

Cisco 7200VXR Series NPE-G2 Network Processing Engine

Increasingly, business applications and services affect aggregation requirements and router-integrated services across the WAN and metropolitan-area network (MAN), at both, the branch office and headquarter.

Consequently, to continue to meet the increasing need for performance for router-integrated services at the branch office and headquarters and to maintain exceptional value and flexibility, Cisco Systems® introduces the newest processor for the Cisco® 7200VXR Series—the Cisco 7200VXR NPE-G2 Network Processing Engine (Figure 1). The Cisco NPE-G2 addresses the demand for performance and flexibility by further increasing its processing capacity and helping enable the latest Cisco IOS® Software features. Table 1 lists its features.

Figure 1. Cisco 7200VXR Series NPE-G2



Table 1. Features of Cisco NPE-G2

Feature	Description
Performance of up to 2 Million Packets per Second (pps) in Cisco Express Forwarding Switching	<ul style="list-style-type: none"> • Doubles the performance compared to Cisco NPE-G1 • Dramatically increases the performance and scalability of the Cisco 7200VXR Series in WAN and MAN applications for both enterprises and service providers
Modularity	<ul style="list-style-type: none"> • Helps enable maximum investment protection through the ability to upgrade processors incrementally
Backward Compatibility with Existing Port Adapters (with a few exceptions)	<ul style="list-style-type: none"> • Provides investment protection through backward compatibility • Note: The following end-of-sale port adapters are not supported: <ul style="list-style-type: none"> – Cisco Fibre Channel over IP Port Adapter (PA-FC-1G; this port adapter is end-of-sale status as of December 3, 2004) – Cisco 1-Port OC-12, Dual-Width DPT Port Adapter (PA-SRP-OC12; this port adapter is end-of-sale status as of July 15, 2005) – Cisco VPN Acceleration Module (SA-VAM; this service adapter is end-of-sale status as of April 28, 2006) – Cisco VPN Acceleration Module 2 (SA-VAM2; this service adapter is end-of-sale status as of April 28, 2006)
Three Fixed Gigabit Ethernet Ports (10/100/1000-Mbps Copper or Small Form-Factor Pluggable Optics [SFP])	<ul style="list-style-type: none"> • Maximizes LAN connectivity and performance without taking up bandwidth points or midplane capacity

Feature	Description
Built-in I/O Function (Compact Flash Memory, Console Port, Auxiliary Port, and Bootflash Memory)	<ul style="list-style-type: none"> Reduces costs (Note: An I/O controller can still be used. The Cisco NPE-G2 is supported with the Cisco 7200VXR Series I/O controllers with the following part numbers: C7200-I/O, C7200-I/O-2FE, and C7200-I/O-GE+E.)
Support for Third Peripheral-Component-Interconnect (PCI) Bus to the I/O Controller Slot	<ul style="list-style-type: none"> Frees the current I/O controller ports from bandwidth allocation, allowing two PCI buses to be dedicated to the port adapter slots Provides cost-effective way for a slot expansion by using port adapter jacket card Provides a dedicated slot for the high-performance VPN services adapter
Double the Speed of the PCI Bus on the I/O slot	<ul style="list-style-type: none"> Dramatically increases the performance of Cisco 7200VXR Series VPN Services Adapter (VSA)
1 GB of DRAM Default Memory	<p>Delivers the most amount of memory by default compared to existing Cisco 7200VXR Series network processing engines, offering the following benefits:</p> <ul style="list-style-type: none"> Supports more routes and routing tables Supports more Multiprotocol Label Switching (MPLS) virtual routing and forwarding instances (VRFs) Supports more sessions for broadband aggregation Helps enable higher scalability on features such as NetFlow, Network Address Translation (NAT), access control lists (ACLs), and more Offers post-first customer shipment (FCS) support for optional upgrade to 2 GB DRAM
Cisco IOS Software	<ul style="list-style-type: none"> Supports a wide range of IP and non-IP network services, including quality of service (QoS), MPLS, broadband aggregation, integrated security, encryption, voice, and more
Dedicated Management for 10/100-Mbps Ethernet	<ul style="list-style-type: none"> Reduces costs and protects port density of the chassis
Two USB Ports	<ul style="list-style-type: none"> Provides a large, removable storage for files Stores security e-tokens for VPN applications
Digital Diagnostics on SFP Interfaces	<ul style="list-style-type: none"> Provides a powerful tool that monitors many manageable parameters, including optical transmit and receive power, voltage and temperature measurement, and factory parameters
Time Domain Reflectometry (TDR) on Copper Interfaces	<ul style="list-style-type: none"> Provides an effective method of isolating fault at the remote end of the copper wire by monitoring reflected pulsed signals

