



Q & A

Cisco Catalyst 4500 Series Supervisor Engine II-Plus-10GE

General

Q. What is the Cisco® Catalyst® 4500 Supervisor II-Plus-10GE?

A. The Cisco Catalyst 4500 Supervisor II-Plus-10GE is a new supervisor engine for Cisco Catalyst 4500 Series switches. The Supervisor Engine II-Plus-10GE provides two wire-rate 10-Gigabit Ethernet (GE) uplink ports (X2 optics) and four GE ports (SFP optics) on the face plate.

Table 1. Catalyst 4500 Supervisors Matrix

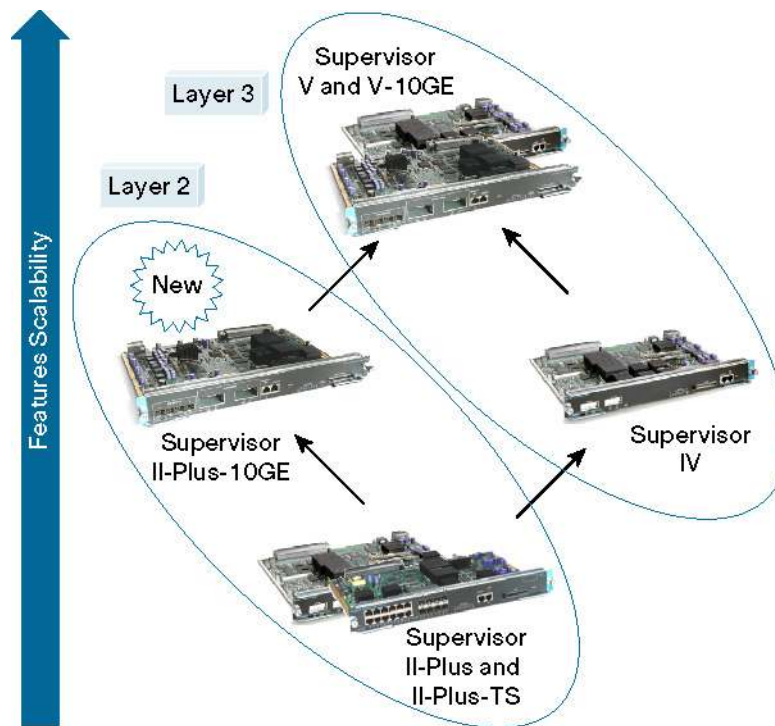
Capabilities	Supervisor II-Plus-TS	Supervisor II-Plus	Supervisor II-Plus-10GE	Supervisor IV/V	Supervisor V-10GE
L2/3/4 Services	Enhanced L2	Enhanced L2	Enhanced L2	Full Layer 3/4 EIGRP/OSPF/BGP/IS-IS	Full Layer 3/4 EIGRP/OSPF/BGP/IS-IS
Bandwidth	64 Gbps	64 Gbps	108 Gbps	64/96 Gbps	136 Gbps
Throughput	48 Mpps	48 Mpps	81 Mpps	48/72 Mpps	102 Mpps
Chassis Support	4503 Only	4503, 4506, 4507R	4503, 4506, 4507R	4503, 4506, 4507R, 4510R (Sup5)	4503, 4506, 4507R, 4510R
Uplinks	Eight GE and Twelve 10/100/100	Two GE	Four GE and Two 10GE	Two GE	Four GE and Two 10GE
CPU	266 MHz	266 MHz	666 MHz	333/400 MHz	800 MHz
DRAM	256 MB	256 MB	256 MB/512 MB	512 MB	512 MB
Netflow Services	No	No	No	Yes (Optional)	Yes (Built In)
Control Plane Performance	60 kpps	60 kpps	130 kpps	80 kpps	250 kpps
Number of Routes	32K routes	32K routes	32K routes	128K routes	128K routes
Security/QoS Entries	32K	32K	32K	64K	64K
Input/Output Policers	512/512	512/512	512/512	1000/1000	8000/8000
NAC/DHCP Snoop Entries	3000/3000	3000/3000	3000/3000	3000/3000	6000/6000

Q. What is the Catalyst 4500 Supervisor Engine Portfolio Positioning?

A. The Cisco Catalyst 4500 Series Supervisor Engine II-Plus-10GE rounds out the Supervisor Engine product portfolio. Customers are provided clear choices based on their feature and scalability requirements. The enhanced Layer 2 Gigabit Supervisor Engines (Supervisor II-Plus, Supervisor II-Plus-TS) have a clear migration path to an enhanced Layer 2 10-Gigabit Supervisor Engine (Supervisor II-Plus-10GE) or to a Layer 3 Supervisor (Supervisor IV). The Layer 3 Gigabit Supervisor Engine IV can migrate to the Layer 3, 10-Gigabit Supervisor Engine V-10GE. Similarly, there is a clear migration path from the enhanced Layer 2 Supervisor Engine II-Plus-10GE to the Layer 3 Supervisor Engine V-10GE. This migration path is made smoother with the proven investment protection of the Catalyst 4500 architecture. The customer can upgrade all the capabilities of all switch ports by merely upgrading the Supervisor Engine protecting their chassis, line card, and power supply investment.

