Cisco 3800 Series Integrated Services Routers

Cisco 3825 and Cisco 3845

Cisco redefines branch-office routing with a portfolio of integrated services routers optimized for secure, wire-speed delivery of concurrent data, voice, video, and wireless services. Founded on 20 years of innovation, the Cisco® 3800 Series Integrated Services Routers offer exceptional network agility, performance, and intelligence. These routers transparently integrate advanced technologies, adaptive services, and secure enterprise communications into a single, resilient system. They ease deployment and management, lower network cost and complexity, and provide excellent investment protection (Figure 1).

The Cisco 3800 Series Routers feature embedded security processing, generous performance, high memory capacity, and high-density interfaces that deliver the performance, availability, and reliability required for scaling mission-critical security, IP telephony, business video, network analysis, and web applications in the most demanding enterprise environments. Built for performance, these routers deliver multiple concurrent services up to wire-speed T3/E3 rates.

Figure 1. Cisco 3825 and 3845 Integrated Services Routers

Product Overview

The integrated services routing architecture of the Cisco 3800 Series is designed to embed and integrate security and voice processing with advanced wired and wireless services for rapid deployment of new applications, including application layer functions, intelligent network services, and converged communications. These routers support the bandwidth requirements for multiple Fast Ethernet interfaces per slot, time-division multiplexing (TDM) interconnections, and fully integrated power distribution to modules supporting 802.3af Power over Ethernet (PoE). And at the same time they still support the existing portfolio of modular interfaces, thereby ensuring continued investment protection to accommodate network expansion or changes in technology as new services and applications are deployed. Uninterrupted business operations and business continuity is supported with WAN link redundancy, On-line Insertion and Removal (OIR) and redundant power supply configurations. By integrating the functions of multiple separate devices into a single compact unit, the Cisco 3800 Series Routers dramatically reduce the cost and complexity of managing remote networks.

The Cisco 3800 Series includes the Cisco 3825 and Cisco 3845 Series Routers. These routers integrate a comprehensive set of security features such as firewall, IPSec and Secure Sockets Layer (SSL) VPN, intrusion prevention system (IPS), and voice call processing with advanced wired and wireless services for rapid deployment of new applications that include application layer functions, intelligent network services, and converged communications. The Cisco 3800 Series is available in three optional configurations:

- AC power
- AC power with integrated inline power support
- DC power

In addition, two new models, C3825-NOVPN and C3845-NOVPN, offer all the features supported by the Cisco 3825 and Cisco 3845 Series, with the exception of VPN payload encryption and secure voice features. These two new models provide a limited set of security features, such as firewall, and IPS, compared to the Cisco 3825 and Cisco 3845 Series Routers.

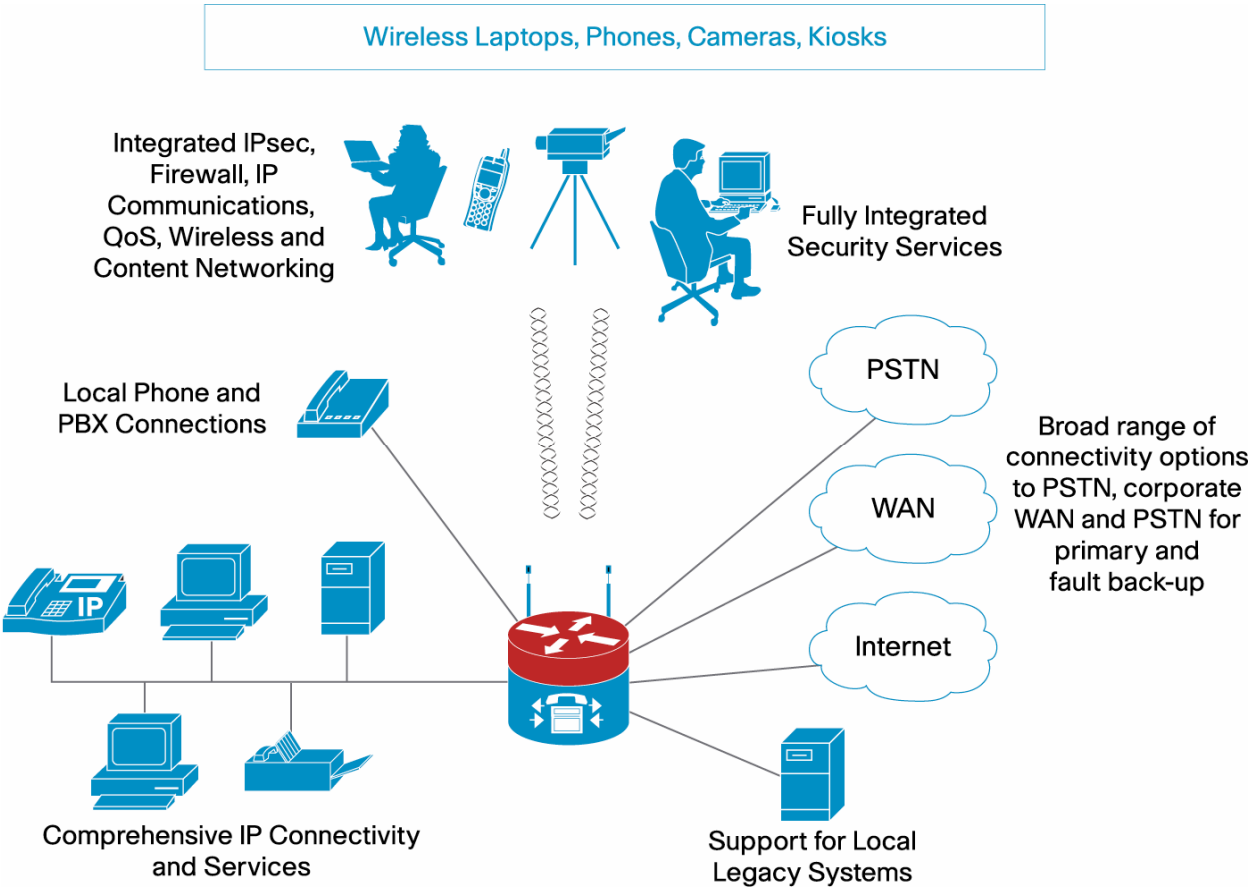
Secure Network Connectivity for Data, Voice, and Video

