments and includes a diverse range of switches that meet access, aggregation, or small-network backbone-connectivity requirements.

Configurations

The Cisco Catalyst 3750 Series includes the following configurations:

- Cisco Catalyst 3750G-24TS-24 Ethernet 10/100/1000 ports and four Small Form-Factor Pluggable (SFP) uplinks
- Cisco Catalyst 3750G-24T-24 Ethernet 10/100/1000 ports
- Cisco Catalyst 3750G-12S-12 Gigabit Ethernet SFP ports
- Cisco Catalyst 3750-48TS-48 Ethernet 10/100 ports and four SFP uplinks
- Cisco Catalyst 3750-24TS-24 Ethernet 10/100 ports and two SFP uplinks
- Cisco Catalyst 3750-48PS-48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard Power over Ethernet (PoE) and four SFP uplinks
- Cisco Catalyst 3750-24PS-24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE and two SFP uplinks
- Cisco Catalyst 3750-24FS-24 100BASE-FX Ethernet ports and two SFP uplinks
- Cisco Catalyst 3750G-24TS-1U-24 Ethernet 10/100/1000 ports and four SFP uplinks, 1-rack unit (RU) height
- Cisco Catalyst 3750G-24PS-24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and four SFP uplinks
- Cisco Catalyst 3750G-48TS-48 Ethernet 10/100/1000 ports and four SFP uplinks
- Cisco Catalyst 3750G-48PS-48 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE and four SFP uplinks
- Cisco Catalyst 3750G-24WS-24 Ethernet 10/100/1000 ports with IEEE 802.3af, Cisco prestandard PoE and two SFP uplinks and an integrated wireless LAN controller

The Cisco Catalyst 3750 Series is available with either the IP Base image or the IP Services image. The IP Base image feature set includes advanced quality of service (QoS), rate-limiting, access control lists (ACLs), static routing, Routing Information Protocol (RIP) and EIGRP stub routing, capabilities. The IP Services image provides a richer set of enterprise-class features, including advanced hardware-based IPv6 and multicast routing.

Cisco StackWise Technology offers Stackable Resiliency

Cisco StackWise technology is a stacking architecture optimized for Gigabit Ethernet. This technology is designed to respond to additions, deletions, and redeployment while maintaining constant performance. Cisco StackWise technology unites up to nine individual switches into a single logical unit, using special stack-interconnect cables and stacking software. The individual switches can be any combination of Cisco Catalyst 3750 and Cisco Catalyst 3750-E Series Switches. The stack behaves as a single switching unit that is managed by a master switch, elected from one of the member switches. The master switch automatically creates and updates all the switching and optional routing tables. A working stack can accept new members or delete old ones without service interruption.

Cisco EnergyWise Technology

Cisco EnergyWise is an innovative architecture, added to the Cisco Catalyst 3750 switches, promoting companywide sustainability by reducing energy consumption across an entire corporate infrastructure and affecting more than 50 percent of global greenhouse gas emissions created by worldwide building infrastructure, a much greater effect than the 2 percent generated by the IT industry. Cisco EnergyWise enables companies to measure the power consumption of network infrastructure and network-attached devices and manage power consumption with specific policies, reducing power consumption to realize increased cost savings, potentially affecting any powered device.

EnergyWise encompasses a highly intelligent network-based approach to communicate messages that measure and control energy between network devices and endpoints. The network discovers Cisco EnergyWise manageable devices, monitors their power consumption, and takes action based on business rules to reduce power consumption. EnergyWise uses a unique domain-naming system to query and summarize information from large sets of devices, making it simpler than traditional network management capabilities. Cisco EnergyWise's management interfaces allow facilities and network management applications to communicate with endpoints and each other using the network as a unifying fabric. The management interface uses standard SNMP or SSL to integrate Cisco and third-party management systems.

Cisco EnergyWise extends the network as a platform for the power control plane for gathering, managing, and reducing power consumption of all devices, resulting in companywide optimized power delivery and reduced energy costs.

Primary Features and Benefits

Ease of Use: "Plug-and-Play" Configuration

A working stack is self-managing and self-configuring. When switches are added or removed, the master switch automatically loads the Cisco IOS[®] Software revision running on the stack to the new switch, loads the global configuration parameters, and updates all the routing tables to reflect changes. Upgrades are applied universally and simultaneously to all members of the stack.

The Cisco Catalyst 3750 Series stacks up to nine switches as a single logical unit for a total of 468 Ethernet or PoE 10/100 ports, or 468 Ethernet 10/100/1000 ports or PoE 10/100/1000 ports, or nine 10 Gigabit Ethernet ports. Additional port combinations can be created by connecting the Cisco Catalyst 3750-E Series Switches to the stack. Individual 10/100, 10/100/1000, and 10 Gigabit Ethernet units can be joined in any combination to evolve with network needs.

Return on Investment Through Lower Operations Costs

The automatic Cisco IOS Software version checking and loading of the global configuration parameters provide the first level of operational time saving. The second level is added during the event of an outage. When you remove a troubled switch from an existing stack of switches and replace it with another switch, the master switch will recognize this as a maintenance outage and automatically reload the port-level configuration that was on the previous switch without user intervention. This allows IT managers to have local personnel in remote locations perform maintenance tasks instead of sending costly technicians out for a few minutes of work, thus saving thousands of dollars in operational costs.

Mix-and-Match Switch Types: Pay as You Expand Your Network

Stacks can be created with any combination of Cisco Catalyst 3750 and Cisco Catalyst 3750-E switches. Customers who need a mixture of 10/100 and 10/100/1000 ports, PoE, and wiring-closet aggregation capability can incrementally develop the access environment, paying only for what they need. When uplink capacity needs to be increased, you can easily upgrade your bandwidth by adding a 10 Gigabit Ethernet version to the stack and upgrade your Gigabit Ethernet links with 10 Gigabit Ethernet on the existing fiber.

Integrated Wireless LAN Controller

The Cisco Catalyst 3750G Integrated Wireless LAN Controller integrates wireless LAN controller functions into the Cisco Catalyst 3750G Series Switches and delivers improved operating efficiency and WLAN security, mobility, and ease of use for business-critical wireless LANs. The Cisco Catalyst 3750G Integrated Wireless LAN Controller delivers centralized security policies, wireless intrusion prevention system (IPS) capabilities, award-winning RF management, QoS, and Layer 3 fast secure roaming for WLANs. As a core component of the Cisco Unified Wireless Network, the Cisco Catalyst 3750G Integrated Wireless LAN Controller provides the control, security, redundancy, and reliability that network managers need to scale and manage their wireless networks as easily as they scale and manage their traditional wired networks.

Availability: Uninterrupted Performance at Layer 2 and Layer 3

The Cisco Catalyst 3750 Series increases availability for stackable switches. Each switch can operate as both a master controller and a forwarding processor. Each switch in the stack can serve as a master, creating a 1:N availability scheme for network control. In the unlikely event of a single unit failure, all other units continue to forward traffic and maintain operation.

Smart Multicast: A New Level of Efficiency for Converged Networks

With Cisco StackWise technology, the Cisco Catalyst 3750 Series offers greater efficiency for multicast applications such as video. Each data packet is put onto the backplane only once, which provides more effective support for more data streams.

Superior Quality of Service Across the Stack and at Wire Speed

The Cisco Catalyst 3750-E and 3750 Series offer Gigabit and 10 Gigabit Ethernet speed with intelligent services that keep everything flowing smoothly, even at 10 times the normal network speed. Mechanisms for marking, classification, and scheduling deliver best-in-class performance for data, voice, and video traffic, all at wire speed.

