



PRODUCT BULLETIN NO. 2635

## CISCO IOS SOFTWARE RELEASE 12.2(25)EW FOR CISCO CATALYST 4500 SERIES SWITCH SUPERVISOR ENGINES

This product bulletin lists the hardware and software features supported by Cisco IOS Software Release 12.2(25)EW for the Cisco Catalyst 4500 Series Supervisor Engine II-Plus, Cisco Catalyst 4500 Series Supervisor Engine II-Plus-TS, Cisco Catalyst 4000/4500 Supervisor Engine IV, Cisco Catalyst 4000/4500 Supervisor Engine V and Cisco Catalyst 4500 Series Supervisor Engine V-10GE.

Cisco IOS Software Release 12.2(25)EW is not supported on the Cisco Catalyst 4000 Supervisor Engine I or II or on Cisco routing platforms.

### CISCO IOS SOFTWARE RELEASE 12.2(25)EW SUPPORT

#### New Hardware Features

##### Cisco Catalyst 4500 Series Supervisor Engine V-10GE

Cisco® Catalyst® 4500 Series Supervisor Engine V-10GE (product number WS-X4516-10GE) is a high-density enterprise wiring closet supervisor engine with dual wire-speed 10 Gigabit Ethernet uplinks. It offers 136 Gbps capacity and 102 mpps throughput. Supervisor Engine V-10GE maximizes the flexibility of deployment options with dual wire-speed 10 Gigabit Ethernet ports (X2 optics) and 4 alternative wired Gigabit Ethernet ports (SFP optics) on the faceplate. It allows for network future proofing with an easy migration path from Gigabit Ethernet to 10 Gigabit Ethernet by adding 10 Gigabit Ethernet optical interfaces.

##### Cisco Catalyst 4500 1400W DC Power Supply

The new Cisco Catalyst 4500 1400W DC Power Supply (product number PWR-C45-1400DC) is a triple-input power supply designed for service provider central office deployments. It is a data only power supply with three DC power inputs, 2 x 15A and 1 x 12.5A. This power supply enables service providers to effectively use their existing DC power infrastructure.

#### New Software Features

##### User Based Rate Limiting (Supervisor Engine V-10GE)

User Based Rate Limiting (UBRL) adopts microflow policing capability to dynamically learn traffic flows and rate limit each unique flow to an individual rate. UBRL is available on Supervisor Engine V-10GE with the built-in NetFlow support. UBRL can be applied to ingress traffic on routed interfaces with source or destination flow masks. It can support up to 100,000 individual flows and 512 different rates. UBRL is typically used in environments where a per-user, granular rate limiting mechanism is required, such as different outbound traffic rate from inbound traffic rate per user.

#### SUPPORT

Support for Cisco IOS® Software Release 12.2(25)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/univercd/cc/td/doc/product/lan/cat4000/index.htm>.

## MIGRATION PATHS

Cisco IOS Software Release 12.2EW train offers the latest features for the Cisco Catalyst 4500 Series supervisor engines. Customers with Cisco Catalyst 4500 Series supervisor engines who need the latest hardware support and software features should migrate to Cisco IOS Software Release 12.2(25)EW.

Cisco IOS Software Release 12.2(18)EW1 and all subsequent 12.2(18)EW maintenance releases have only the feature set based on Cisco IOS Software Release 12.2(18)EW for the Cisco Catalyst 4500 Series supervisor engines. Customers with Catalyst 4500 Series supervisor engines who require the stability of a bug fix maintenance release should stay with the Cisco IOS Software Release 12.2(18)EW maintenance releases.

Cisco IOS Software Release 12.1(19)E1 and all subsequent 12.1E maintenance releases have only the feature set based on Cisco IOS Software Release 12.1(12c)EW1 for the Cisco Catalyst 4500 Series supervisor engines. Customers with Catalyst 4500 Series supervisor engines who require the stability of a maintenance release should migrate from 12.1E releases to the Cisco IOS Software Release 12.2(18)EW maintenance releases.

## PRODUCT NUMBERS

Tables 1 and 2 provide product numbers and ordering information for Cisco IOS Software Release 12.2(25)EW and for supporting hardware.