An important component of the Cisco Self-Defending Network, the Cisco 3800 Series Routers feature the industry's most comprehensive security services embedded and integrated within the router, offering you a single, resilient platform to rapidly deploy secure networks and applications.

Cisco integrated services routers provide advanced security services and management capabilities such as built-in hardware encryption acceleration, IP Security (IPSec), VPN (Advanced Encryption Standard [AES], Triple Digital Encryption Standard [3DES], DES, and Multiprotocol Label Switching [MPLS]), stateful firewall protection, dynamic intrusion prevention (IPS), and URL filtering support. Cisco IOS® Software security feature sets enable all of these rich security features, as well as applications such as Cisco Network Admission Control (NAC), Dynamic Multipoint VPN (DMVPN), and Voice and Video Enabled VPN (H-VSEC).

For ease of management and configuration, the Cisco 3800 Series also features the intuitive, web-based Cisco Router and Security Device Manager (SDM) and Cisco Configuration Professional For secure services management, every Cisco integrated services router supports Secure Shell Protocol Version 2 (SSHv2) and Simple Network Management Protocol Version 3 (SNMPv3) to encrypt the management session.

Figure 2. Secure Network Connectivity with Converged IP Communications



Unified Communications

Cisco integrated services routers provide a unique platform for media-rich collaboration experience, including voice, video, and data across business, government agency, and institutional workspaces. The security, resilience, and scalability of the network enables users in any workspace to connect everywhere, every time, and everyone. As shown in Figure 2, the Cisco 3800 Series meets the Unified Communications needs of midsize to large enterprise branch offices, while delivering industry-leading security within a single routing platform. With embedded voice services inside the router, you have maximum deployment flexibility, plus higher densities for stations, trunks, and conferencing.

Unified Communications (UC) is enabled via a rich signaling and media processing infrastructure, including a variety of protocols, media interworking, signal and media security, transcoding, conferencing, and quality of service. Cisco integrated services routers feature the widest range of voice-gateway interfaces, supporting a broad array of signaling and physical network interfaces. In addition, the Cisco Unified Border Element (CUBE) enables IP trunking capability. CUBE functions provide a network-to-network demarcation and interface point for billing, security, call admission control (CAC), quality of service (QoS), and signal interworking.

Cisco integrated services routers offer the award-winning Cisco Unified Communications Manager Express (CUCME) IP telephony solution for wired and cordless wireless LAN (WLAN) phones. For larger, centralized Unified Communications deployments employing Cisco Unified Communications Manager, one can deploy Cisco Unified Survivable Remote Site Telephony (SRST) with the Cisco 3800 Series Routers. SRST provides high availability with feature-rich call-processing redundancy in the event connection to the centralized Cisco Unified Communications Manager is lost. Cisco Unity Express provides integrated branch office messaging capability. Cisco Unified Border

Element (CUBE) can be deployed for connecting to service provider Session Initiation Protocol (SIP) trunk solutions or across various unified communications solutions. Small offices and branch offices can take advantage of a complete, all-in-one data, voice-processing, voicemail, and Automated-Attendant system by adding a Cisco Unity® Express advanced integration module (AIM) or network module to this solution.

Cisco 3800 Series Routers also feature the widest range of voice-gateway interfaces, scaling to meet the requirements of all sizes of branch offices for voice termination densities using a combination of SIP trunk software, network modules, extension voice modules (EVMs), voice interface cards (VICs), voice/WAN interface cards (VWICs), and onboard packet voice DSP modules (PVDMs). These routers offer scalability to support up to 24 T1/E1 trunks and 88 foreign-exchange-station (FXS) ports for analog phones, fax machines, key systems, and conference stations.

VoiceXML Solution Infrastructure

The Cisco 3800 Series Routers can interpret VoiceXML documents. VoiceXML is an open-standard markup language used to create voice-enabled Web browsers and IVR applications. Just as HTML enables users to retrieve data with a PC, VoiceXML enables subscribers to retrieve data using a telephone set. The accessibility of the telephone and its ease of use make VoiceXML applications a powerful alternative to HTML for accessing the information and services that the Internet provides. The Cisco VoiceXML Solution Infrastructure takes advantage of Cisco 3800 Series DSP resources, signaling, and media-conversion capabilities to execute VoiceXML application logic at the edge of the network, offloading servers and the network to support unified communications services.