Network Security: Granular Control for the Access Environment

The Cisco Catalyst 3750 Series supports a comprehensive set of security features for connectivity and access control, including ACLs, authentication, port-level security, and identity-based network

services with 802.1x and extensions. This set of comprehensive features not only helps prevent external attacks, but also defends the network against “man-in-the-middle” attacks, a primary concern in today’s business environment.

Single IP Management: Many Switches, One Address

Each Cisco Catalyst 3750 Series stack is managed as a single object and has a single IP address. Single IP management is supported for activities such as fault detection, VLAN creation and modification, network security, and QoS controls.

Jumbo Frames: Support for High-Demand Applications

The Cisco Catalyst 3750 Series supports jumbo frames on the 10/100/1000 configurations for advanced data and video applications requiring very large frames. All Cisco Catalyst 3750-E Series switch models also support jumbo frames.

IPv6 Support

The Cisco Catalyst 3750 Series supports IPv6 routing in hardware for maximum performance. As network devices grow and the need for larger addressing and higher security becomes critical, the Cisco Catalyst 3750 Series will be ready to meet the requirement.

Standard PoE Support: Graceful Addition of IP Communications

The Cisco Catalyst 3750 and 3750G PoE models support Cisco IP phones and Cisco Aironet® wireless LAN (WLAN) access points, as well as any IEEE 802.3af-compliant end device. The Cisco Catalyst 3750 and 3750G 24-port versions can support 24 simultaneous full-powered PoE ports at 15.4W for maximum powered device support. The 48-port versions can deliver the necessary power to support 24 ports at 15.4W, 48 ports at 7.7W, or any combination in between.

10 Gigabit Ethernet Support: Increased Uplink Bandwidth for Gigabit Ethernet Deployments

The Cisco Catalyst 3750 Series allows network managers to incrementally add IEEE 802.3ae-compliant 10 Gigabit Ethernet connectivity in their wiring closets or grid clusters, further facilitating and enhancing Gigabit Ethernet networks. This provides investment protection to customers who want to use their existing fiber plant, add uplink bandwidth capacity to their switching stacks, and provide higher performance to applications and users. The Cisco Catalyst 3750-E Series offers an even greater variety of 10 Gigabit Ethernet port configuration switches.

Management Options

The Cisco Catalyst 3750 Series (Figure 5) offers both a superior command-line interface (CLI) for detailed configuration and Cisco Network Assistant Software, a Web-based tool for quick configuration based on preset templates. In addition, CiscoWorks supports the Cisco Catalyst 3750 Series for networkwide management. Table 1 lists the features and benefits of the Cisco Catalyst 3750 Series.

Figure 5. Cisco Catalyst 3750 Series Switches**Table 1.** Features and Benefits

Feature	Benefit
Ease of Use and Deployment	<ul style="list-style-type: none"> • Autoconfiguration of new stack units eliminates reconfiguration. • Dynamic Host Configuration Protocol (DHCP) autoconfiguration of multiple switches through a boot server eases switch deployment. • Automatic Cisco IOS Software version checking and updating help ensure that all stack members have the same software version. • Automatic QoS (AutoQoS) simplifies QoS configuration in voice over IP (VoIP) networks by issuing interface and global switch commands to detect Cisco IP phones, classify traffic, and help enable egress queue configuration. • Master configuration management helps ensure that all switches are automatically upgraded when the master switch receives a new software version. • Autosensing on each non-SFP port detects the speed of the attached device and automatically configures the port for 10-, 100-, or 1000-Mbps operation, easing switch deployment in mixed 10, 100, and 1000BASE-T environments. • Autonegotiating on all ports automatically selects half- or full-duplex transmission mode to optimize bandwidth. • Dynamic Trunking Protocol (DTP) facilitates dynamic trunk configuration across all switch ports. • Port Aggregation Protocol (PAgP) automates the creation of Cisco Fast EtherChannel® groups or Gigabit EtherChannel groups to link to another switch, router, or server. • Link Aggregation Control Protocol (LACP) allows the creation of Ethernet channeling with devices that conform to IEEE 802.3ad. This feature is similar to Cisco EtherChannel technology and PAgP. • DHCP Relay allows a DHCP relay agent to broadcast DHCP requests to the network DHCP server. • IEEE 802.3z-compliant 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX, 1000BASE-T, and CWDM physical-interface support through a field-replaceable SFP module provides unprecedented flexibility in switch deployment. • There is a default configuration to help ensure that the switch can be quickly connected to the network and can pass traffic with minimal user intervention. This default configuration exists even if there is no configuration stored in Flash memory. • Automatic media-dependent interface crossover (MDIX) automatically adjusts transmit and receive pairs if an incorrect cable type (crossover or straight-through) is installed.
Cisco EnergyWise	<ul style="list-style-type: none"> • Cisco EnergyWise for greenhouse gas emissions and operational cost optimization by measuring, reporting, and reducing energy consumption across the entire corporate infrastructure, well beyond the scope of IT.
Availability and Scalability	
Superior Redundancy for Fault Backup	<ul style="list-style-type: none"> • 1:N master redundancy allows each stack member to serve as a master, providing the highest reliability for forwarding. • Cisco CrossStack UplinkFast (CSUF) technology provides increased redundancy and network resiliency through fast spanning-tree convergence (less than 2 seconds) across a switch stack with Cisco StackWise technology. • Cross-Stack EtherChannel provides the ability to configure Cisco EtherChannel technology across different members of the stack for high resiliency. • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) provides rapid spanning-tree convergence independent of spanning-tree timers and also offers the benefit of distributed processing. • Stacked units behave as a single spanning-tree node. • Per-VLAN Rapid Spanning Tree (PVRST+) allows rapid spanning-tree reconvergence on a per-VLAN spanning-tree basis, without requiring the implementation of spanning-tree instances. • Cisco Hot Standby Router Protocol (HSRP) is supported to create redundant, failsafe routing topologies. • Unidirectional Link Detection Protocol (UDLD) and Aggressive UDLD allow unidirectional links caused by

