



PRODUCT BULLETIN, NO. 2514

## CISCO IOS SOFTWARE RELEASE 12.2(20)EW FOR THE CISCO CATALYST 4500 SERIES SUPERVISOR ENGINE II-PLUS, IV AND V

### INTRODUCTION

This product bulletin lists the hardware and software features that are supported in Cisco IOS® Software Release 12.2(20)EW for the Cisco® Catalyst® 4500 Series Supervisor Engine II-Plus, Cisco Catalyst 4500 Series Supervisor Engine IV, and Cisco Catalyst 4500 Series Supervisor Engine V. Cisco IOS Software Release 12.2(20)EW is not supported on the Cisco Catalyst 4000 Series Supervisor Engine I or II, or on any other Cisco switching or routing platforms.

### CISCO IOS SOFTWARE RELEASE 12.2(20)EW SOFTWARE SUPPORT

#### New Hardware Features

Cisco Catalyst 4500 Series 24-Port Line Cards (WS-X4124-RJ45, WS-X4224-RJ45V, WS-X4524-GB-RJ45V)

Cisco Catalyst 4500 Series 24-port line cards offer more granular port density in access networks. The line cards include:

- WS-X4224-RJ45V—Cisco Catalyst 4500 Series Power over Ethernet (PoE) 803.3af 10/100, 24 ports (RJ-45)
- WS-X4524-GB-RJ45V—Cisco Catalyst 4500 Series PoE 802.3af 10/100/1000, 24 ports (RJ-45)
- WS-X4124-RJ45—Cisco Catalyst 4500 Series 10/100, 24 ports (RJ-45)

Customers can create 72 port access networks using these 24-port line cards.

Cisco Catalyst 4500 Series 48-Port 1000BASE-X SFP Line Card (WS-X4448-GB-SFP)

The Cisco Catalyst 4500 Series 48-port 1000BASE-X small form-factor pluggable (SFP) line card is a Gigabit Ethernet line card with LC connectors for SFP-based optics. It supports SX, LX, and single-fiber bidirectional BX SFPs.

#### New Software Features

- IPv6 software-switched
- Community private VLAN (PVLAN)
- Switched Port Analyzer (SPAN) access control list (ACL) filtering
- Dynamic Host Control Protocol (DHCP) client autoconfiguration
- Enhanced Simple Network Management Protocol (SNMP) MIB support

#### IPv6 Software-Switched

IPv6 is a new Internet protocol that addresses the shortage of IP addresses worldwide. IPv6 quadruples the number of network address bits from 32 to 128 bits. The use of globally unique IPv6 addresses simplifies the mechanisms used for reachability and end-to-end security for network devices. Software-based IPv6, including basic services and manageability, is provided in Cisco IOS Software Release 12.2(20)EW.

## Community PVLAN

PVLANs provide an effective means of conserving IP address space and isolating Layer 2 traffic for devices residing within the same subnet. A community PVLAN carries traffic among community ports, and from community ports to the promiscuous ports on the corresponding primary VLAN. With community PVLANs, traffic from a community port is blocked by the switch from going to other isolated ports or to ports belonging to other communities. Typical deployments for community PVLANs include server farms, extranets with multiple internal or external customers, or a service provider's subscribers.

## SPAN ACL Filtering

SPAN allows a user to configure a set of source ports or VLANs as SPAN sources. Packets either received at or transmitted from SPAN sources are copied to a destination port. The SPAN ACL filtering feature applies IP ACLs to a SPAN session, dynamically restricting the monitored traffic to interested flows in a given SPAN session. SPAN ACL filtering is typically used for receivers with limited bandwidth. It is functionally equivalent to VLAN ACL (VACL) capture in such deployments.

## DHCP Client Autoconfiguration

DHCP client autoconfiguration enables a switch to automatically obtain an IP address from a DHCP server when the switch initially boots. It can then automatically download the initial switch configuration file from a configuration server. DHCP client autoconfiguration is typically used to bring up a brand new switch with minimal technical expertise on a remote site. Starting with Cisco IOS Software Release 12.2(20)EW, DHCP client autoconfiguration is enabled by default with all new Cisco Catalyst 4500 Series supervisor engines.

## Enhanced SNMP MIB Support

SNMP writes for port speed and duplex are introduced in the new MAU-MIB (RFC 3636). The following new MIBs are added to support software-based IPv6:

- CISCO-IETF-IP-FORWARD-MIB
- CISCO-IETF-IP-MIB

## SUPPORT

Cisco IOS Software Release 12.2(20)EW follows the standard Cisco Systems support policy, available at:

[http://www.cisco.com/en/US/products/products\\_end-of-life\\_policy.html](http://www.cisco.com/en/US/products/products_end-of-life_policy.html)

For more information about the Cisco Catalyst 4500 Series, visit:

[http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd_products_support_series_home.html)

## MIGRATION PATHS

Cisco Catalyst 4500 Series customers that need the latest hardware support and software features should migrate from Cisco IOS Software Release 12.1EW train to Release 12.2(20)EW. Additional Cisco IOS Software Release 12.2EW updates for the Cisco Catalyst 4500 Series will continue to offer the latest hardware support and software features.