NEW FEATURES

With the introduction of the Cisco NPE-G2, the following is offered (refer to Table 1 for details):

- Provides double the performance compared to the Cisco 7200VXR NPE-G1—up to 2 million pps in Cisco Express Forwarding
- Offers three 10/100/1000-Mbps copper Ethernet ports and optical ports that do not consume any bandwidth points
- Provides one dedicated 10/100-Mbps copper Ethernet port for management
- Provides two USB ports for general storage and security token storage
- Offers 1 GB of DRAM memory by default; post-FCS: Optional upgrade to 2 GB DRAM
- Eliminates the requirement for an I/O controller
- Extends the use of the available I/O slot for a single port adapter or a Cisco 7200VXR VPN Service Adapter (part number C7200-VSA) (when available)
- Offers greatly improved price/performance ratio

UPGRADE PATHS

The Cisco NPE-G2 is part of the Cisco Technology Migration Program (TMP). Customers are encouraged to review their networking requirements and to use the TMP to upgrade from previous generations of Cisco 7200VXR Series network processing engines to the Cisco NPE-G2. Refer to <http://www.cisco.com/go/TMP> and contact your local Cisco account representative related to the TMP.

AVAILABILITY

The Cisco 7200VXR Series NPE-G2 is available and supported as of Cisco IOS Software Special Release 12.4(4)XD. The Cisco NPE-G2 will also be supported in Release 12.4T (as of fifth release of 12.4T) as well as—in the future—on Release 12.5 Mainline and Release 12.2SB.

The Cisco NPE-G2 is supported in the Cisco 7204VXR and Cisco 7206VXR chassis.

ORDERING INFORMATION

Table 2 gives ordering information for the Cisco NPE-G2.

Table 2. Ordering Information for Cisco NPE-G2

Part Number	Description
NPE-G2	Cisco NPE-G2, including 1-GB default DRAM and 256-MB default flash memory
NPE-G2=	Cisco NPE-G2, including 1-GB default DRAM and 256-MB default flash memory, spare
MEM-NPE-G2-1GB	One 1-GB memory module for the Cisco NPE-G2
MEM-NPE-G2-1GB=	One 1-GB memory module for the Cisco NPE-G2, spare
MEM-NPE-G2-FLD256	256-MB Compact Flash disk for the Cisco NPE-G2
MEM-NPE-G2-FLD256=	256-MB Compact Flash disk for the Cisco NPE-G2, spare
IO-CONTROLR-BLANK=	I/O controller slot blank, spare
MEMUSB-64FT	64-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series
MEMUSB-64FT=	64-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series, spare
MEMUSB-128FT	128-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series
MEMUSB-128FT=	128-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series, spare
MEMUSB-256FT	256-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series
MEMUSB-256FT=	256-MB USB flash token for Cisco 1800, 2800, 3800, and 7200 series, spare

FOR MORE INFORMATION

For more information about the Cisco NPE-G2, visit <http://www.cisco.com/go/7200> or contact your local Cisco account representative.

MARKETING CONTACTS

Young Bae, ybae@cisco.com, +1(408) 853-3012

**Corporate Headquarters**

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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