	<p>incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic interfaces.</p> <ul style="list-style-type: none"> • Switch-port autorecovery (errdisable) automatically attempts to reactivate a link that is disabled because of a network error. • Cisco RPS 2300 and RPS 675 Redundant Power Systems support provides superior power-source redundancy for up to 6 Cisco networking devices, resulting in improved fault tolerance and network uptime. • Equal-cost routing for load balancing and redundancy. • Bandwidth aggregation up to 16 Gbps through 10 Gigabit EtherChannel technology, 8 Gbps through Gigabit EtherChannel technology, and up to 800 Mbps through Fast EtherChannel technology enhances fault tolerance and offers higher-speed aggregated bandwidth between switches and to routers and individual servers. • Uplink bandwidth can be easily upgraded by adding a 10 Gigabit Ethernet version to a wiring-closet stack and replacing the Gigabit Ethernet uplinks with 10 Gigabit Ethernet without having to change fiber pairs.
High-Performance IP Routing	<ul style="list-style-type: none"> • Cisco Express Forwarding hardware routing architecture delivers extremely high-performance IP routing. • Basic IP unicast routing protocols (static, Routing Information Protocol Version 1 [RIPV1], RIPV2 and RIPv6) are supported for small-network routing applications. • IPv6 routing (OSPFv6 and EIGRPv6) support in hardware for maximum performance. The IP Services License is required. • Advanced IP unicast routing protocols (Open Shortest Path First [OSPF], Interior Gateway Routing Protocol [IGRP], Enhanced IGRP [EIGRP], Border Gateway Protocol Version 4 [BGPv4, IS-ISv4]) are supported for load balancing and constructing scalable LANs. The IP Services image is required. • Policy-based routing (PBR) allows superior control by facilitating flow redirection regardless of the routing protocol configured. The IP Services image is required. • HSRP provides dynamic load balancing and failover for routed links; up to 32 HSRP links supported per unit or stack. • Inter-VLAN IP routing for full Layer 3 routing between 2 or more VLANs. • Protocol Independent Multicast (PIM) for IP multicast routing is supported, including PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), and PIM sparse-dense mode. The IP Services image is required. • Routing is possible across the stack. • 128 switch virtual interfaces (SVIs) are recommended. Maximum of 1000 are supported (depending on the number of routes and multicast entries). 468 routed ports are supported per stack.
Integrated Cisco IOS Software Features for Bandwidth Optimization	<ul style="list-style-type: none"> • Per-port broadcast, multicast, and unicast storm control prevents faulty end stations from degrading overall systems performance. • IEEE 802.1d Spanning Tree Protocol support for redundant backbone connections and loop-free networks simplifies network configuration and improves fault tolerance. • PVST+ allows for Layer 2 load sharing on redundant links to efficiently use the extra capacity inherent in a redundant design. • IEEE 802.1s Multiple Spanning Tree Protocol allows a spanning-tree instance per VLAN, for Layer 2 load sharing on redundant links. • Equal-cost routing facilitates Layer 3 load balancing and redundancy across the stack. • Local Proxy Address Resolution Protocol (ARP) works in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth. • VLAN1 minimization allows VLAN1 to be disabled on any individual VLAN trunk link. • VLAN Trunking Protocol (VTP) pruning limits bandwidth consumption on VTP trunks by flooding broadcast traffic only on trunk links required to reach the destination devices. • Internet Group Management Protocol (IGMP) snooping provides fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors. • Multicast VLAN Registration (MVR) continuously sends multicast streams in a multicast VLAN while isolating the streams from subscriber VLANs for bandwidth and security reasons. • Up to 48 EtherChannel groups are supported per stack.
Scalable Stacking	<ul style="list-style-type: none"> • Cisco StackWise stacking creates a 32-Gbps switch interconnection. Stacking does not require user ports. Up to 9 units can be stacked together for a maximum of 468 10/100 ports, 468 10/100/1000 ports, 108 optical aggregation ports, nine 10 Gigabit Ethernet ports, or any mix thereof. Additional port combinations can be created by stacking together the Cisco Catalyst 3750 Series Switches and the Cisco Catalyst 3750-E Series Switches.
QoS and Control	
Advanced QoS	<ul style="list-style-type: none"> • Cross-stack QoS allows QoS to be configured across the entire stack. • 802.1p class of service (CoS) and differentiated services code point (DSCP) field classification is provided, using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, or Layer 4 Transmission Control Protocol/User Datagram Protocol (TCP/UDP) port number. • Cisco control-plane and data-plane QoS ACLs on all ports help ensure proper marking on a per-packet basis. • 4 egress queues per port help enable differentiated management of up to 4 traffic types across the stack. • Shaped Round Robin (SRR) scheduling helps ensure differential prioritization of packet flows by intelligently servicing the ingress queues and egress queues.

	<ul style="list-style-type: none"> • Weighted Tail Drop (WTD) provides congestion avoidance at the ingress and egress queues before a disruption occurs. • Strict priority queuing helps ensure that the highest-priority packets are serviced ahead of all other traffic. • There is no performance penalty for highly granular QoS capability.
Granular Rate Limiting	<ul style="list-style-type: none"> • Cisco committed information rate (CIR) function provides bandwidth in increments as low as 8 Kbps. • Rate limiting is provided based on source and destination IP address, source and destination MAC address, Layer 4 TCP/UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps, and policy maps. • Asynchronous data flows upstream and downstream from the end station or on the uplink are easily managed using ingress policing and egress shaping. • Up to 64 aggregate or individual policers are available per Fast Ethernet or Gigabit Ethernet port.
Network Security	
Networkwide Security Features	<ul style="list-style-type: none"> • IEEE 802.1x allows dynamic, port-based security, providing user authentication. • IEEE 802.1x with VLAN assignment allows a dynamic VLAN assignment for a specific user regardless of where the user is connected. • IEEE 802.1x with voice VLAN permits an IP phone to access the voice VLAN irrespective of the authorized or unauthorized state of the port. • IEEE 802.1x and port security are provided to authenticate the port and manage network access for all MAC addresses, including that of the client. • IEEE 802.1x with an ACL assignment allows for specific identity-based security policies regardless of where the user is connected. • IEEE 802.1x with guest VLAN allows guests without 802.1x clients to have limited network access on the guest VLAN. • Cisco security VLAN ACLs on all VLANs prevent unauthorized data flows from being bridged within VLANs. • Cisco standard and extended IP security router ACLs define security policies on routed interfaces for control-plane and data-plane traffic. • Port-based ACLs for Layer 2 interfaces allow security policies to be applied on individual switch ports. • Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3) provide network security by encrypting administrator traffic during Telnet and SNMP sessions. SSH Protocol, Kerberos, and the cryptographic version of SNMPv3 require a special cryptographic software image because of U.S. export restrictions. • Private VLAN Edge provides security and isolation between switch ports, which helps ensure that users cannot snoop on other users' traffic. • Dynamic ARP Inspection helps ensure user integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol. • DHCP Snooping prevents malicious users from spoofing a DHCP server and sending out bogus addresses. This feature is used by other primary security features to prevent a number of other attacks such as ARP poisoning. • IP source guard prevents a malicious user from spoofing or taking over another user's IP address by creating a binding table between client's IP and MAC address, port, and VLAN. • Bidirectional data support on the Switched Port Analyzer (SPAN) port allows a Cisco Intrusion Detection System (IDS) to take action when an intruder is detected. • TACACS+ and RADIUS authentication facilitate centralized control of the switch and restrict unauthorized users from altering the configuration. • MAC address notification allows administrators to be notified of users added to or removed from the network. • DHCP Snooping helps administrators with consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database and to rate-limit the amount of DHCP traffic that enters a switch port. • Port security secures the access to an access or trunk port based on MAC address. • After a specific timeframe, the aging feature removes the MAC address from the switch to allow another device to connect to the same port. • Trusted boundary provides the ability to trust the QoS priority settings if an IP phone is present and to disable the trust setting in the event that the IP phone is removed, thereby preventing a malicious user from overriding prioritization policies in the network. • Multilevel security on console access prevents unauthorized users from altering the switch configuration. • The user-selectable address-learning mode simplifies configuration and enhances security. • Bridge protocol data unit (BPDU) guard shuts down Spanning Tree PortFast-enabled interfaces when BPDUs are received to avoid accidental topology loops. • Spanning Tree Root Guard (STRG) prevents edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes. • IGMP filtering provides multicast authentication by filtering out nonsubscribers and limits the number of concurrent multicast streams available per port. • Dynamic VLAN assignment is supported through implementation of VLAN Membership Policy Server client capability to provide flexibility in assigning ports to VLANs. Dynamic VLAN facilitates the fast assignment of IP addresses. • Cisco CMS Software security wizards ease the deployment of security features for restricting user