Cisco Catalyst 4500 Series customers that require the stability of a general deployment release should stay with Cisco IOS Software Release 12.1E train. Cisco IOS Software Release 12.1(19)E1 and all subsequent 12.1E maintenance releases will have only the feature set based on Cisco IOS Software Release 12.1(12c)EW1 for the Cisco Catalyst 4500 Series.

## PRODUCT NUMBERS

Tables 1 and 2 provide product numbers and ordering information for Cisco IOS Software Release 12.2(20)EW and for supporting hardware.

**Table 1.** Cisco IOS Software Release 12.2(20)EW Feature Sets, Images, and Software Licenses

Product Number	Description	Image
S4KL3-12220EW	Cisco IOS Software for the Cisco Catalyst 4500 Series Supervisor Engine II-Plus, IV and V  Basic Layer 3 and voice software image, including Routing Information Protocol (RIP) versions 1 and 2, static routes, AppleTalk, and Internetwork Packet Exchange (IPX) software routing	cat4000-i9s-mz.122-20.EW
S4KL3E-12220EW	Cisco IOS Software for the Cisco Catalyst 4500 Supervisor Engine IV and V  Enhanced Layer 3 and voice software image, including Open Shortest Path First (OSPF), Intermediate System-to-Intermediate System (IS-IS), and Enhanced Interior Gateway Routing Protocol (EIGRP)	cat4000-i5s-mz.122-20.EW
S4KL3K91-12220EW	Cisco IOS Software for the Cisco Catalyst 4500 Series Supervisor Engine II-Plus, IV and V with Triple Data Encryption Standard (3DES) strong encryption  Basic Layer 3 and voice software image, including Secure Shell (SSH) Protocol versions 1 and 2, RIP v1/ v2, static routes, AppleTalk, and IPX software routing	cat4000-i9k91s-mz.122-20.EW
S4KL3EK91-12220EW	Cisco IOS Software for the Cisco Catalyst 4500 Supervisor Engine IV and V with 3DES strong encryption  Enhanced Layer 3 and voice software image, including OSPF, IS-IS, and EIGRP	cat4000-i5k91s-mz.122-20.EW
FR-IRC4	Cisco IOS Software for the Cisco Catalyst 4500 Supervisor Engine IV and V  Interdomain routing feature license, including Border Gateway Protocol v4 (BGP4)	N/A

**Table 2.** Cisco IOS Software Release 12.2(20)EW Hardware Support

Product Number	Description
WS-X4013+	Cisco Catalyst 4500 Series Supervisor Engine II-Plus
WS-X4013+2	Cisco Catalyst 4500 Series Redundant Supervisor Engine II-Plus
WS-X4014	Cisco Catalyst 4500 Series Supervisor Engine III
WS-X4515	Cisco Catalyst 4500 Series Supervisor Engine IV
WS-X4515/2	Cisco Catalyst 4500 Series Redundant Supervisor Engine IV
WS-X4516	Cisco Catalyst 4500 Series Supervisor Engine V
WS-X4516/2	Cisco Catalyst 4500 Series Redundant Supervisor Engine V
WS-C4503	Cisco Catalyst 4503 chassis
WS-C4506	Cisco Catalyst 4506 chassis
WS-C4507R	Cisco Catalyst 4507R chassis
WS-C4510R	Cisco Catalyst 4510R chassis
WS-C4006-S3	Cisco Catalyst 4006 chassis with Supervisor Engine III and two AC power supplies
WS-C4006-S3-DC	Cisco Catalyst 4006 chassis with Supervisor Engine III and two DC power supplies

