

Cisco uBR7200 Series NPE-G2 Network Processing Engine for the Cisco uBR7200 Series Universal Broadband Router

General

Q. What is the Cisco® uBR7200 Series NPE-G2 Network Processing Engine?

A. The Cisco uBR7200 Series NPE-G2 Network Processing Engine (Cisco uBR7200-NPE-G2) is the latest routing engine for the Cisco uBR7200VXR Series Universal Broadband Router and provides the highest performance and scalability within the family of Cisco network processing engines (NPEs). It enables cable operators to increase their average revenue per user (ARPU) by allowing them to offer faster data services per subscriber than are possible with the older Cisco uBR7200-NPE-G1. In addition, the Cisco uBR7200-NPE-G2 also helps to increase cable operators' return on investment (ROI) per chassis by maximizing the number of voice-over-IP (VoIP) sessions supported per Cisco uBR7246VXR platform.

Q. Which Cisco uBR7200 Series chassis supports the Cisco uBR7200-NPE-G2?

A. The Cisco uBR7200-NPE-G2 will only be supported on the Cisco uBR7246VXR at first customer shipment (FCS) in early 2008. The Cisco uBR7200-NPE-G2 will also be supported on the Cisco uBR7225VXR in mid-2008.

Q. Which Cisco uBR7200 Series modem card supports the Cisco uBR7200-NPE-G2?

A. The Cisco uBR7200-NPE-G2 is compatible with the Cisco uBR-MC16U, uBRMC16X, uBR-MC28U, and uBR-MC28X modem cards at FCS.

Q. What are the unique physical attributes of the Cisco uBR7200-NPE-G2 when compared to the Cisco uBR7200-NPE-G1?

A. The Cisco uBR7200-NPE-G2 has three built-in Gigabit Ethernet ports with two connector types: Small Form-Factor Pluggable (SFP) optics and copper RJ-45. In addition, the Cisco uBR7200-NPE-G2 has one dedicated management port (10/100BASE-T Ethernet) and two USB ports for additional storage capacity (USB flash memory). The software support for the USB ports will be provided in a future release subsequent to FCS.

Q. What are the advantages of the Cisco uBR7200-NPE-G2 over other network processing engines?

A. In addition to higher performance, the Cisco uBR7200-NPE-G2 also offers three 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 uBR7200-NPE-G2 provides larger NVRAM and internal boot memory for increased storage. There are also two USB ports (Versions 1.1 and 2.0) to connect the USB memory key. Software support for the USB ports will be provided in a future release subsequent to FCS.

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 uBR7200-NPE-G2?

A. No, an I/O controller is not required when using the Cisco uBR7200-NPE-G2, but can be used to provide additional Ethernet interfaces because the Ethernet ports on both the I/O controller and the Cisco uBR7200-NPE-G2 will be activated. When an I/O controller is present in the chassis, the auxiliary and console ports on the I/O controller will be activated, disabling those on the Cisco uBR7200-NPE-G2.

Q. What is the maximum packets-per-second (pps) performance of the Cisco uBR7200-NPE-G2?

A. Based on 64-byte Ethernet frames, the Cisco uBR7200-NPE-G2 can achieve up to 1.3 million pps of Cisco Express Forwarding, doubling the performance when compared to the Cisco uBR7200-NPE-G1. For more detailed performance information, contact your local Cisco account team.

Q. What is the cable management bracket option for the Cisco uBR7200-NPE-G2? What product part number should I order?

A. The cable management bracket for the Cisco uBR7200-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 uBR7200-NPE-G2 and the spare. The ordering part number is MAS-7200-CBLMGMT.

Q. What are digital and optical diagnostics?

A. Digital and optical diagnostics improve troubleshooting of the built-in SFP module. This is achieved by using reflected pulsed signals to monitor the manageable parameters and copper. These are features that will be supported in future software releases subsequent to FCS.

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

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

Q. Which SFP modules are supported on the Cisco uBR7200-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 uBR7200-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. What are the DRAM memory options for the Cisco uBR7200-NPE-G2?

A. There is a small outline dual inline memory module (SODIMM) slot in the Cisco uBR7200-NPE-G2, and the Cisco uBR7200-NPE-G2 ships with a default of 1 GB of system

synchronous dynamic RAM (SDRAM). There is an upgrade option of a 2-GB memory module that can be configured to be shipped with a new Cisco uBR7200-NPE-G2, or it can be ordered as a field-upgradeable spare.

Q. Is the Cisco uBR7200-NPE-G1 SDRAM module compatible with the Cisco uBR7200-NPE-G2 SDRAM module?

A. No, memory modules are not interchangeable.

Q. What flash memory option is recommend for the Cisco uBR7200-NPE-G2?

A. The Cisco uBR7200-NPE-G2 supports a 256-MB compact flash card that is shipped by default. 256 MB is the maximum compact flash memory support at FCS. The 256-MB compact flash can be ordered as a field-upgradeable spare (part number: MEM-NPE-G2-FLD256=).