	<p>access to a server as well as to a portion or all of the network.</p> <ul style="list-style-type: none"> • 1000 access control entries (ACEs) are supported.
Manageability	
Superior Manageability	<ul style="list-style-type: none"> • Cisco IOS Software CLI support provides common user interface and command set with all Cisco routers and Cisco Catalyst desktop switches. • Switching Database Manager templates for access, routing, and VLAN deployment allow the administrator to easily maximize memory allocation to the desired features based on deployment-specific requirements. • VLAN trunks can be created from any port, using either standards-based 802.1Q tagging or the Cisco Inter-Switch Link (ISL) VLAN architecture. • Up to 1005 VLANs per switch or stack and up to 128 spanning-tree instances per switch are supported. • 4000 VLAN IDs are supported. • Voice VLAN simplifies telephony installations by keeping voice traffic on a separate VLAN for easier administration and troubleshooting. • Cisco VLAN Trunking Protocol (VTP) supports dynamic VLANs and dynamic trunk configuration across all switches. • Cisco Group Management Protocol server functions allow a switch to serve as the Cisco Group Management Protocol router for client switches. • IGMP snooping provides fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors. • Remote Switch Port Analyzer (RSPAN) allows administrators to remotely monitor ports in a Layer 2 switch network from any other switch in the same network. • For enhanced traffic management, monitoring, and analysis, the Embedded Remote Monitoring (RMON) software agent supports 4 RMON groups (history, statistics, alarms, and events). • Layer 2 traceroute eases troubleshooting by identifying the physical path that a packet takes from source to destination. • All 9 RMON groups are supported through a SPAN port, which permits traffic monitoring of a single port, a group of ports, or the entire stack from a single network analyzer or RMON probe. • Domain Name System (DNS) provides IP-address resolution with user-defined device names. • Trivial File Transfer Protocol (TFTP) reduces the cost of administering software upgrades by downloading from a centralized location. • Network Timing Protocol (NTP) provides an accurate and consistent timestamp to all intranet switches. • Multifunction LEDs per port for port status; half-duplex and full-duplex mode; and 10BASE-T, 100BASE-TX, and 1000BASE-T indication as well as switch-level status LEDs for system, redundant-power supply, and bandwidth utilization provide a comprehensive and convenient visual management system. • SPAN works across all the ports in a stack.
Cisco Network Assistant Software	<ul style="list-style-type: none"> • Cisco Network Assistant Software provides an easy-to-use, Web-based management interface through a standard Web browser. • Simplified port configuration via Cisco Smartports. • Cisco AVVID (Architecture for Voice, Video and Integrated Data) wizards need just a few user inputs to automatically configure the switch to optimally manage different types of traffic: voice, video, multicast, and high-priority data. • A security wizard is provided to restrict unauthorized access to applications, servers, and networks. • Cisco Network Assistant Software allows management of a small network of Cisco Catalyst 3750-E, 3750, 3560-E, 3560, 3550, 2960, and 2950 Series Switches through a single IP address, without the limitation of being physically located in the same wiring closet. Full backward compatibility helps ensure any combination of these switches can be managed with a Cisco Catalyst 3750 Series Switch. • Drag-and-Drop Cisco IOS Software upgrade simplifies the process of upgrading Cisco IOS Software by not involving a Trivial File Transfer Protocol (TFTP) server. • The software upgrade feature allows one-click software upgrade of multiple switches in a community of Cisco Catalyst 3750-E, 3750, 3560-E, 3560, 3550, 2960, and 2950 Series Switches. Configuration cloning facilitates rapid deployment of networks. The master switch automatically upgrades each stack. • Cisco Network Assistant Software has been extended to include multilayer feature configurations such as routing protocols, ACLs, and QoS parameters. • Cisco clustering now supports member discovery and cluster creation across a single Cisco Catalyst 3750 Series Switch routed hop, allowing the entire LAN to be managed through a single Web interface (and with a single IP address, if desired). • Cisco Network Assistant Software Guide Mode assists in the configuration of powerful advanced features by providing step-by-step instructions. • Cisco Network Assistant Software provides enhanced online help for context-sensitive assistance. • The easy-to-use graphical interface provides both a topology map and front-panel view of the cluster and stacks. • Multidevice and multipoint configuration capabilities allow administrators to save time by configuring features across multiple switches and ports simultaneously. • Web-based management for a Cisco Aironet wireless access point is launched by clicking the

	<ul style="list-style-type: none"> relevant icon in the topology map. The user-personalized interface allows modification of polling intervals, table views, and other settings within Cisco CMS Software and retains these settings. Alarm notification provides automated e-mail notification of network errors and alarm thresholds.
Smartports	<ul style="list-style-type: none"> Simple macros help enable advanced QoS features with one command instead of multiple commands in the configuration file.
Easy Web Setup	<ul style="list-style-type: none"> Web-browser setup utility allows one-click initialization for IP addresses and passwords.
CiscoWorks Support	<ul style="list-style-type: none"> CiscoWorks network-management software provides management capabilities on a per-port and per-switch basis, providing a common management interface for Cisco routers, switches, and hubs. Stacking is supported. SNMPv1, v2c, and v3 and Telnet interface support delivers comprehensive in-band management, and a CLI-based management console provides detailed out-of-band management. Cisco Discovery Protocol versions 1 and 2 help enable a CiscoWorks network-management station for automatic switch discovery. The CiscoWorks 2000 LAN Management Solution provides support.

Product Specifications

Table 2 lists product specifications for the Cisco Catalyst 3750 Series.

Table 2. Descriptions and Specifications

Description	Specification
Performance	<ul style="list-style-type: none"> 32-Gbps switching fabric Stack-forwarding rate of 38.7 mpps for 64-byte packets Forwarding rate: 6.5 mpps (Cisco Catalyst 3750-24TS, 3750-24FS, and 3750-24PS), 13.1 mpps (Cisco Catalyst 3750-48TS and 3750-48PS), 17.8 mpps (Cisco Catalyst 3750G-12S), 35.7 mpps (Cisco Catalyst 3750G-24T), 38.7 mpps (Cisco Catalyst 3750G-24TS and 3750G-24WS), 35.7 mpps (Cisco Catalyst 3750G-16TD), 38.7 mpps (Cisco Catalyst 3750G-24TS-1U), 38.7 mpps (Cisco Catalyst 3750G-24PS), 38.7 mpps (Cisco Catalyst 3750G-48TS), 38.7 mpps (Cisco Catalyst 3750G-48PS) 128 MB DRAM and 16 MB Flash memory (Cisco Catalyst 3750G-24TS, 3750G-24WS, 3750G-24T, 3750G-12S, 3750-24TS, 3750-24PS, 3750-48TS, 3750-48PS, and 3750G-16TD) 128 MB DRAM and 32 MB Flash memory (Cisco Catalyst 3750G-24TS-1U, 3750G-24WS, 3750G-24PS, 3750G-48TS, 3750G-48PS, and 3750-24FS) Configurable up to 12,000 MAC addresses (Cisco Catalyst 3750G-24TS, 3750G-24WS, 3750G-24T, 3750G-12S, 3750-24TS, 3750-24FS, 3750-24PS, 3750-48TS, 3750-48PS, 3750G-24TS-1U, 3750G-24PS, 3750G-48TS, 3750G-48PS, and 3750G-16TD) Configurable up to 20,000 unicast routes (Cisco Catalyst 3750G-12S) and up to 11,000 unicast routes (Catalyst 3750G-24TS, 3750G-24WS, 3750G-24T, 3750-24TS, 3750-24FS, 3750-24PS, 3750-48TS, 3750-48PS, 3750G-24TS-1U, 3750G-24PS, 3750G-48TS, 3750G-48PS, and 3750G-16TD) Configurable up to 1000 IGMP groups and multicast routes (Cisco Catalyst 3750G-24TS, 3750G-24WS, 3750G-24T, 3750G-12S, 3750-24TS, 3750-24FS, 3750-24PS, 3750-48TS, 3750-48PS, 3750G-24TS-1U, 3750G-24PS, 3750G-48TS, 3750G-48PS, and 3750G-16TD) Configurable maximum transmission unit (MTU) of up to 9000 bytes, with a maximum Ethernet frame size of 9018 bytes (jumbo frames) for bridging on Gigabit Ethernet ports, and up to 1546 bytes for bridging and routing on Fast Ethernet ports
Connectors and Cabling	<ul style="list-style-type: none"> 10BASE-T ports: RJ-45 connectors, 2-pair Category 3 (Cat-3), 4, or 5 unshielded twisted-pair (UTP) cabling 100BASE-TX ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling 100BASE-FX ports: MT-RJ connectors, 50/125 or 62.5/125 micron multimode fiber 1000BASE-T ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling 1000BASE-T SFP-based ports: RJ-45 connectors, 2-pair Cat-5 UTP cabling 1000BASE-SX, -LX/LH, -ZX, and CWDM SFP-based ports: LC fiber connectors (single-mode, or multimode fiber) 10GBASE-ER XENPAK-based port (single-mode) 10GBASE-LR XENPAK-based port (single-mode) Cisco StackWise stacking ports: copper-based Cisco StackWise cabling that is also compatible with the StackWise Plus technology in the Cisco Catalyst 3750-E Series Switches. Management console port: RJ-45-to-DB9 cable for PC connections
Power Connectors	<ul style="list-style-type: none"> Customers can provide power to a switch by using either the internal power supply or a redundant power system (Cisco RPS 2300 or the Cisco RPS 675). The connectors are located at the back of the switch. Internal power supply connector