The Cisco 3800 Series running a VoiceXML or TCL application can use Media Resource Control Protocol (MRCP) to control media resources on external media servers, such as speech synthesizers for text-to-speech (TTS) and speech recognizers for automatic speech recognition (ASR). The ability of this gateway to interact with ASR and TTS servers provides the capabilities required to satisfy the most demanding and advanced IVR solutions.

Wireless LAN and WAN Services

The Cisco 3800 Series can provide a complete wireless solution for branch offices, companies of all sizes, and Wi-Fi hotspots. Wireless services enable greater mobility for employees, partners, and customers, resulting in increased productivity. The Cisco 3800 Series supports an integrated access point for WLAN connectivity, Wi-Fi hotspot services for public access, wireless infrastructure services for cordless WLAN telephony and for larger sites, and land mobile radio over IP (LMRoIP) for radio users.

The Cisco 3G WWAN High-Speed WAN Interface Cards (HWICs) are tightly integrated with the services provided on the award-winning Cisco 3800 Series Integrated Services Routers, which deliver secure data, voice, video, and mobility services. When coupled with a service provider wireless data plan, the Cisco 3G WWAN HWICs provide a cost-effective, rapidly deployable, reliable, and secure backup solution for remote sites and branch offices. With data rates exceeding T1 speeds, third-generation (3G) networks provide an alternative to wireline backup solutions such as ISDN, cable, and DSL. If a network failure occurs, the Cisco integrated services router routes mission-critical data to the Cisco 3G WWAN HWIC for transmission across the wireless infrastructure. In addition, the router can distinguish different types of traffic and allow only mission-critical traffic to flow over the backup interface.

Video Surveillance

The Cisco Integrated Video Surveillance solution enables you to rapidly deploy highly distributed IP-enabled video surveillance at your offices while migrating traditional analog surveillance equipment to IP. Based on Cisco 2800 and 3800 Series Routers, the solution offers the lowest total cost of ownership (TCO) for the branch office, ease of integration through network transparency, reliable data interoperability, and maximized overall security. It allows you to consolidate costly branch-office servers and deploy new applications centrally while still offering real-time access to physical security video and data.

Integrated Services

Figure 2 also highlights the fact that with the unique integrated services architecture of the Cisco 3800 Series, you can securely deploy IP communications with traditional IP routing and still leave the network-module slots available for additional advanced services. With the optional integration of a wide array of services modules, the Cisco 3800 offers the ability to easily integrate the functions of standalone network appliances and components into the Cisco 3800 Series chassis itself. Many of these network modules, such as the Cisco Network Analysis Module (NAM), the Cisco Intrusion Prevention System (IPS), and Cisco Wide Area Application Services (WAAS) Network Modules, have embedded processors and hard drives that allow them to run largely independently of the router, while allowing their management from a single management interface. This flexibility greatly expands the potential applications of the Cisco 3800 Series beyond traditional routing while still maintaining the benefits of integration: ease of management, lower solution costs, and increased speed of deployment.

Application Integration

The Cisco Application eXtension Platform (AXP) enhances the capabilities of the Cisco ISR 3800 by enabling a tighter integration between the branch network, IT and application infrastructure. The Cisco AXP further lowers TCO by providing an open Linux based platform to develop and host custom and third party applications directly on the Cisco ISR. The Cisco AXP provides a standards-based Linux hosting environment within the integrated services router, allowing third parties to integrate applications with the router. Tightly integrated, the AXP environment is configured and managed through the router. Harnessing this integration, an AXP application can appear to the end user as an extension of the router.

Primary Features and Benefits

The global economy is increasingly reliant on networked enterprise applications and the Internet as indispensable tools for addressing urgent business challenges. Successful companies require secure, high-performance networks that can quickly adapt to support volatile business conditions while helping boost competitive advantage and increasing network efficiencies. They must invest in network infrastructure that uses essential technologies and easily enables improved models of communication without disruption to core business functions. The Cisco 3800 Series can help your company operate securely in a networked economy and easily implement network services that will improve your business without affecting existing operations or degrading network performance.

Table 1 gives the features and benefits of the Cisco 3800 Series.

Table 1. Features and Benefits of Cisco 3800 Series

Feature	Benefit
Architecture optimized for services growth	• This high-performance architecture is optimized for concurrent service deployment. • This architecture offers increased default and maximum memory for future services growth. • PVDM slots accommodate digital-signal-processor (DSP) modules for packet voice processing. • Enhanced chassis interfaces help enable exceptional performance and service densities. • Advanced service interfaces integrate applications directly into the router, without the need for separate appliances: ◦ NAM: Integrated traffic monitoring enables application-level visibility into network traffic for remote troubleshooting and traffic analysis. ◦ Cisco IPS Module: The Cisco IPS Module provides the ability to inspect all traffic traversing router interfaces (both inline and promiscuous mode); to identify unauthorized or malicious activity such as hacker attacks, worms, or denial-of-service attacks; and to terminate illegitimate traffic to suppress or contain threats. ◦ The Cisco WAAS Network Module delivers an application acceleration and WAN optimization solution that accelerates the performance of any TCP-based application delivered across a WAN.
Embedded security processing and best-in-class security feature support*	• Integrated hardware for offload of encryption services processing supports IPSec, 3DES, and AES 128, AES 192, and AES 256 encryption modes without the need for separate modules. • Cisco IOS Software features offer support for identifying, preventing, and adapting to security threats and maintaining a self-defending network. Features include Cisco IOS Firewall, Content Filtering, Flexible Packet Matching (FPM), Dynamic Multipoint VPN, Group Encrypted Transport VPN, and SSL VPN.