Figure 1

Cisco Catalyst 4500 Supervisor Engine Portfolio Positioning



Q. What 10-GE optic is supported on the Supervisor II-Plus-10GE?

A. X2 form factor optics are supported. X2 optics are a smaller form factor than XENPAKs. They offer full optical compatibility. (See Table 2.)

Table 2. 10 GE Transceivers (X2)

X2 Module Type	XENPAK	Description	X2 Availability
X2-10GB-LR	XENPAK-10GB-LR	10 km on SMF	Shipping
		(G.652)	
X2-10GB-CX4	XENPAK-10GB-CX4	Up to 15m on Cx4 cable	Shipping
X2-10GB-LX4	XENPAK -10GB-LX4	300m on MMF	Shipping
X2-10GB-SR	XENPAK -10GB-SR	26m on MMF	Shipping
		(300m with 2000 MHz/km MMF)	
X2-10GB-ER	XENPAK -10GB-ER	40 km on SMF	Shipping

Q. What GE optic is supported on the Supervisor II-Plus-10GE?

A. GE Small Form-Factor Pluggable (SFP) optics are supported.

Q. Are XENPAK 10-GE optics supported on the Supervisor II-Plus-10GE?

A. No. However, X2 and XENPAK are optically compatible. X2 uplinks on the Cisco Catalyst 4500 can be connected directly to XENPAK ports on a Cisco Catalyst 6500. The Cisco Catalyst 4500 requires a smaller optical transceiver in order to help ensure enough air flow around the unit to cool it adequately.

Q. How many and what types of uplink ports does the Supervisor II-Plus-10GE have?

A. The Supervisor II-Plus-10GE has two X2 (10-GE optics) and four SFP (GE optics) ports on the face plate.

Q. Can I use the two 10-GE and the four GE ports on the Supervisor II-Plus-10GE simultaneously?

A. Yes, the 10-GE links and the 1-GE links can be used simultaneously.

Q. If I put two Supervisor Engine II-Plus-10GEs in redundant mode in a Cisco Catalyst 4507R Switch, can I use four 10-GE links concurrently?

A. A maximum of two 10-GE ports and four GE ports can be active on the supervisor at one time. This is the case with one or two supervisor engines in a single chassis.

Q. If I have two Supervisor II-Plus-10GEs in redundant mode using 10-GE optics, which two 10-GE ports are active?

A. The two left-most ports 1/1 and 2/1.

Q. If I have two Supervisor II-Plus-10GEs in redundant mode using GE optics, which four GE ports are active?

A. The left-most ports 1/3, 1/4, 2/3, and 2/4.

Q. What happens to the 10-GE uplinks in the event of a supervisor failure?

A. The uplinks on the failed supervisor remains active and is now controlled by the newly active supervisor.

- Q.** Are four X2 optics required for resiliency in redundant mode?
- A.** No. When two supervisors are deployed in a chassis, only two X2 optics are necessary for resiliency. Because only two can be active, the remaining two would be cold standbys.
- Q.** Do you support full line rate, full duplex 10-GE on both 10-GE ports of the Supervisor II-Plus-10GE?
- A.** Yes, two 10-GE ports give 30 Mpps performance without taking bandwidth from the line cards.
- Q.** Are Catalyst Integrated Security Features supported?
- A.** Yes, see Table 1; TCAM entries are the same as SupII-Plus.
- Q.** Are QoS capabilities the same as Supervisor Engine II-Plus?
- A.** Yes, see Table 1.

Technical

- Q.** Does the Supervisor II-Plus-10GE support Layer 2 through 4 jumbo frames?
- A.** Jumbo frames are only supported on nonblocking GE ports (as opposed to nonblocking 10/100). Nonblocking ports are all ports that do not traverse stub application-specific integrated circuits. See the Catalyst 4500 Series line card data sheet for specific information.
- Q.** How many hardware-based policers does the Supervisor II-Plus-10GE have?
- A.** The Supervisor II-Plus-10GE supports 508 policers on ingress and 508 policers on egress configured as aggregate or individual.
- Q.** Is the Supervisor II-Plus-10GE supported on the Cisco Catalyst 400X Switches?
- A.** No.
- Q.** Does the Supervisor Engine II-Plus-10GE support Q-in-Q, Multicast and Broadcast Suppression in Hardware?
- A.** Yes.
- Q.** Does the Supervisor Engine II-Plus-10GE support IPX, Appletalk, and VRF-Lite?
- A.** No.
- Q.** Does the Supervisor Engine II-Plus-10GE support EIGRP – Stub in the IP Base Image?
- A.** Yes.

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