	<ul style="list-style-type: none"> • The internal power supply is an autoranging unit. • The internal power supply supports input voltages between 100 and 240VAC. • Use the supplied AC power cord to connect the AC power connector to an AC power outlet. • Cisco RPS Connector • The connector offers connection for an optional Cisco RPS 2300 or RPS 675 that uses AC input and supplies DC output to the switch. • The connector automatically senses when the internal power supply of a connected device fails and provides power to the failed device, preventing loss of network traffic. • Only the Cisco RPS 2300 (model PWR-RPS2300) or the Cisco RPS 675 (PWR675-AC-RPS-N1=) should be attached to the redundant-power-supply receptacle.
Indicators	<ul style="list-style-type: none"> • Per-port status LEDs: link integrity, disabled, activity, speed, and full-duplex indications • System-status LEDs: system, RPS, and bandwidth-utilization indications
Dimensions (H x W x D)	<ul style="list-style-type: none"> • 2.59 x 17.5 x 11.6 in. (6.6 x 44.5 x 29.5 cm) (Cisco Catalyst 3750G-24TS) • 2.59 x 17.5 x 11.6 in. (6.6 x 44.5 x 29.5 cm) (Cisco Catalyst 3750G-24WS) • 1.73 x 17.5 x 12.8 in. (4.4 x 44.5 x 32.6 cm) (Cisco Catalyst 3750G-24T) • 1.73 x 17.5 x 12.8 in. (4.4 x 44.5 x 32.6 cm) (Cisco Catalyst 3750G-12S) • 1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30 cm) (Cisco Catalyst 3750-48TS) • 1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30 cm) (Cisco Catalyst 3750-24TS) • 1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30 cm) (Cisco Catalyst 3750-24FS) • 1.73 x 17.5 x 14.8 in. (4.4 x 44.5 x 37.8 cm) (Cisco Catalyst 3750-48PS) • 1.73 x 17.5 x 11.8 in. (4.4 x 44.5 x 30 cm) (Cisco Catalyst 3750-24PS) • 1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-16TD) • 1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm) (Cisco Catalyst 3750G-24TS-1U) • 1.73 x 17.5 x 14.9 in. (4.4 x 44.5 x 37.8 cm) (Cisco Catalyst 3750G-24PS) • 1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-48TS) • 1.73 x 17.5 x 16.1 in. (4.4 x 44.5 x 40.9 cm) (Cisco Catalyst 3750G-48PS)
Weight	<ul style="list-style-type: none"> • 12.5 lb (5.7 kg) (Cisco Catalyst 3750G-24TS) • 21 lb (9.5 kg) (Cisco Catalyst 3750G-24WS) • 10.0 lb (4.6 kg) (Cisco Catalyst 3750G-24T, Cisco Catalyst 3750G-12S) • 9.1 lb (4.1 kg) (Cisco Catalyst 3750-48TS, Cisco Catalyst 3750G-12S-SD) • 8.0 lb (3.6 kg) (Cisco Catalyst 3750-24TS) • 13.2 lb (6.0 kg) (Cisco Catalyst 3750-48PS) • 11.3 lb (5.1 kg) (Cisco Catalyst 3750-24PS) • 12.5 lb (5.7 kg) (Cisco Catalyst 3750G-16TD) • 12 lb (5.5 kg) (Cisco Catalyst 3750G-24TS-1U) • 13.5 lb (6.1 kg) (Cisco Catalyst 3750G-24PS) • 14 lb (6.4 kg) (Cisco Catalyst 3750G-48TS) • 15.5 lb (7.0 kg) (Cisco Catalyst 3750G-48PS)
Environmental Ranges	<ul style="list-style-type: none"> • Operating temperature: 32 to 113°F (0 to 45°C) • Storage temperature: -13 to 158°F (-25 to 70°C) • Operating relative humidity: 10 to 85% (noncondensing) • Operating altitude: up to 10,000 ft (3049 m) • Storage altitude: up to 15,000 ft (4573 m)
Acoustic Noise	<ul style="list-style-type: none"> • International Organization for Standardization (ISO) 7779: bystander position operating to an ambient temperature of 30°C
Non-PoE Models	<ul style="list-style-type: none"> • Cisco Catalyst 3750G-24TS: 42 dB • Cisco Catalyst 3750G-24WS: 42 dB • Cisco Catalyst 3750G-24T: 42 dB • Cisco Catalyst 3750G-12S: 42 dB • Cisco Catalyst 3750-48TS: 42 dB • Cisco Catalyst 3750-24TS: 42 dB • Cisco Catalyst 3750-24FS: 38 dB • Cisco Catalyst 3750G-16TD: 42 dB • Cisco Catalyst 3750G-48TS: 48 dB • Cisco Catalyst 3750G-24TS-1U: 42 dB
PoE Models (Levels Increase with Amount of Active PoE ports)	<ul style="list-style-type: none"> • Cisco Catalyst 3750-48PS: 42-48 dB • Cisco Catalyst 3750-24PS: 38-42 dB • Cisco Catalyst 3750G-48PS: 52-58 dB • Cisco Catalyst 3750G-24PS: 38-44 dB

Mean Time Between Failure (MTBF)	<ul style="list-style-type: none"> • 188,574 hours (Cisco Catalyst 3750G-24TS) • 209,170 hours (Cisco Catalyst 3750G-24WS) • 210,936 hours (Cisco Catalyst 3750G-24T) • 215,000 hours (Cisco Catalyst 3750G-12S) • 259,729 hours (Cisco Catalyst 3750G-12S-SD) • 217,824 hours (Cisco Catalyst 3750-48TS) • 294,928 hours (Cisco Catalyst 3750-24TS) • 269,011 hours (Cisco Catalyst 3750-24FS) • 166,408 hours (Cisco Catalyst 3750-48PS) • 209,170 hours (Cisco Catalyst 3750-24PS) • 184,422 hours (Cisco Catalyst 3750G-16TD) • 165,243 hours (Cisco Catalyst 3750G-48TS) • 141,005 hours (Cisco Catalyst 3750G-48PS) • 221,150 hours (Cisco Catalyst 3750G-24TS-1U) • 182,373 hours (Cisco Catalyst 3750G-24PS)
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Table 3. Power Specifications

