

Cisco 7200VXR Series NPE-G2 Network Processing Engine

General

Q. What is the Cisco® 7200VXR NPE-G2 Network Processing Engine?

- A.** The Cisco NPE-G2 is the latest routing engine for the Cisco 7200VXR chassis—the Cisco 7204VXR and 7206VXR—that provides the highest performance and scalability within the family of network processing engines (NPEs). Details can also be found in the Cisco NPE-G2 data sheet at http://cisco.com/en/US/products/hw/routers/ps341/prod_bulletin0900aecd8047188c.html.

Q. What are the unique physical attributes of the Cisco NPE-G2 when compared to the Cisco NPE-G1?

- A.** The Cisco NPE-G2 also has three built-in Gigabit Ethernet ports with two connector types—Small Form-Factor Pluggable optics (SFP) and copper RJ-45. In addition, the Cisco NPE-G2 has one dedicated management port (10/100BASE-T Ethernet) and two USB ports for additional storage capacity (USB flash memory) and for storing Aladdin eToken credentials for VPN applications.

Note: The USB port capabilities are the same as offered on the integrated services routers http://cisco.com/en/US/products/ps6247/products_data_sheet0900aecd80232473.html.

Q. What are the advantages of the Cisco NPE-G2 over other network processing engines?

- A.** In addition to delivering double the performance, the Cisco NPE-G2 also offers 3 built-in 10/100/1000-Mbps Ethernet ports for LAN and WAN connectivity. These ports include support for 10/100/1000 Mbps over copper or 1000 Mbps over industry-standard SFP. Additionally, the Cisco NPE-G2 provides larger NVRAM and internal boot memory for larger storage, as well as two USB (Versions 1.1 and 2.0) ports that can connect USB memory keys.

Q. Are routing protocols supported on the 10/100BASE-T management interface?

- A.** Yes, routing protocols are supported on the management interface. However, the management interface is strictly for management purposes only, with limited packet forwarding.

Q. Is an I/O controller required when using the Cisco NPE-G2?

- A.** No, an I/O controller is optional, but it can be used to provide additional Ethernet interfaces. When present in the chassis, auxiliary and console ports on the I/O controller will be activated, disabling those on the Cisco NPE-G2.

Q. What is the maximum packets-per-second (pps) performance of the Cisco NPE-G2?

- A.** Based on 64-byte Ethernet frames, the Cisco NPE-G2 can achieve up to 2 million pps of Cisco Express Forwarding, doubling the performance compared to the Cisco NPE-G1. For more detailed performance information, also with reference to features and services turned on, contact your local Cisco account team.

Q. What is a cable management bracket option for the Cisco NPE-G2? What is its ordering product ID?

A. The cable management bracket for the Cisco NPE-G2 is designed to support cabling (fiber or copper) for different types of onboard ports, including SFP, RJ-45, console, and auxiliary. It is orderable as an "option" for the Cisco NPE-G2 and the spare. Its ordering part number is MAS-7200-CBLMGMT.

Q. Can the router boot directly from images stored in USB memory keys?

A. No, USB memory keys are accessible only when the router is fully operational upon bootup.

Q. Is Multiprocessor Forwarding (MPF) supported with the Cisco NPE-G2?

A. No, MPF is supported only on the Cisco NPE-G1 because only one CPU is present in the Cisco NPE-G2.

Q. What are digital and optical diagnostics?

A. Digital and optical diagnostics improve troubleshooting for monitoring and troubleshooting the built-in SFP module by monitoring manageable parameters and copper ports by using reflected pulsed signals.

Q. Why does the router show only 62 MB available in internal bootflash memory, not 64 MB?

A. Part of the memory—2 MB—is reserved for onboard failure logging, which logs operational states of routers. Logs are used by the Cisco Technical Assistance Center (TAC) to diagnose the router failure.

Q. Which SFP modules are supported on the Cisco NPE-G2?

A. The following SFP modules are supported: SFP-GE-S, SFP-GE-L, and SFP-GE-Z. Unapproved SFP modules will not be enabled. Copper SFP modules are not supported, because RJ-45 connectors are built into the Cisco NPE-G2.

Q. Is online insertion and removal (OIR) supported on the SFP module slot?

A. Yes. OIR is supported on the SFP module slot.

Q. Is Cisco EtherChannel® technology supported on built-in Ethernet ports?

A. Yes, both Fast and Gigabit EtherChannel technologies are supported.

Q. Is there a Cisco Technology Migration Program (TMP) for the Cisco NPE-G2?

A. Yes, customers who trade in older network processing engines will receive a trade-in credit toward the purchase of a Cisco NPE-G2. Details about the Cisco TMP can be found at <http://www.cisco.com/go/TMP>.