Ideal platform for integrated IP telephony	• Onboard DSPs: Integrated PVDMs support analog voice, digital voice, conferencing, transcoding, and Secure Real-Time Transport Protocol (SRTP) media while enabling network-module or AIM slots for switching, concurrent applications, content, and voicemail. The DSPs enable packet voice technologies, including voice-over-IP (VoIP) protocols such as H.323, Media Gateway Control Protocol (MGCP), and SIP; voice over Frame Relay (VoFR); and voice over ATM (VoATM, including ATM Adaption Layer 5 [AAL5] and AAL2 adaptation layers). • The platform offers scalability for centralized and distributed call processing: ◦ SRST with centralized Cisco Unified Communications Manager: Up to 730 phones ◦ Cisco Unity Express [[cannot use this acronym for legal reasons]] voicemail: Up to 250 mail boxes ◦ Cisco Unified Communications Manager Express IP Phones: Up to 250 IP phones ◦ Small to large branch-office connectivity: Up to 24 T1/E1 trunks ◦ Analog phones, fax machines, key systems, and conference stations: Up to 88 FXS ports ◦ Local or long-distance calling with the EVM module: Up to 48 foreign-exchange-office (FXO) or 32 Basic Rate Interface (BRI) ports • Cisco IOS Software delivers customized features and applications, such as Tool Command Language (TCL) and VoiceXML support. • Secure calls are possible with Cisco Unified Communications Manager and Cisco IP Phones using the Cisco 3800: ◦ Offers standards-based, secure media and signaling authentication and encryption from IP phone to IP phone, IP phone to analog phone or public-switched-telephone-network (PSTN) gateway using IPsec, Transport Layer Security (TLS), and SRTP ◦ Maintains channel capacity for medium- and high-complexity codecs
Integrated wireless support	• WWAN connectivity: ◦ Cisco 3G Wireless WAN HWICs, when coupled with a service provider wireless data plan, provide a cost-effective, rapidly deployable, reliable, and secure backup solution for remote sites and branch offices. ◦ Two types of Cisco 3G Wireless WAN HWICs are available: Code Division Multiple Access (CDMA; part number HWIC-3G-CDMA-x [where x reflects the wireless carrier]) and Global System for Mobile Communications (GSM; part number HWIC-3G-GSM). • WLAN connectivity: ◦ You can use the 802.11b/g or 802.11a/b/g HWIC access-point interface card to provide integrated WLAN connectivity to mobile clients at sites requiring a single access point, resulting in mobility and enhanced productivity for your employees. ◦ Dual RP-TNC connectors enable diversity and allow for optimum coverage through the use of external antennas. • Wireless infrastructure services: ◦ Telephony support for wired and WLAN IP phones is delivered by Cisco Unified Communications Manager Express (CME) or by Cisco Unified SRST with Cisco Unified Communications Manager. Cordless WLAN IP phones allow you to be mobile and more productive. ◦ Integrated switch modules with PoE enable support for 802.3af-compliant devices such as wireless access points and wired IP phones. ◦ Mobility for clients from WLAN to cellular networks is enabled by mobile IP home agent support. ◦ IEEE 802.1x local authentication using Lightweight Extensible Authentication Protocol (LEAP) provides enhanced reliability through survivable authentication for WLAN clients during WAN failures. ◦ Customizable guest access is enabled with the service-selection-gateway features, along with the Cisco Subscriber Edge Services Manager. • LMRoIP: ◦ LMRoIP support allows radio users (for example, security personnel, maintenance personnel, police officers, etc.) to communicate over IP with phone and PC users, delivering improved communications and productivity. • Wi-Fi hotspot services: ◦ You can use the access-zone router and service-selection-gateway services features to deploy secure public WLAN access services with an integrated HWIC access point for small sites or with Cisco access points for larger sites. You can offer Wi-Fi hotspot services for additional revenue for public locations (for example, restaurants, hotels, airports, etc.) or a value-added service for customer satisfaction.
Application Integration	AXP capabilities of the ISRs improves total cost of ownership (TCO) for deployed branch-office applications by enabling complete, unified solutions. Enterprises, managed service providers (MSPs), and integrators can use AXP to: ◦ Integrate custom applications and services into the integrated services routers ◦ Differentiate themselves from their competitors ◦ Provide complete end-to-end integrated single-box solutions
Investment protection	Field-upgradable, modular components are supported on the Cisco 3800 Series, allowing you to easily change network interfaces without upgrading your entire branch-office network. The Cisco 3800 Series takes advantage of the existing portfolio of WICs, VICs, network modules, and AIMs to reduce sparing, training, configuration, installation, and maintenance costs.