Description	Specification		
Power Supply Rated Maximum	Cisco Catalyst 3750 Series	Maximum	Total Output BTU
	3750G-24TS	190W	650 BTU/hour
	3750G-24WS	254.94W	171 BTU/hour
	3750G-24T	165W	536 BTU/hour
	3750G-12S	120W	409 BTU/hour
	3750G-12S-SD	72W	250 BTU/hour
	3750-24TS	50W	171 BTU/hour
	3750-24FS	125W	426 BTU/hour
	3750-48TS	75W	256 BTU/hour
	3750-24PS	495W	426 BTU/hour
	3750-48PS	540W	580 BTU/hour
	3750G-24TS-1U	100W	314 BTU/hour
	3750G-24PS	540W	534 BTU/hour
	3750G-48TS	160W	500 BTU/hour
3750G-48PS	590W	690 BTU/hour	
Measured 100% Throughput Power Consumption	Cisco Catalyst 3750 Series	Switch Power	Total Output BTU
	3750G-24TS	169W	576 BTU/hour
	3750G-24T	98W	333 BTU/hour
	3750G-12S	100W	340 BTU/hour
	3750G-12S-SD	72W	245 BTU/hour
	3750-24TS	45W	151 BTU/hour
	3750-24FS	61W	208 BTU/hour
	3750-48TS	66W	225 BTU/hour
	3750-24PS	57W	194 BTU/hour
	3750-48PS	89W	302 BTU/hour
	3750G-24TS-1U	94W	319 BTU/hour
	3750G-24PS	103W	348 BTU/hour
	3750G-48TS	152W	516 BTU/hour
3750G-48PS	142W	482 BTU/hour	
Measured 5% Throughput Power Consumption	Cisco Catalyst 3750 Series	Switch Power	Total Output BTU
	3750G-24TS	134W	455 BTU/hour
	3750G-24T	86W	293 BTU/hour

	3750G-12S	75W	253 BTU/hour	
	3750G-12S-SD	61W	207 BTU/hour	
	3750-24TS	41W	139 BTU/hour	
	3750-24FS	59W	201 BTU/hour	
	3750-48TS	60W	205 BTU/hour	
	3750-24PS	55W	186 BTU/hour	
	3750-48PS	84W	285 BTU/hour	
	3750G-24TS-1U	82W	278 BTU/hour	
	3750G-24PS	94W	320 BTU/hour	
	3750G-48TS	134W	455 BTU/hour	
	3750G-48PS	131W	447 BTU/hour	
Measured 100% Throughput Power Consumption <i>(with maximum possible PoE loads)</i>	Cisco Catalyst 3750 Series	Switch Power	PoE Power	Total Output BTU
	3750-24PS	462W	370W	311 BTU/hour
	3750-48PS	489W	370W	404 BTU/hour
	3750G-24PS	492W	370W	414 BTU/ hour
	3750G-48PS	541W	370W	581 BTU/hour
Measured 5% Throughput Power Consumption <i>(with 50% PoE loads)</i>	Cisco Catalyst 3750 Series	Switch Power	PoE Power	Total Output BTU
	3750-24PS	264W	186W	266 BTU/hour
	3750-48PS	288W	187W	345 BTU/hour
	3750G-24PS	294W	179W	392 BTU/ hour
	3750G-48PS	331W	174W	536 BTU/hour
AC Input Voltage and Frequency	<ul style="list-style-type: none"> • 100-240VAC, 1.5-2.3A, 50-60 Hz (Cisco Catalyst 3750G-24TS) • 100-240VAC, 4.0-8.0A, 50-60 Hz (Cisco Catalyst 3750G-24WS) • 100-240VAC, 0.9-1.6A, 50-60 Hz (Cisco Catalyst 3750G-24T) • 100-240VAC, 0.6-1.2A, 50-60 Hz (Cisco Catalyst 3750G-12S) • 100-240VAC, 0.6-1.2A, 50-60 Hz (Cisco Catalyst 3750-24TS) • 100-240VAC, 1.5-3.0A, 50-60 Hz (Cisco Catalyst 3750-24FS) • 100-240VAC, 0.6-1.2A, 50-60 Hz (Cisco Catalyst 3750-48TS) • 100-240VAC, 2.9-4.5A, 50-60 Hz (Cisco Catalyst 3750-24PS) • 100-240VAC, 4.0-8.0A, 50-60 Hz (Cisco Catalyst 3750-48PS) • 100-240VAC, 0.9-1.6A, 50-60 Hz (Cisco Catalyst 3750G-16TD) • 100-240VAC, 1.5-3.0A, 50-60 Hz (Cisco Catalyst 3750G-24TS-1U) • 100-240VAC, 4.0-8.0A, 50-60 Hz (Cisco Catalyst 3750G-24PS) • 100-240VAC, 1.5-3.0A, 50-60 Hz (Cisco Catalyst 3750G-48TS) • 100-240VAC, 4.0-8.0A, 50-60 Hz (Cisco Catalyst 3750G-48PS) 			
DC Input Voltages	<ul style="list-style-type: none"> • -36 to -72VDC, 3.0 - 1.5A (Cisco Catalyst 3750G-12S-SD) • RPS input • +12V at 17A (Cisco Catalyst 3750G-24TS and 3750G-16TD) • +12V at 13A (Cisco Catalyst 3750G-24T and 3750G-12S) • +12V at 8.5A (Cisco Catalyst 3750-48 and 3750-24) • +12V at 7.5A (Cisco Catalyst 3750-48PS and 3750-24PS) • +12V at 10.5A (Cisco Catalyst 3750G-24TS-1U) • +12V at 17.5A (Cisco Catalyst 3750G-48TS) • +12V at 14A (Cisco Catalyst 3750G-48PS and 3750G-24PS) 			

Note:

Disclaimer: All power consumption numbers were measured under controlled laboratory conditions and are provided as an estimate.

The wattage rating on the power supply does not represent actual power draw. It indicates the maximum power draw possible by the power supply. This rating can be used for facility capacity

planning. For PoE switches, cooling requirements are smaller than the actual power consumption as a significant portion of PoE loads are dissipated in the endpoints.

Non-PoE Power Consumption

100 Percent Throughput Switch Power Consumption

The numbers indicate the power consumed by a typical switch under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar, and relative humidity from 30 to 75 percent. Typically such power draws are only seen when encountering a 100 percent traffic load made up entirely of 64-byte packets on the switch and the uplinks.

5 Percent Throughput Switch Power Consumption

The numbers indicate the power consumed by a typical switch under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar, and relative humidity from 30 to 75 percent. The numbers below indicate a 5 percent traffic load on the switch and its uplinks.

PoE Power Consumption

100 Percent Throughput Switch Power Consumption (no PoE loads)

The numbers indicate the power consumed by a typical switch under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar, and relative humidity from 30 to 75 percent. Typically such power draws are only seen when encountering a 100 percent traffic load made up entirely of 64-byte packets with no PoE loads on the switch and uplinks.

Measured 5 Percent Throughput Switch Power Consumption (no PoE loads)

The numbers indicate the power consumed by a typical switch under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar and relative humidity from 30 to 75 percent. The numbers below indicate a 5 percent traffic load on the switch and its uplinks

100 Percent Throughput Switch Power Consumption (with maximum PoE loads)

The numbers indicate the power consumed by a typical system (the switch and the corresponding PoE loads) under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar and relative humidity from 30 to 75 percent. Typically this power draw is realized when a switch is running 100 percent traffic load of 64 byte sized packets on all its ports and uplinks and also drawing 100 percent PoE load .

5 Percent Throughput Switch Power Consumption (with 50 percent PoE loads).

The numbers indicate the power consumed by a typical system (the switch and the corresponding PoE loads) under normal conditions. Normal conditions signify a temperature of 25 degrees Celsius, atmospheric pressure in the range of 860 to 1060 mbar and relative humidity from 30 to 75 percent. The numbers below indicate a 5 percent traffic load and 50 percent PoE load on the switch and its uplinks.

