Cisco AS5850 Universal Gateway

Product Overview

The Cisco AS5850 Universal Gateway is a high-density universal gateway, with carrier-class attributes, offering the highest capacity in its class. This gateway is designed to meet the demands of large service providers, supporting at least 2688 universal ports, using Channelized T3s (CT3s), T1s, E1s, or STM-1 trunk interface of data, voice, and fax services on any port at any time. It offers high-availability features such as hot-swap on all cards, load-sharing and redundant hot-swappable power supplies, redundant fans and fan banks, redundant enhanced route switch controller (eRSC) cards, and Call Admission Control (CAC). The system is flexible enough to be configured either in Router Processor Redundancy plus (warm stand-by) mode or load-sharing mode.

The Cisco AS5850 Universal Gateway supports a wide range of IP-based value-added services such as high-volume Internet access, corporate Virtual Private Networks (VPNs), long distance for Internet service providers (ISPs), international wholesale long distance, distributed prepaid calling, Signaling System 7 (SS7) interconnect, and managed voice services such as hosted IP telephony, managed IP-PBX, multiservice VPNs, and IP contact centers.

Using the rich set of Cisco IOS software features and SS7 interconnections, service providers can quickly provision their network for new services to meet the rapidly changing demands of the communications provider marketplace.

As a highly flexible voice gateway, the Cisco AS5850 Universal Gateway supports any coder-decoder (codec) at 100 percent capacity, simplifying network engineering. An open programmable architecture streamlines rapid voice service creation with H.323, Session Initiation Protocol (SIP), or Media Gateway Control Protocol (MGCP).

Key Features and Benefits

Table 25-12: Features and Benefits of Cisco AS5850 Universal Gateway

Feature	Benefit
High scalability	High density combined with a single administrative domain.
• At least 2688 universal ports in a 14-RU chassis	Growth potential protects investment without incurring large initial costs.
Multiple high-speed processors	Enables the Cisco AS5850 Universal Gateway to easily sustain 2688 concurrent ASAP (dial, voice, and fax) sessions.
Hot-swappable cards and power supplies Redundant power supplies and power feeds Redundant DSPs and eRSC Thermal/power management and redundant fans DSP resource recovery	Improves network and service availability, reducing time and money lost because of outages.
Support for H.323v2, H.323v3, H.323v4, SIP, and MGCP 1.0	Provides architecture flexibility by supporting all currently deployed VoIP standards.
Application-specific support, including: • AOL traffic • Prodigy traffic	Provides functionality necessary to carry special types of traffic for wholesale dial applications.
WAN optimization, including: • Routing filters • Snapshot routing • Dial-on-demand routing (DDR)	Helps customers to reduce WAN costs, the single largest component of internetwork operation cost.
Cisco Universal Gateway Manager Extensive console commands Call Tracker MIB and console extensions Conditional debug features Syslog functions	Reduces problem detection and resolution time.

Feature	Benefit
Security management, including: • RADIUS • Terminal Access Controller Access Control Systems (TACACS+) • Access lists • Antihacking and spoofing features • Violation logging	Provides comprehensive security throughout the core network infrastructure. Full Cisco IOS software support for IP services.
Differentiate dial services	Allows expansion of addressable markets. Increases competitiveness, leading to more profitable operation. Provides the widest array of networking and routing protocol support in the industry for large-scale deployment. Full range of call-termination protocols. The same systems can be used in a wide variety of environments, simplifying management and procurement.

For more information, please refer to

http://www.cisco.com/en/US/products/hw/univgate/ps509/products_data_sheet09186a008007cc48.html

Specifications

Hardware

Table 25-13: Technical Specifications for the Cisco AS5850

Description	Specification
Slots	12 feature board slots 2 eRSC slots
Trunk cards	Single CT3 plus 216 Channel DSP feature card 24-port CE1/CT1 feature card Single STM-1 feature card
Port capacity	At least 2688 universal ports
Processor speed (type)	650 MHz dual core 64-bit SB-1 processor plus 512 KB of L2 four-way associate cache with ECC
RSC switch fabric	5 GBps, Layer 3/4
TDM bus capacity	8192 DS0s
Memory	1.0 GB standard with 1.5 GM maximum per eRSC and ECC protection 128 MB SDRAM (with parity) per feature card
Ingress options	CT3, T1/E1, and STM-1
Feature card options	324-channel universal port card
Egress options	Two Gigabit Ethernet (GE) ports with GBIC interfaces, VLAN 802.1Q and ISL on GE interfaces (microcode encapsulated for speed) per eRSC Two 10/100 MB Ethernet ports with RJ-45 connectors per eRSC

Description	Specification
Voice protocols supported	G.711, G.723.1 (5.3K and 6.3K), G.726, G.729a/b, G. Clear, GSM-FR
	H.323v2, H.323v3, H.323v4, SIP, MGCP 1.0
	T.38 real-time fax relay
	G.168 echo canceller with up to 128 ms of echo tail capacity
	Fax pass-through
	Modem pass-through
	Fax detection
Modem protocols supported	V.90 or V.92 standard supporting rates of 56000 to 28000 bps in 1333-bps increments
	V.44 supporting increased throughput by more than 100 percent for Internet browsing
	Fax out (transmission) Group 3, standards EIA 2388 Class 2 and EIA 592 Class 2.0, at modulations V.33, V.17, V.29, V.27ter, and V.21
	K56Flex at 56000 to 32000 bps in 2000-bps increments
	ITU-T V.34 Annex 12 at 33600 and 31200 bps
	ITU-T V.34 at 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, or 2400 bps
	V.32bis 14400, 12000, 9600, 7200, 4800; V.32 9600, 4800; V.22bis 2400, 1200; V.21 300; Bell 103, 300; V.22 1200; V.23 1200/75
	ITU-T V.42 (including Microcom Networking Protocol [MNP] 2-4 and Link Access Procedure for Modems [LAPM]) error correction
	ITU-T V.42bis (1000 nodes) and MNP 5 data compression
	Async-mode PPP
Wireless protocols supported	V.110
Console and auxiliary ports	Asynchronous serial (RJ-45)