Availability	The Cisco 3800 Series minimizes downtime with a wide variety of availability features. • The Cisco 3845 supports internal redundant power with any combination of the three supported power supplies - AC, AC-IP & DC. When redundancy for PoE is required, only the combination of two AC-IP power supplies with integrated inline power is supported. • The Cisco 3825 support external redundant power supplies - RPS2300 and RPS675 • Error checking and correcting (ECC) memory for improved fault isolation and correction • USB flash memory for ease of image recovery • Advance temperature monitoring and variable-speed cooling fans • Cisco IOS Software Warm Reboot for improved bootup times Network-module online insertion and removal (OIR), and field-replaceable components such as fan tray, motherboard, and power supplies (Cisco 3845 only)

* Payload encryption is not supported on models with part number C3825-NOVPN and C3845-NOVPN.

Product Architecture

Table 2 lists the features of the Cisco 3825 and 3845 Integrated Services Routers.

Table 2. Features of Cisco 3825 and Cisco 3845 Models

Cisco 3800 Series Features	Cisco 3825/3825-NOVPN	Cisco 3845/3845-NOVPN
Network-module slots: These slots can accommodate a standard network module, enhanced network module (NME), enhanced extended network module (NME-X), and high-density extension module (EVM-HD). The NME-X, when available, will have a wider form factor than the NME. You can combine two side-by-side NME slots to accommodate one double-wide network module (NMD) or when available, a double-wide enhanced extended network module (NME-XD).	• NM • NME • NME-X • NMD • NME-XD • EVM-HD	• NM • NME • NME-X • NMD • NME-XD • EVM-HD
Maximum number of network modules, NMEs, and NME-Xs supported	2	4
Maximum number of NMD/NME-XDs supported	1	2
Maximum number of EVM-HDs supported	1	2
Number of HWIC slots (These HWIC slots also support VICs, VWICs, and WICs.)	4	4
Number of fixed LAN ports (fixed RJ-45 port for 10/100/1000 connectivity)	2 Gigabit Ethernet (10/100/1000)	2 Gigabit Ethernet (10/100/1000)
Number of fixed Small Form-Factor Pluggable (SFP) ports (for SFP Gigabit Ethernet connectivity)	1	1
Number of AIM slots (for optional AIMs for offloading compute-intensive features)	2	2
Number of PVDM slots (for optional PVDM2s)	4	4
Number of USB 1.1 ports (for future use with USB flash memory, security tokens for secure Cisco IOS Software configuration distribution, and off-platform storage of VPN credentials)	2	2
Embedded VPN (hardware-based VPN encryption acceleration)	Yes*	Yes*
Number of console ports (up to 115.2 kbps)	1	1
Number of auxiliary ports (up to 115.2 kbps)	1	1
Memory: External Compact Flash and internal double-data-rate (DDR) synchronous dynamic RAM (SDRAM) with ECC**	• Default: 128-MB Compact Flash; 512-MB DDR SDRAM • Maximum: 512-MB Compact Flash; 1-GB DDR SDRAM	• Default: 128-MB Compact Flash; 512-MB DDR SDRAM • Maximum: 512-MB Compact Flash; 1-GB DDR SDRAM

* Part numbers C3825-NOVPN and C3845-NOVPN do not support embedded VPN.
**Advance IOS feature sets may require additional memory. Please check Dynamic Configurator Tool or Cisco Software Advisor for memory requirements.

Summary

The Cisco 3800 Series introduces best-in-class routing, security, and voice technologies embedded into the router fabric, making it possible for your enterprise to securely deliver concurrent, mission-critical services and applications at wire-speed performance. The Cisco 3800 Series extends network capabilities and productivity from the corporate headquarters to the branch offices for increased operational efficiencies and end-user productivity. The advanced adaptability and modularity of the Cisco 3800 Series Routers offers you a wide variety of network interfaces and services, including VPN IPsec, intrusion detection, IP communications, WLAN services, integrated switching, business video, URL filtering, application optimization, DSL, ATM access, and serial device aggregation. By consolidating the functions of multiple, separate services into a single, resilient platform you can easily manage and deploy, Cisco offers your business the industry's leading routing platforms for growth and investment protection.

Product Specifications

Table 3 gives the specifications of the Cisco 3825 and 3845 Series Integrated Services Routers.

Table 3. Specifications of Cisco 3825 and 3845

Cisco 3800 Series Features	Cisco 3825/3825-NOVPN	Cisco 3845/3845-NOVPN
Physical Specifications		
Dimensions (H x W x D)	• 3.5 x 17.1 x 14.7 in. • 2 rack units (2RU)	• 5.25 x 17.25 x 16 in. • 3RU
Weight (minimum)	23 lb	35 lb
Rack-mounting	Yes, 19- and 23-in. options	Yes, 19- and 23-in. options
Wall-mounting	No	No
Power Specifications		
AC input voltage	100–240 VAC, autoranging	100–240 VAC, autoranging
AC input frequency	47–63 Hz	47–63 Hz
AC input current	• 3A (110V) • 2A (230V) • Startup current 50A maximum (one cycle)	• 4A (110V) • 2A (230V) • Startup current 50A maximum (one cycle)
AC IP input current	• 8A (110V) • 4A (230V) • Startup current 50A maximum (one cycle)	• 8A (110V) • 4A (230V) • Startup current 50A maximum (one cycle)
DC input voltage	24–60 VDC, autoranging positive or negative	24–60 VDC, autoranging positive or negative
DC input current	• 12A (24V) • 5A (60V) • Startup current 50A<10 ms	• 18A (24V) • 7A (60V) • Startup current 50A<10 ms
Output	• AC or DC power supply: ◦ 210W for system • AC IP power supply: ◦ 210W for system ◦ 360W for IP phones (–48V)	• AC or DC power supply: ◦ 300W for system • AC IP power supply: ◦ 300W for system ◦ 360W for IP Phones (–48V)
Redundant power supply (RPS)	External only (Cisco RPS 675 Redundant Power System)	Internal AC, AC IP, or DC RPS
Recommended RPS unit	Cisco RPS 2300 (recommended) and RPS 675 Redundant Power System	--
Power Dissipations		
Typical power dissipation (no modules)	52W (177 BTU/hr)	79W (269 BTU/hr)
AC without IP phone support	300W (1025 BTU/hr)	435W (1485 BTU/hr)
AC with IP phone support: System only	370W (1262 BTU/hr)	555W (1890 BTU/hr)
AC with IP phone support: IP phones	360W (1128 BTU/hr)	360W (1128 BTU/hr)
DC	325W (1100 BTU/hr)	460W (1570 BTU/hr)