Table 4 lists the management and standards support for the Cisco Catalyst 3750 Series.

Table 4. Management and Standards

Description	Specification
Management	<ul style="list-style-type: none"> • BRIDGE-MIB • CISCO-CDP-MIB • CISCO-CLUSTER-MIB • CISCO-CONF-MAN-MIB • CISCO-ENTITY-FRU-CONTROL-MIB • CISCO-ENVMON-MIB • CISCO-FLASH-MIB • CISCO-FTP-CLIENT-MIB • CISCO-HSRP-MIB • CISCO-HSRP-EXT-MIB • CISCO-IGMP-FILTER-MIB • CISCO-IMAGE-MIB • CISCO-L2L3-INTERFACE-CONFIG-MIB • CISCO-MAC-NOTIFICATION-MIB • CISCO-MEMORY-POOL-MIB • CISCO-PAGP-MIB • CISCO-PING-MIB • CISCO-PROCESS-MIB • CISCO-RTTMON-MIB • CISCO-STACK-MIB • CISCO-STACKMAKER-MIB • CISCO-STACKWISE-MIB • CISCO-STP-EXTENSIONS-MIB • CISCO-SYSLOG-MIB • CISCO-TCP-MIB • CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB • CISCO-VLAN-MEMBERSHIP-MIB • CISCO-VTP-MIB • ENTITY-MIB • ETHERLIKE-MIB • IF-MIB • IGMP-MIB • IPMROUTE-MIB • OLD-CISCO-CHASSIS-MIB • OLD-CISCO-FLASH-MIB • OLD-CISCO-INTERFACES-MIB • OLD-CISCO-IP-MIB • OLD-CISCO-SYS-MIB • OLD-CISCO-TCP-MIB • OLD-CISCO-TS-MIB • OSPF-MIB (RFC 1253) • PIM-MIB • RFC1213-MIB • RFC1253-MIB • RMON-MIB • RMON2-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-TARGET-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB

Standards	<ul style="list-style-type: none"> • IEEE 802.1s • IEEE 802.1w • IEEE 802.1x • IEEE 802.3ad • IEEE 802.3af • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1p CoS classification • IEEE 802.1Q VLAN • IEEE 802.3 10BASE-T • IEEE 802.3u 100BASE-T • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X
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Table 5 lists the safety and compliance information for the Cisco Catalyst 3750 Series.

Table 5. Safety and Compliance

Description	Specification
Safety Certifications	<ul style="list-style-type: none"> • UL to UL 60950, Third Edition • C-UL to CAN/CSA C22.2 No. 60950-00, Third Edition • TUV/GS to EN 60950:2000 • CB to IEC 60950 with all country deviations • NOM to NOM-019-SCFI • CE Marking
Electromagnetic Emissions Certifications	<ul style="list-style-type: none"> • FCC Part 15 Class A • EN 55022: 1998 (CISPR22) • EN 55024: 1998 (CISPR24) • VCCI Class A • AS/NZS 3548 Class A • CE • CNS 13438 Class A • MIC
Telco	CLEI code
Warranty	Limited lifetime warranty

Cisco Services for Access Switching

Cisco and our partners can help you create a robust, dependable Cisco Access Switching solution. The Cisco lifecycle approach to services defines the requisite activities at each phase of the solution lifecycle. Assessments help align your solution to business goals and gauge readiness to support new technology. Effective planning and design expedite solution adoption. Award-winning technical support increases operational efficiency, and optimization improves performance, resiliency, stability, and predictability and prepares your network and teams for change. For more information, visit <http://www.cisco.com/go/services>.

Table 6. Service and Support

Service and Support	Features	Benefits
Advanced Services		
Cisco Total Implementation Solutions (TIS), Available Directly from Cisco Cisco Packaged TIS, Available Through Resellers	<ul style="list-style-type: none"> • Project management • Site survey, configuration, and deployment • Installation, test, and cutover • Training • Major moves, adds, and changes • Design review and product staging 	<ul style="list-style-type: none"> • Supplement existing staff • Help ensure functions meet needs • Mitigate risk

<p>Cisco SMARTnet[®] Support and SMARTnet Onsite Support, Available Directly from Cisco</p> <p>Cisco Packaged SMARTnet Support, Available Through Resellers</p>	<ul style="list-style-type: none"> • 24-hour access to software updates • Web access to technical repositories • Telephone support through the Cisco Technical Assistance Center (TAC) • Advance replacement of hardware parts 	<ul style="list-style-type: none"> • Facilitate proactive or expedited issue resolution • Lower TCO by taking advantage of Cisco expertise and knowledge • Minimize network downtime
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Ordering Information

Table 7 lists the ordering information for the Cisco Catalyst 3750 Series. To place an order, visit the Cisco Ordering homepage at

http://www.cisco.com/en/US/ordering/or13/or8/order_customer_help_how_to_order_listing.html.

Table 7. Ordering Information

Part Number	Description
WS-C3750G-24TS-E1U	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-24TS-S1U	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-24TS-E	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1.5 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-24TS-S	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1.5 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-24WS-S25	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE • 2 SFP-based Gigabit Ethernet ports • Integrated Wireless LAN Controller • Supports up to 25 Lightweight Access Points • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 2 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-24WS-S50	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE • 2 SFP-based Gigabit Ethernet ports

	<ul style="list-style-type: none"> • Integrated Wireless LAN Controller • Supports up to 50 Lightweight Access Points • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 2 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-24T-E	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-24T-S	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-12S-E	<ul style="list-style-type: none"> • 12 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-12S-S	<ul style="list-style-type: none"> • 12 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-12S-SD	<ul style="list-style-type: none"> • 12 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable multilayer switch • DC Power Supply • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-16TD-E	<ul style="list-style-type: none"> • Sixteen 10/100/1000 Gigabit Ethernet ports • One IEEE 802.3ae 10 Gigabit Ethernet XENPAK port • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing • IEEE 802.3ae 10 Gigabit Ethernet port is 1.25:1 oversubscribed
WS-C3750G-16TD-S	<ul style="list-style-type: none"> • Sixteen 10/100/1000 Gigabit Ethernet ports • One IEEE 802.3ae 10 Gigabit Ethernet XENPAK port • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable multilayer switch • Delivers enterprise-class intelligent services to the network edge • IP Base software feature set (IPB) • IEEE 802.3ae 10 Gigabit Ethernet port is 1.25:1 oversubscribed
WS-C3750G-24PS-E	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE

	<ul style="list-style-type: none"> • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-24PS-S	<ul style="list-style-type: none"> • 24 Ethernet 10/100/1000 ports with IEEE 802.3af and Cisco prestandard PoE • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-48TS-E	<ul style="list-style-type: none"> • 48 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-48TS-S	<ul style="list-style-type: none"> • 48 Ethernet 10/100/1000 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750G-48PS-E	<ul style="list-style-type: none"> • 48 Ethernet 10/100/1000 with IEEE 802.3af and Cisco prestandard PoE ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750G-48PS-S	<ul style="list-style-type: none"> • 48 Ethernet 10/100/1000 with IEEE 802.3af and Cisco prestandard PoE ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)