Memory

Q. What are the DRAM memory options for the Cisco NPE-G2?

A. There is one small outline dual in-line memory module (SODIMM) memory slot in the Cisco NPE-G2; the Cisco NPE-G2 ships with a default of 1 GB of system synchronous dynamic RAM (SDRAM) by default. In the future, this can be expanded to 2 GB. When the 2-GB memory module is supported, it will be configurable to ship on a new Cisco NPE-G2 or it can be ordered as a field-upgradeable spare.

Q. Is the Cisco NPE-G1 SDRAM memory module compatible with the Cisco NPE-G2 SDRAM memory module?

A. No. Memory modules are not interchangeable.

Q. What are the flash memory options for the Cisco NPE-G2?

- A.** The Cisco NPE-G2 supports a Compact Flash card and it is shipped by default with 256-MB Compact Flash. At the time of first customer shipment, this is the maximum Compact Flash memory support. The part number to order 256-MB Compact Flash as a field-upgradable spare is MEM-NPE-G2-FLD256=.

Cisco IOS Software Support**Q. What is the first Cisco IOS® Software release and which image supports the Cisco NPE-G2?**

- A.** The first Cisco IOS Software release that will support the Cisco NPE-G2 is the special Cisco IOS Software Release 12.4(4)XD, which has the same features as the 12.4(4)T release. The Cisco IOS Software Release 12.4(4)XD will migrate into the fifth release of 12.4T in the future. The special Cisco IOS Software Release 12.4(4)XD comes with eight Cisco 7200 cross-platform images and the Cisco NPE-G2 is supported in all of them.

Q. What other Cisco IOS Software releases will support the Cisco NPE-G2 in the future?

- A.** The Cisco NPE-G2 will also be supported in the future on Cisco IOS Software Release 12.4T and later T releases, 12.5M and later Mainline releases, and Release 12.2SB.

Q. What images support the Cisco NPE-G2?

- A.** The Cisco NPE-G2 is supported in eight “cross-platform” images—IP Base without Crypto, IP Base, Advanced Security, Advanced IP Services, Advanced IP Services with Lawful Intercept, SP Services, Advanced Enterprise Services, and Advanced Enterprise Services with SNA Switching.

Note: Starting with Cisco IOS Release 12.4T, the Cisco 7200VXR Series is supported in the Cisco 7200VXR cross-platform images.

Q. Is the Cisco NPE-G2 supported in the same cross-platform images as the Cisco NPE-G1?

- A.** No. Unlike other network processing engines, the Cisco NPE-G2 has its own software images with the prefix of “c7200p” in the file names. All other network processing engines are compatible with images with the prefix of “c7200” only. The Cisco NPE-G2 does not boot up with an image with the prefix of “c7200”, and conversely.

Q. What do I order to upgrade an existing system to NPE-G2?

- A.** Since there is a new image for the NPE-G2, you need to order and configure the NPE-G2= (the spare NPE-G2) and you need to order the new image with prefix of “c7200p”. The new IOS image is ordered and configured with the 7200-SW-SPARECD part number.

Port Adapter and Service Adapter Support**Q. What port adapters and service adapters are compatible with the Cisco NPE-G2?**

- A.** All port adapters that are supported with the Cisco NPE-G1 are compatible with the Cisco NPE-G2, except those with the following part numbers: PA-DPT-OC12, PA-FC-1G, SA-VAM, and SA-VAM2.

Q. Which IP Security (IPSec) encryption modules are compatible with the Cisco NPE-G2?

- A.** Cisco’s AES wide key crypto card (SA-VAM2+) is compatible with the Cisco NPE-G2. When available, the VPN service adapter (VSA) will also be compatible with NPE-G2. The part number for the VSA is C7200-VSA.

Q. Is the port adapter jacket card supported with the Cisco NPE-G2?

A. Yes. The jacket card will be supported starting in Cisco IOS Software Release 12.4(4)XD2, the first rebuild of Release 12.4(4)XD. Supported port adapter part numbers follow: SA-VAM2+, PA-MC-2T3+, PA-MC-STM1-MM, PA-MC-STM1-SMI, and PA-POS-2OC3.

Q. Where can I check on the hardware and software compatibility for the Cisco NPE-G2? Is there a tool available?

A. Yes. The Cisco Software Advisor tool will help you determine software that is compatible with your Cisco product and matches your requirements. Go to <http://tools.cisco.com/Support/Fusion/FusionHome.do>.

Bundles**Q. What bundles are available with the Cisco NPE-G2?**

A. With the introduction of the Cisco NPE-G2, two new bundles are available. The “Base System Bundle” consists of a Cisco 7206VXR chassis, single power supply, Cisco NPE-G2, and IP BASE software. The “IPv6/Advanced Services Bundle” consists of a Cisco 7206VXR chassis, single power supply, Cisco NPE-G2, and Advanced Enterprise Services software that includes IPv6 support.

For More Information

For more information about the Cisco 7200 Series, visit either the external Cisco Website <http://www.cisco.com/go/7200> or contact your local Cisco Systems® account representative.



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