Environmental Specifications		
Operating temperature	32 to 104°F (0 to 40°C)	32 to 104°F (0 to 40°C)
Nonoperating temperature	–40 to 158°F (–40 to 70°C)	–40 to 158°F (–40 to 70° C)
Relative humidity (noncondensing)	5–85% noncondensing	5–85% noncondensing
Maximum operating temperature at altitude	40°C at sea level 40°C at 6,000 ft (1,800m) 30°C at 13,000 ft (4,000m) 27.2°C at 15,000 ft (4,600m) Note: Derate 1.4°C per 1,000 ft above 6,000 ft	40°C at sea level 40°C at 6,000 ft (1,800m) 30°C at 13,000 ft (4,000m) 27.2°C at 15,000 ft (4,600m) Note: Derate 1.4°C per 1,000 ft above 6,000 ft
Noise level (minimum)	50 dBa typical, 53 dBa maximum	56 dBa typical, 58 dBa maximum
Regulatory Compliance		
Safety	• UL 60950 • CAN/CSA C22.2 No. 60950 • EN 60950 • AS/NZS 60950	• UL 60950 • CAN/CSA C22.2 No. 60950 • EN 60950 • AS/NZS 60950
EMC	• 47 CFR, Part 15 • ICES-003 Class A • EN55022 Class A • CISPR22 Class A • AS/NZS 3548 Class A • VCCI V-3 • EN 300386 • EN 61000	• 47 CFR, Part 15 • ICES-003 Class A • EN55022 Class A • CISPR22 Class A • AS/NZS 3548 Class A • VCCI V-3 • EN 300386 • EN 61000
Telcom	• 47 CFR, Part 68 • TIA/EIA/IS-968 • CS-03 • RTTE Directive	• 47 CFR, Part 68 • TIA/EIA/IS-968 • CS-03 • RTTE Directive

Supported Modules

Cisco 3800 Series support a wide range of modules that span industry leading breadth of services at the branch. Please refer to the link below for the list of modules supported on the Cisco 3800 Series:
http://www.cisco.com/en/US/products/ps5855/products_relevant_interfaces_and_modules.html

Ordering Information

To place an order, visit the Cisco Ordering Home Page. Table 5 gives further ordering information for the Cisco 3800 Series.

Table 4. Ordering Information for Cisco 3800 Series*

Cisco 3800 Series Features	Configuration
CISCO3825	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one Small Form-Factor Pluggable (SFP) slot, two enhanced network modules (NMEs), four high-speed WAN interface cards (HWICs), two Advanced Integration Module (AIM) slots, four PVDM slots, Cisco IP Base software, and AC power
CISCO3825-AC-IP	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, two NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and Inline Power
CISCO3825-DC	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, two NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and DC power
CISCO3845	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, 4 PVDM slots Cisco IP Base software, and AC power
CISCO3845-AC-IP	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and Inline Power
CISCO3845-DC	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and DC power
C3825-NOVPN	Cisco 3825 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, two NMEs, four HWICs, two AIM slots, four PVDM slots, Cisco IP Base software, and AC power