WS-C3750-48PS-E	<ul style="list-style-type: none"> • 48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750-48PS-S	<ul style="list-style-type: none"> • 48 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750-48TS-E	<ul style="list-style-type: none"> • 48 Ethernet 10/100 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750-48TS-S	<ul style="list-style-type: none"> • 48 Ethernet 10/100 ports • 4 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750-24PS-E	<ul style="list-style-type: none"> • 24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE • 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750-24PS-S	<ul style="list-style-type: none"> • 24 Ethernet 10/100 ports with IEEE 802.3af and Cisco prestandard PoE • 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Base software feature set (IPB)
WS-C3750-24TS-E	<ul style="list-style-type: none"> • 24 Ethernet 10/100 ports • 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch • Enterprise-class intelligent services delivered to the network edge • IP Services software feature set (IPS) • Provides full IPv6 dynamic routing
WS-C3750-24TS-S	<ul style="list-style-type: none"> • 24 Ethernet 10/100 ports • 2 SFP-based Gigabit Ethernet ports • 32-Gbps, high-speed stacking bus • Innovative stacking technology • 1 RU stackable, multilayer switch

	<ul style="list-style-type: none"> Enterprise-class intelligent services delivered to the network edge IP Base software feature set (IPB)
WS-C3750-24FS-S	<ul style="list-style-type: none"> 24 100BASE-FX ports 2 SFP-based Gigabit Ethernet ports 32-Gbps, high-speed stacking bus Innovative stacking technology 1 RU stackable, multilayer switch Enterprise-class intelligent services delivered to the network edge IP Base software feature set (IPB)
PWR-RPS2300	Cisco Redundant Power System 2300
BLNK-RPS2300=	Spare Bay Insert for Cisco Redundant Power System 2300
ACC-RPS2300=	Spare Accessory Kit for Cisco Redundant Power System 2300
CAB-RPS2300=	Spare RPS Cable for Cisco Redundant Power System 2300
CAB-RPS2300-E=	Spare RPS Cable RPS 2300 Cisco Catalyst 3750-E/356-E Series Switches
BLWR-RPS2300=	Spare 45CFM Blower for Cisco Redundant Power System 2300
PWR675-AC-RPS-N1=	675W Redundant Power Supply with 1 connector cable
CAB-RPS-1614=	1 RPS 675 connector cable 16/14
CD-3750G-EMI=	<ul style="list-style-type: none"> IP Services image upgrade kit for standard versions of the Cisco Catalyst 3750G-24TS, 3750G-24T, 3750G-24TS-1U, 3750G-24PS, and 3750G-12S switches Provides advanced IP routing
CD-3750G-48EMI=	<ul style="list-style-type: none"> IP Services image upgrade kit for standard versions of the Cisco Catalyst 3750G-48TS and 3750G-48PS switches Provides advanced IP routing
CD-3750-EMI=	<ul style="list-style-type: none"> IP Services image upgrade kit for standard versions of the Cisco Catalyst 3750-48TS and 3750-24TS switches Provides advanced IP routing
CAB-STACK-50CM=	Cisco StackWise 50-cm stacking cable
CAB-STACK-1M=	Cisco StackWise 1-m stacking cable
CAB-STACK-3M=	Cisco StackWise 3-m stacking cable
RCKMNT-3550-1.5RU=	Spare rack-mount kit for the Cisco Catalyst 3750G-24TS
RCKMNT-1RU=	Spare rack-mount kit for the Cisco Catalyst 3750-24TS, 3750-48TS, and 3750G-24T
RCKMNT-REC-1.5RU=	1.5 RU recessed rack-mount kit for the Cisco Catalyst 2970, 3550, and 3750
RCKMNT-REC-1RU=	1 RU recessed rack-mount kit for the Cisco Catalyst 2970, 3550, and 3750
GLC-LH-SM=	GE SFP, LC connector, LH transceiver
GLC-SX-MM=	GE SFP, LC connector, SX transceiver
GLC-ZX-SM=	GE SFP, LC connector, ZX transceiver
GLC-BX-D=	1000Base BX SFP, 1490 nm IEEE 802.3ah single-mode fiber
GLC-BX-U=	1000Base BX SFP, 1310 nm IEEE 802.3ah single-mode fiber
GLC-T=	GE SFP, RJ-45 connector, 10/100/1000BASE-T transceiver
GLC-BX-D=	1000Base BX SFP, 1490 nm IEEE 802.3ah single-mode fiber
GLC-BX-U=	1000Base BX SFP, 1310 nm IEEE 802.3ah single-mode fiber
GLC-GE-100FX=	100FX SFP on GE SFP ports for DSBU switches
CWDM-SFP-1470=	Cisco CWDM SFP 1470 nm; GE and 1G/2G FC (Grey)
CWDM-SFP-1490=	Cisco CWDM SFP 1490 nm; GE and 1G/2G FC (Violet)
CWDM-SFP-1510=	Cisco CWDM SFP 1510 nm; GE and 1G/2G FC (Blue)
CWDM-SFP-1530=	Cisco CWDM SFP 1530 nm; GE and 1G/2G FC (Green)
CWDM-SFP-1550=	Cisco CWDM SFP 1550 nm; GE and 1G/2G FC (Yellow)
CWDM-SFP-1570=	Cisco CWDM SFP 1570 nm; GE and 1G/2G FC (Orange)
CWDM-SFP-1590=	Cisco CWDM SFP 1590 nm; GE and 1G/2G FC (Red)
CWDM-SFP-1610=	Cisco CWDM SFP 1610 nm; GE and 1G/2G FC (Brown)

DWDM-SFP-3033=	DWDM SFP 1530.33 nm SFP (100 GHz ITU grid)
DWDM-SFP-3112=	DWDM SFP 1531.12 nm SFP (100 GHz ITU grid)
DWDM-SFP-3190=	DWDM SFP 1531.90 nm SFP (100 GHz ITU grid)
DWDM-SFP-3268=	DWDM SFP 1532.68 nm SFP (100 GHz ITU grid)
DWDM-SFP-3425=	DWDM SFP 1534.25 nm SFP (100 GHz ITU grid)
DWDM-SFP-3504=	DWDM SFP 1535.04 nm SFP (100 GHz ITU grid)
DWDM-SFP-3582=	DWDM SFP 1535.82 nm SFP (100 GHz ITU grid)
DWDM-SFP-3661=	DWDM SFP 1536.61 nm SFP (100 GHz ITU grid)
DWDM-SFP-3819=	DWDM SFP 1538.19 nm SFP (100 GHz ITU grid)
DWDM-SFP-3898=	DWDM SFP 1538.98 nm SFP (100 GHz ITU grid)
DWDM-SFP-3977=	DWDM SFP 1539.77 nm SFP (100 GHz ITU grid)
DWDM-SFP-4056=	DWDM SFP 1540.56 nm SFP (100 GHz ITU grid)
DWDM-SFP-4214=	DWDM SFP 1542.14 nm SFP (100 GHz ITU grid)
DWDM-SFP-4294=	DWDM SFP 1542.94 nm SFP (100 GHz ITU grid)
DWDM-SFP-4373=	DWDM SFP 1543.73 nm SFP (100 GHz ITU grid)
DWDM-SFP-4453=	DWDM SFP 1544.53 nm SFP (100 GHz ITU grid)
C3-XENPAK-10GB-LR=	10GBASE-LR, up to 10 km single mode fiber
XENPAK-10GB-ER	10GBASE-ER, up to 40 km single-mode fiber
CSS5-CABLX-LCSC=	CSS11500 10 m single-mode fiber, LX LC-to-SC connectors
CSS5-CABSX-LC=	CSS11500 10 m multimode fiber, SX LC connectors
CSS5-CABSX-LCSC=	CSS11500 10 m multimode fiber, SX LC-to-SC connectors
CAB-SM-LCSC-1M	1 m single-mode fiber, LC-to-SC connectors
CAB-SM-LCSC-5M	5 m single-mode fiber, LC-to-SC connectors
CAB-MCP-LC=	Mode-conditioning patch cable; LC connector



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