Product Number	Description
WS-C4006-S4	Cisco Catalyst 4006 chassis with Supervisor Engine IV and two AC power supplies
WS-C4006-S4-DC	Cisco Catalyst 4006 chassis with Supervisor Engine IV and two DC power supplies
WS-C4006-S2+	Cisco Catalyst 4006 chassis with Supervisor Engine II-Plus and two AC power supplies
WS-C4006-S2+-DC	Cisco Catalyst 4006 chassis with Supervisor Engine II-Plus and two DC power supplies
WS-X4124-FX-MT (=)	Cisco Catalyst 4500 Series 24-port Fast Ethernet switching module, 100BASE-FX multimode fiber (MMF) (MT-RJ)
WS-X4124-RJ45 (=)	Cisco Catalyst 4500 Series 24-port 10/100-Mbps module (RJ-45)
WS-X4148-FX-MT (=)	Cisco Catalyst 4500 Series 48-port Fast Ethernet switching module, 100BASE-FX MMF (MT-RJ)
WS-X4148-FE-LX-MT(=)	Cisco Catalyst 4500 Series 48-port Fast Ethernet switching module, 100BASE-LX10 single-mode fiber (SMF) (MT-RJ)
WS-X4148-RJ (=)	Cisco Catalyst 4500 Series 48-port 10/100-Mbps module (RJ-45)
WS-X4148-RJ21 (=)	Cisco Catalyst 4500 Series 48-port 10/100-Mbps module, telco (4xRJ-21)
WS-X4148-RJ45V (=)	Cisco Catalyst 4500 Series 48-port inline power 10/100-Mbps module (RJ-45)
WS-X4148-FE-BD-LC(=)	Cisco Catalyst 4500 Series 48-port 100BASE-BX10-D line card
WS-X4224-RJ45V (=)	Cisco Catalyst 4500 Series 24-port PoE 10/100-Mbps module (RJ-45)
WS-X4232-GB-RJ (=)	Cisco Catalyst 4500 Series 32-port 10/100-Mbps (RJ-45), 2 Gigabit Ethernet gigabit interface converter (GBIC) module
WS-X4232-RJ-XX (=)	Cisco Catalyst 4500 Series 32-port 10/100-Mbps (RJ-45) with modular uplink slot
WS-X4248-RJ45V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100-Mbps (RJ-45)
WS-X4248-RJ21V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100-Mbps, telco (4xRJ-21)
WS-X4424-GB-RJ45 (=)	Cisco Catalyst 4500 Series 24-port 10/100/1000-Mbps module (RJ-45)
WS-X4306-GB (=)	Cisco Catalyst 4500 Series 6-port Gigabit Ethernet module (GBIC)
WS-X4302-GB (=)	Cisco Catalyst 4500 Series 2-port Gigabit Ethernet line card (GBIC)
WS-X4412-2GB-T (=)	Cisco Catalyst 4500 Series 12-port Gigabit Ethernet module, 1000BASE-T (RJ-45) with two 1000BASE-X GBICs
WS-X4418-GB (=)	Cisco Catalyst 4500 Series 18-port Gigabit Ethernet module, server switching (GBIC)
WS-X4448-GB-LX (=)	Cisco Catalyst 4500 Series 48-port 1000BASE-LX (SFP)
WS-X4448-GB-RJ45 (=)	Cisco Catalyst 4500 Series 48-port 10/100/1000-Mbps module (RJ-45)
WS-X4448-GB-SFP (=)	Cisco Catalyst 4500 Series 48-port 1000BASE-X (SFP)
WS-X4524-GB-RJ45V (=)	Cisco Catalyst 4500 Series 24-port PoE 10/100/1000-Mbps line card (RJ-45)
WS-X4548-GB-RJ45 (=)	Cisco Catalyst 4500 Series 48-port 10/100/1000-Mbps line card (RJ-45)
WS-X4548-GB-RJ45V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100/1000-Mbps line card (RJ-45)
WS-U4504-FX-MT (=)	Cisco Catalyst 4500 Series 4-port uplink daughter card 100BASE-FX (MT-RJ)
WS-G5483=	1000BASE-T GBIC
WS-G5484 (=)	1000BASE-SX short-wavelength GBIC (multimode only)
WS-G5486 (=)	1000BASE-LX/LH long-haul GBIC (single-mode or multimode)
WS-G5487 (=)	1000BASE-ZX extended-reach GBIC (single-mode)
MEM-C4K-FLD64M (=)	Cisco Catalyst 4500 Series Compact Flash, 64-MB option
MEM-C4K-FLD128M (=)	Cisco Catalyst 4500 Series Compact Flash, 128-MB option
WS-X4095-PEM (=)	Cisco Catalyst 4000 Series DC power entry module (PEM)
PWR-C45-2800ACV	2800W AC power supply for Cisco Catalyst 4503, 4506, and 4507R chassis

Product Number	Description
PWR-C45-1400DC-P	Cisco Catalyst 4500 Series 1400W DC power supply with integrated PEM
PWR-C45-1400AC	Cisco Catalyst 4500 Series 1400W AC power supply (data only)
PWR-C45-1300ACV	1300W AC power supply for Cisco Catalyst 4503, 4506, and 4507R chassis
PWR-C45-1000AC	1000W AC power supply for Cisco Catalyst 4503, 4506, and 4507R chassis
CWDM-GBIC-xxxx	Cisco 1000BASE-coarse wavelength-division multiplexing (CWDM) xxxx nm GBIC, where xxxx is the number 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610
DWDM-GBIC-xx.yy	Cisco 1000BASE-dense wavelength-division multiplexing (DWDM) ITU 100-GHz grid 15xx.yy nm GBIC
WDM-GBIC-REC=	Cisco receive-only 1000BASE-WDM GBIC
WS-F4531 (=)	NetFlow Services Card for Cisco Catalyst 4500 Series Supervisor Engine IV and V

Cisco IOS Software Release 12.2(20)EW is derived from the Cisco IOS Software 12.2S train. For more information about this release, send e-mail to [ask-c4000-pm@cisco.com](mailto:ask-c4000-pm@cisco.com).



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