C3845-NOVPN	Cisco 3845 integrated services router with two Gigabit Ethernet fixed LAN ports, one SFP slot, four NMEs, four HWICs, two AIM slots, 4 PVDM slots Cisco IP Base software, and AC power
Voice Bundles	
CISCO3825-V/K9	3825 Voice Bundle, PVDM2-64, SP Serv,128 MB Flash, 512 MB DRAM
CISCO3825-SRST/K9	3825 Voice Bundle with PVDM2-64, FL-SRST-175, SP Serv, 128 MB Flash, 512 MB DRAM
CISCO3825-CCME/K9	3825 Voice Bundle with PVDM2-64, FL-CCME-175, SP Serv, 128 MB Flash, 512 MB DRAM
CISCO3845-V/K9	3845 Voice Bundle, PVDM2-64, SP Serv, 128 MB Flash, 512 MB DRAM
CISCO3845-SRST/K9	3845 Voice Bundle with PVDM2-64, FL-SRST-250, SP Serv, 128 MB Flash, 512 MB DRAM
CISCO3845-CCME/K9	3845 Voice Bundle with PVDM2-64, FL-CCME-250, SP Serv, 128 MB Flash, 512MB DRAM
Secure Voice Bundles	
C3825-H-VSEC/K9	3825H.Perf.VSEC:AIM-VPN2/SSL, PVDM2, CCME/SRST, AIS, 512F/1024D
C3845-H-VSEC/K9	3845H.Perf.VSEC:AIM-VPN2/SSL, PVDM2, CCME/SRST, AIS, 512F/1024D
C3825-VSEC/K9	3825 Voice Security Bundle, PVDM2-64, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3825-VSEC-CCME/K9	3825 VSEC Bundle with PVDM2-64, FL-CCME-175, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3825-VSEC-SRST/K9	3825 VSEC Bundle with PVDM2-64, FL-SRST-175, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3845-VSEC/K9	3845 Voice Security Bundle, PVDM2-64, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3845-VSEC-CCME/K9	3845 VSEC Bundle with PVDM2-64, FL-CCME-250, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3845-VSEC-SRST/K9	3845 VSEC Bundle with PVDM2-64, FL-SRST-250, Adv IP Serv, 128 MB Flash, 512 MB DRAM
C3825-VSEC-CUBE/K9	3825 CUBE VSEC Bundle w/PVDM2-64,FL-CUBE-300,IVS,128F/512D
C3845-VSEC-CUBE/K9	3845 CUBE VSEC Bundle w/PVDM2-64,FL-CUBE-400,IVS,128F/512D
Security Bundles	
CISCO3825-SEC/K9	3825 Security Bundle, Advanced Security, 128 MB Flash, 512 MB DRAM
CISCO3845-SEC/K9	3845 Security Bundle, Advanced Security, 128 MB Flash, 512 MB DRAM
CISCO3825-HSEC/K9	3825 Security Bundle, AIM-VPN/SSL-3, Adv. IP Serv, 128 MB Flash, 512 MB DRAM
CISCO3845-HSEC/K9	3845 Security Bundle, AIM-VPN/SSL-3, Adv. IP Serv, 128 MB Flash, 512 MB DRAM
CISCO-FIPS-KIT=	Tamper Proof for 80/18/28/38/72/73 Routers and ASA
C3825-FIPS-SHIELD=	FIPS Opacity Shield for Cisco 3825
C3845-FIPS-SHIELD=	FIPS Opacity Shield for Cisco 3845
Unified Communications Bundles	
C3845-35UC/K9	Cisco 3845 Unified Communications Bundle with IOS SP Services, PVDM2-64, NME-CUE, 35 User Licenses (CCME, CUE and Phone User licenses), 10 Unified CallConnector Personal Licenses, 128MB Flash/512MB DRAM
C3825-35UC/K9	Cisco 3825 Unified Communications Bundle with IOS SP Services, PVDM2-64, NME-CUE, 35 User Licenses (CCME, CUE and Phone User licenses), 10 Unified CallConnector Personal Licenses, 128MB Flash/512MB DRAM
C3845-35UC-VSEC/K9	Cisco 3845 Unified Communications Bundle with IOS Advanced IP Serv, PVDM2-64, NME-CUE, 35 User Licenses (CCME, CUE and Phone User licenses), 10 Unified CallConnector Personal Licenses, 128MB Flash/512MB DRAM
C3825-35UC-VSEC/K9	Cisco 3825 Unified Communications Bundle with IOS Advanced IP Serv, PVDM2-64, NME-CUE, 35 User Licenses (CCME, CUE and Phone User licenses), 10 Unified CallConnector Personal Licenses, 128MB Flash/512MB DRAM
WAN Optimization Bundles	
CISCO3845-WAE/K9	3845, NME-WAE-502/K9,WAAS Trans,AdvSec,128F/512D
CISCO3825-WAE/K9	3825, NME-WAE-502/K9,WAAS Trans,AdvSec,128F/512D
USB Flash Storage	
MEMUSB-64FT	64MB USB Flash
MEMUSB-128FT	128MB USB Flash
MEMUSB-256FT	256MB USB Flash
Compact Flash	
MEM3800-128U256CF	128 to 256 MB CF Factory Upgrade for Cisco 3800 Series
MEM3800-128U512CF	128 to 512 MB CF Factory Upgrade for Cisco 3800 Series
MEM3800-64CF=	64MB Compact Flash for Cisco 3800 Series Routers

MEM3800-128CF=	128MB Compact Flash for Cisco 3800 Series Routers
MEM3800-256CF=	256MB Compact Flash for Cisco 3800 Series Routers
DRAM Memory	
MEM3800-256D=	256MB DIMM DDR DRAM for the Cisco 3800 Series
MEM3800-512D=	512MB DIMM DDR DRAM for the Cisco 3800 Series
MEM3800-512U768D	512 to 768MB DRAM factory upgrade for 3800
MEM3800-512U1024D	512 to 1024MB DRAM factory upgrade for 3800
Fan Accessories	
ACS-3825-FANS=	3825 Fan assembly
CISCO3845FANASSY=	Cisco 3845 Fan Assembly and Bezel

* Cisco 3800 Integrated Services Router memory requirements and bundle configurations are subject to change. Advance IOS feature sets and images may require higher system memory. Please check the Cisco Configuration Tool and Cisco Software Download Center for updated information

Table 5 lists the Cisco IOS Software feature sets that the Cisco 3825 and the Cisco 3845 support.