Hardware and Software Compatibility

Q. Which Cisco IOS® Software release supports the Cisco uBR7200-NPE-G2?

A. The Cisco uBR7200-NPE-G2 is supported in Cisco IOS Software Release 12.2SB, which includes PacketCable™ Multimedia (PCMM), admission control, Advanced Mode DSG, and SII features.

Q. What port adapters are compatible with the Cisco uBR7200-NPE-G2?

A. Table 1 lists the port adapters that are supported with the Cisco uBR7200-NPE-G2.

Table 1. Supported Port Adaptors

Port Adaptor	Description
PA-GE	Gigabit Ethernet Port Adapter
PA-2FE-TX	2-Port Fast Ethernet 100BASE-TX Port Adapter
PA-2FE-FX	2-Port Fast Ethernet 100BASE-FX Port Adapter
PA-T3+	1-Port T3 Serial Port Adapter, Enhanced
PA-2T3+	2 -Port T3 Serial Port Adapter, Enhanced
PA-MC-T3-EC	1-Port Multichannel T3, Enhanced Capability
PA-2E3	2-Port E3 Serial Port Adapter with E3 DSUs – 2
PA-4T+	4-Port Serial Port Adapter, Enhanced
PA-POS-1OC3	1-Port Packet/SONET OC3-c/STM-1 Port Adapter
PA-POS-2OC3	2-Port Packet/SONET OC3-c/STM-1 Port Adapter
PA-A6-T3	1-Port Enh ATM DS-3 Port Adapter (8000 VCs)
PA-A6-OC3MM	1-Port Enh ATM OC3-c/STM-1 Multimode Port Adapter (8000 VCs)
PA-A6-OC3SML	1-Port Enh ATM OC3-c/STM-1 Single-Mode (LR) Port Adapter

Q. Where can I check on the hardware and software compatibility for the Cisco uBR7200-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 that matches your requirements.

Go to <http://tools.cisco.com/Support/Fusion/FusionHome.do>

Q. What Cisco I/O controllers are compatible with the Cisco uBR7200-NPE-G2?

A. The Cisco uBR7200-NPE-G2 is compatible with the Cisco uBR7200-I/O-2FE/E I/O controller on the Cisco uBR7246VXR. The I/O controller is optional and if it is present, the Cisco I/O controller functions for console and auxiliary ports will be active and the corresponding connections on the Cisco uBR7200-NPE-G2 will be deactivated. If a Cisco I/O controller is not

present, all connections are active on the Cisco uBR7200-NPE-G2. The PCMCIA slots and any LAN/WAN interfaces present on a Cisco I/O controller will always be available in addition to the compact flash slot on the Cisco uBR7200-NPE-G2.

It is important to remember that the Cisco I/O controller is entirely optional in a Cisco uBR7200-NPE-G2 enabled system. Customers upgrading to a new Cisco uBR7200-NPE-G2 in an existing chassis will have the option of retaining the functionality of their existing Cisco I/O controller, while new chassis purchases will be available without a Cisco I/O controller to reduce cost or with a Cisco I/O controller at the customer's discretion. If a system is purchased without a Cisco I/O controller, it will be shipped with a blank I/O controller slot cover. The Cisco uBR7200-NPE-G2 will still occupy the NPE slot on the rear of the chassis with all of its connections being on the rear (the same side as the power supplies).

Q. Is the Cisco UBR7200-NPE-G2 supported on the Cisco IOS Software 12.3BC train?

A. No, the Cisco UBR7200-NPE-G2 is only supported in Cisco IOS Software Release 12.2SB, which includes PacketCable Multimedia (PCMM), admission control, Advanced Mode DSG, and SII features.

Q. Does the Cisco uBR7200-NPE-G2 work with the Cisco uBR7100 Series or uBR7223?

A. No, these two platforms do not work with the Cisco uBR7200-NPE-G2. If you require a high-performance, small form-factor CMTS, consider the Cisco uBR7225VXR. The Cisco uBR7200-NPE-G2 will be supported on the Cisco uBR7225VXR in a future release.

Ordering Information

Q. What are the part numbers for the Cisco uBR7200-NPE-G2?

A. Table 2 lists the part numbers.

Table 2. Cisco uBR7200-NPE-G2 Part Numbers

Product Number	Product Description
uBR7200-NPE-G2	Cisco uBR7200-NPE-G2 including default 1 GB DRAM and default 256 MB flash memory
uBR7200-NPE-G2=	Cisco uBR7200-NPE-G2 including default 1 GB DRAM and default 256 MB flash memory, spare

Q. Is there a Cisco Technology Migration Program (TMP) for the Cisco uBR7200-NPE-G2?

A. Yes, customers who trade-in older network processing engines will receive a trade-in credit toward the purchase of a Cisco uBR7200-NPE-G2. Details about the Cisco TMP are available at <http://www.cisco.com/go/TMP>.

Q. What is the pricing of the Cisco uBR7200-NPE-G2?

A. Information about the pricing and configuration of the Cisco uBR7200-NPE-G2 is available from your Cisco account manager or channel partner.



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