**Table 1.** Cisco IOS Software Release 12.2(25)EW Feature Sets, Images, and Software Licenses

Product Number	Description	Image
S4KL3-12225EW	Cisco IOS Software for the Cisco Catalyst 4500 Series supervisor engines II-Plus, II-Plus-TS, and V-10GE, and Catalyst 4000/4500 supervisor engines IV and V  Basic Layer 3 and voice software image, including RIP versions 1 and 2, static routes, AppleTalk, and Internetwork Packet Exchange (IPX) software routing	cat4000-i9s-mz.122-25.EW
S4KL3E-12225EW	Cisco IOS Software for the Cisco Catalyst 4000/4500 Supervisor Engine IV, V, and Catalyst 4500 Series Supervisor Engine V-10GE  Enhanced Layer 3 and voice software image, including OSPF, IS-IS, and EIGRP	cat4000-i5s-mz.122-25.EW
S4KL3K9-12225EW	Cisco IOS Software for the Cisco Catalyst 4500 Series supervisor engines II-Plus, II-Plus-TS, V-10GE, and Catalyst 4000/4500 supervisor engines 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.122-25.EW
S4KL3EK9-12225EW	Cisco IOS Software for the Cisco Catalyst 4000/4500 supervisor engines IV and V, and Catalyst 4500 Series Supervisor Engine V-10GE, with 3DES strong encryption  Enhanced Layer 3 and voice software image, including OSPF, IS-IS, and EIGRP	cat4000-i5k91s-mz.122-25.EW
FR-IRC4	Cisco IOS Software for the Cisco Catalyst 4000/4500 supervisor engines IV and V, and Catalyst 4500 Series Supervisor Engine V-10GE  Interdomain routing feature license, including Border Gateway Protocol v4 (BGP4)	–

**Table 2.** Cisco IOS Software Release 12.2(25)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-X4013+TS	Cisco Catalyst 4500 Series Supervisor Engine II-Plus-TS
WS-X4014	Cisco Catalyst 4000/4500 Supervisor Engine III
WS-X4515	Cisco Catalyst 4000/4500 Supervisor Engine IV
WS-X4515/2	Cisco Catalyst 4000/4500 Redundant Supervisor Engine IV
WS-X4516	Cisco Catalyst 4000/4500 Supervisor Engine V
WS-X4516/2	Cisco Catalyst 4000/4500 Redundant Supervisor Engine V
WS-X4516-10GE	Cisco Catalyst 4500 Series Supervisor Engine V-10GE
WS-X4516-10GE/2	Cisco Catalyst 4500 Series Redundant Supervisor Engine V-10GE
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
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 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 module (RJ-45)
WS-X4148-RJ21 (=)	Cisco Catalyst 4500 Series 48-port 10/100 module, telco (4xRJ-21)
WS-X4148-RJ45V (=)	Cisco Catalyst 4500 Series 48-port inline power 10/100 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 module (RJ-45)
WS-X4232-GB-RJ (=)	Cisco Catalyst 4500 Series 32-port 10/100 (RJ-45), 2 Gigabit Ethernet gigabit interface converter (GBIC) module
WS-X4232-RJ-XX (=)	Cisco Catalyst 4500 Series 32-port 10/100 (RJ-45) with modular uplink slot
WS-X4248-RJ45V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100 (RJ-45)
WS-X4248-RJ21V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100, telco (4xRJ-21)
WS-X4424-GB-RJ45 (=)	Cisco Catalyst 4500 Series 24-port 10/100/1000 module (RJ-45)

Product Number	Description
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 module (RJ-45)
WS-X4448-GB-SFP (=)	Cisco Catalyst 4500 Series 48-port 1000BASE-X (SFP)
WS-X4506-GB-T (=)	Cisco Catalyst 4500 Series 6-Port Alternatively Wired 10/100/1000 PoE or 1000BASE-X SFP
WS-X4524-GB-RJ45V (=)	Cisco Catalyst 4500 Series 24-port PoE 10/100/1000 line card (RJ-45)
WS-X4548-GB-RJ45 (=)	Cisco Catalyst 4500 Series 48-port 10/100/1000 line card (RJ-45)
WS-X4548-GB-RJ45V (=)	Cisco Catalyst 4500 Series 48-port PoE 10/100/1000 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
PWR-C45-1400DC	Cisco Catalyst 4500 Series 1400W DC power supply
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 (data only)
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 engines IV and V

Cisco IOS Software Release 12.2(25)EW is derived from Cisco IOS Software Release 12.2S train.



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