Table 5. Cisco IOS Software Feature Sets that Cisco 3825 and Cisco 3845 Support

Cisco IOS Software Feature Sets	Cisco 3825	Cisco 3845	C3825-NOVPN	C3845-NOVPN
IP Base	S382IPBK9	S384IPBK9	S382NIPK9	S384NIPK9
IP Base without encryption	S382IPB	S384IPB	S382NIPB	S384NIPB
IP VOICE	S382IPVK9	S384IPVK9	S382NIPVK9	S384NIPVK9
IP VOICE without encryption	S382IPV	S384IPV	S382NIPV	S384NIPV
ENTERPRISE BASE	S382EBK9	S384EBK9	S382NEBK9	S384NEBK9
ENTERPRISE BASE without encryption	S382EB	S384EB	S382NEB	S384NEB
ADVANCED SECURITY	S382ASK9	S384ASK9	S382NASK9*	S384NASK9*
SP SERVICES	S382SPSK9	S384SPSK9	S382NSPK9	S384NSPK9
ENTERPRISE SERVICES	S382ESK9	S384ESK9	S382NESK9	S384NESK9
ENTERPRISE SERVICES without encryption	S382ES	S384ES	S382NES	S384NES
ADVANCED IP SERVICES	S382AISK9	S384AISK9	S382NAIK9*	S384NAIK9*
ADVANCED ENTERPRISE SERVICES	S382AES9	S384AESK9	S382NAEK9*	S384NAEK9*
INTEGRATED VOICE/VIDEO: GK, IPIP GW, TDMIP GW	S382IVS	S384IVS	S382NIVS	S384NIVS
INTEGRATED VOICE/VIDEO: GK, IPIP GW, TDMIP GW AES	S382AVSK9	S384AVSK9	S382NAVK9	S384NAVK9
ADVANCED ENTERPRISE SERVICES WITH SNA SWITCHING	S382SNAK9	S34SNAK9	S382NSNK9*	S384NSNK9*

*These images do not support VPN Payload Encryption (IPSEC or SSL).

Table 6 lists the Cisco IOS Software feature licenses available for the Cisco 3800 Series.

Table 6. Cisco IOS Software Feature Licenses for the Cisco 3800 Series

Part Number	Cisco IOS Software Feature License Description
Cisco Unified Communication Manager Express and Survivable Remote Site Telephony Feature Licenses	
FL-CCME-25	Feat Lic. Communications Manager Express Up To 25 Users
FL-CCME-35	Feat Lic. Communications Manager Express Up To 35 Users
FL-CCME-50	Feat Lic. Communications Manager Express Up To 50 Users
FL-CCME-100	Feat Lic. Communications Manager Express Up To 100 Users
FL-CCME-175	Feat Lic. Communications Manager Express Up To 175 Users
FL-CCME-250	Feat Lic. Communications Manager Express Up To 250 Users

FL-SRST-25	Feat Lic Survivable Remote Site Telephony up to 25 Users
FL-SRST-35	Feat Lic Survivable Remote Site Telephony up to 35 Users
FL-SRST-50	Feat Lic Survivable Remote Site Telephony up to 50 Users
FL-SRST-100	Feat Lic Survivable Remote Site Telephony up to 100 Users
FL-SRST-175	Feat Lic Survivable Remote Site Telephony up to 175 Users
FL-SRST-250	Feat Lic Survivable Remote Site Telephony up to 250 Users
FL-SRST-480	Feat Lic Survivable Remote Site Telephony up to 480 Users
Land Mobile Radio Feature License	
FL-LMR	Land Mobile Radio Feature License (2600XM, 2691, 2811, 2821, 2851, 3700, 3800)
Voice XML Feature Licenses	
FL-VXML-1	VoiceXML Feature License For 1 Session
FL-VXML-12	VoiceXML Feature License Up To 12 Sessions
IP Mobility Gateway Feature Licenses	
FL-IPMOBGW-100=	IP Mobility Gateway Feature Set-up to 100 Users
FL-IPMOBGW-500=	IP Mobility Gateway Feature Set-up to 500 Users
FL-IPMOBGW-1000=	IP Mobility Gateway Feature Set-up to 1000 Users
Cisco Unified Border Element Licenses	
FL-CUBE-4	Cisco Unified Border Element Up to 4 Concurrent SIP Trunk or CUBE calls
FL-CUBE-25	Cisco Unified Border Element Up to 25 Concurrent SIP Trunk or CUBE calls
FL-CUBE-100	Cisco Unified Border Element Up to 100 Concurrent SIP Trunk or CUBE calls

Service and Support

Leading-edge technology deserves leading-edge support. Cisco SMARTnet® technical support for the Cisco 3800 Series is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation. All support contracts include:

- Major Cisco IOS Software updates in protocol, security, bandwidth, and feature improvements
- Full access rights to Cisco.com technical libraries for technical assistance, electronic commerce, and product information
- Access to the industry's largest dedicated technical support staff 24 hours a day

Services from Cisco and our certified partners can help you reduce the cost and complexity of branch deployments. We have the depth and breadth of experience across technologies to architect a blueprint for a branch solution to meet your company's needs. Planning and design services align technology with business goals and can increase the accuracy, speed, and efficiency of deployment. Technical services help maintain operational health, strengthen software application functionality, solve performance issues, and lower expenses. Optimization services are designed to continually improve performance and help your team succeed with new technologies. For more information about Cisco services, refer to Cisco Technical Support Services or Cisco Advanced Services.

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Printed in USA C78-371995-11 03/10