Table 25-14: Power Requirements for Cisco AS5850

Description	Specification
Power Supply	Redundant/load sharing AC or DC

Table 25-15: Physical and Environmental Specifications for Cisco AS5850

Description	Specification
Dimensions (H x W x D)	24.5 x 17.5 x 24 in. (62.23 x 44.45 x 60.96 cm)

Software

All software part descriptions and part numbers for Cisco products can be accessed using the online Cisco Pricing Tool at

http://www.cisco.com/cgi-bin/front.x/pricing

The Cisco Pricing Tool requires a username and password. If you are not already registered, go to

http://www.cisco.com/register and follow the instructions. After you have registered, you may access the Pricing Tool.

Ordering Information

Product Part Numbers

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Configuration Worksheets

Table 25-16: Cisco AS5850 with Two CT3s (1344 Ports) and One eRSC

Quantity	Product Number	Description
One	AS5850-EG-SK	AS5850 enhanced RSC starter kit configuration, chassis, eRSC-2GE
Two	GBIC-SX	Gigabit interface converter for 1000BASE-SX (short wavelength)
Two	AS58-1CT3/216U	AS5850 channelized T3 card + 216 universal ports
One	S585Z91-12302T	Cisco AS5850 IOS eRSC service provider plus
Three	AS58-324UPC-CC	Cisco AS5800 series 324-port card
1344	FR585-UP-LIC	AS5850 IOS universal port license per port

Table 25-17: Cisco AS5850 with Four CT3s (2688 Ports) and Two eRSCs

Quantity	Product Number	Description
One	AS5850-EG-SK	AS5850 enhanced RSC starter kit configuration, chassis, eRSC-2GE
Two	AS58-eRSC-2GE/2	AS5850 redundant route switch controller card + GE
Four	GBIC-SX	Gigabit interface converter for 1000BASE-SX (short wavelength)
Four	AS58-1CT3/216U	AS5850 channelized T3 card + 216 universal ports
Two	S585Z91-12302T	Cisco AS5850 IOS eRSC service prodvider plus
Six	AS58-324UPC-CC	Cisco AS5800 series 324-port card
2688	FR585-UP-LIC	AS5850 IOS universal port license per port

Table 25-18: Cisco AS5850 with 48 E1s (1440 Modem Ports) and One eRSC

Quantity	Product Number	Description
One	AS5850-EG-SK	AS5850 enhanced RSC starter kit configuration, chassis, eRSC-2GE
Two	GBIC-SX	Gigabit interface converter for 1000BASE-SX (short wavelength)
Two	AS58-24CE1	AS5850 24-port CE1 card
Four	AS58-324UPC-CC	Cisco AS5800 series 324-port card
Six	CAB-DFC-OCTAL-1MF	1-meter 8 PRI DFC cable—female RJ-45
Two	S585Z91-12302T	Cisco AS5850 IOS eRSC service provider plus
1440	FR585-UP-LIC	AS5850 IOS universal port license per port

Table 25-19: Cisco AS5850 with 96 E1s (2592 Modem Ports) and Two eRSCs

Quantity	Product Number	Description
One	AS5850-G-SK	AS5850 enhanced RSC starter kit configuration, chassis, eRSC-2GE
Two	AS58-ERSC-2GE/2	AS5850 redundant route switch controller card + GE
Four	GBIC-SX	Gigabit interface converter for 1000BASE-SX (short wavelength)
Four	AS58-24CE1	AS5850 24-port CE1 card
Eight	AS58-324UPC-CC	Cisco AS5800 series 324-port card
Twelve	CAB-DFC-OCTAL-1MF	1-meter 8 PRI DFC cable—female RJ-45
Two	S585Z91-12302T	Cisco AS5850 IOS eRSC service provider plus

Quantity	Product Number	Description
2592	FR585-UP-LIC	AS5850 series IOS universal port license per port

Table 25-20: Cisco AS5850 with Two STM-1s (3240 Modem Ports) and Two eRSCs Using MGCP Voice

Quantity	Product Number	Description
One	AS5850-EG-SK	AS5850 enhanced RSC starter kit configuration, chassis, eRSC-2GE
Two	AS58-ERSC-2GE/2	AS5850 redundant route switch controller card + GE
Four	GBIC-SX	Gigabit interface converter for 1000BASE-SX (short wavelength)
Two	AS58-1STM1	AS5850 1-port STM-1 card
Ten	AS58-324UPC-CC	Cisco AS5800 series 324-port card
Two	CAB-SMFLR-LC	STM-1 LC cable
Two	S585Z91-12302T	Cisco AS5850 IOS eRSC service provider plus
3240	FR585-BASVOX-LIC	AS5000 series IOS basic voice license per port