Cisco 7201Router

Q. What is the Cisco® 7201 Router?

A. The Cisco 7201 Router is a compact, high-performance, 1-rack-unit (1RU), fixed-configuration router that has the same network processing engine that is currently supported on Cisco 7200 Series routers (NPE-G2).

Q. What is the main difference between the engine on the Cisco 7201 and the Cisco 7200 NPE-G2 Network Processing Engine?

A. The main difference between the Cisco 7200 NPE-G2 and the Cisco 7201 NPE-G2 is that the Cisco 7201 NPE-G2 has one more onboard Gigabit Ethernet port; that is, the Cisco 7201 NPE-G2 has 4 Small Form-Factor Pluggable (SFP) 10/100/1000 Ethernet ports. In terms of software code change, minor changes were made in the platform, system control, fourth Ethernet port driver, and management Fast Ethernet port driver to support the Cisco 7201.

Q. What SFP module types are supported on the four native ports?

A. The front-panel SFP-based Ethernet port supports the following SFP modules types:

- Cisco 1000BASE-SX SFP
- Cisco 1000BASE-LX/LH SFP
- Cisco 1000BASE-ZX SFP
- Cisco Coarse Wavelength-Division Multiplexing (CWDM) SFP (future)
- Cisco 10/100/1000BASE-T Copper SFP (future)
- Cisco Dense Wavelength-Division Multiplexing (DWDM) SFP (future)

Q. Is the fourth Gigabit Ethernet port the same as the other three native ports?

A. The fourth Gigabit Ethernet port is different from the other three native Gigabit Ethernet ports. It hangs off the PCI-X bus and can reach wire speed for all packet sizes, and is indistinguishable in looks from the other three.

Q. What is the performance of the Cisco 7201?

A. Please refer to the performance document posted on the Web at http://wwwin.cisco.com/rsptg/sprtg/mrbu/technical_resources/general.shtml

Q. What Cisco IOS® Software features are supported on the Cisco 7201?

A. Depending on the Cisco IOS Software train being used, all Cisco IOS Software features are supported because, similar to the Cisco 7301, the Cisco 7201 is a CPU-based platform. Examples include the following:

- Border Gateway Protocol (BGP), Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Routing Information Protocol (RIP), etc.
- IP Multicast [[OK?]]
- Point-to-Point Protocol over ATM (PPPoA), PPP over Ethernet (PPPoE), PPP over VLAN (PPPoVLAN), and Layer 2 Tunneling Protocol (L2TP)

- Multichassis Multilink PPP
- Hardware IP Security (IPsec) acceleration
- Hardware compression acceleration
- Fast Cisco EtherChannel® technology
- Standard 802.1Q
- Gateway and gatekeeper
- Media Gateway Control Protocol (MGCP)
- Multiprotocol Label Switching (MPLS)
- MPLS VPN
- Multiprotocol routing
- Class-Based Weighted Fair Queuing (CBWFQ), Low-Latency Queuing (LLQ), Committed Access Rate (CAR), and Weighted Random Early Detection (WRED)
- Network Address Translation (NAT) and Port Address Translation (PAT)
- Cisco IOS Firewall and server load balancing (SLB)

Q. What new features does the Cisco 7201 offer?

A. The Cisco 7201 provides:

- Double the performance compared to the Cisco 7301 1RU router—up to 2 million pps in Cisco Express Forwarding switching
- Four native Gigabit Ethernet interfaces:
  - Four optical fiber Gigabit Ethernet (1000 Mbps) ports that use SFP modules with LC connectors; Gigabit Ethernet ports 0–2 support 10/100/1000 Mbps, and port 3 supports only 1000 Mbps
  - Two of the 4 Gigabit Ethernet (10/100/1000 Mbps) ports are equipped with RJ-45 connectors (the use of an RJ-45 port or SFP port on a common Gigabit Ethernet interface is mutually exclusive at any one time)
- One dedicated 10/100-Mbps copper Ethernet port for management
- Dual field-replaceable AC or DC power supplies
- One USB port for general storage and security token storage
- By default, 1 GB of DRAM, with optional upgrade to 2-GB synchronous dynamic (SDRAM)
- Backward compatibility with existing port adapters (with a few exceptions)
- Greatly improved price/performance ratio

Q. How is the Cisco 7201 positioned compared to the Cisco 7301 and other midrange routing products?

A. The Cisco 7201 is positioned as the next-generation platform for the Cisco 7301. It has the same 1RU form factor but with a faster engine. Compared to the Cisco 7301, the Cisco 7201 can provide more processing power and performance with features enabled.

In terms of comparison with other platforms such as the Cisco 7200 or the Cisco 7304, the Cisco 7201 is positioned as an extremely low-cost 1RU solution without sacrificing performance. It is particularly well suited in service provider customer premises equipment (CPE) and enterprise networks where port count requirements are relatively low, but where wide-ranging feature support is a definite requirement.

Q. Where is the Cisco 7201 positioned in a service provider's network?

A. As a next-generation platform of the Cisco 7301, the Cisco 7201 offers compact size, full features, and powerful processing capability. The Cisco 7201 is ideal for a variety of application areas. Like the Cisco 7301, the Cisco 7201 would be ideal in five principal application areas in an Internet service provider’s (ISP's) network:

- The Cisco 7201 can serve as a broadband aggregation router capable of handling up to 16,000 sessions, allowing for an easily expandable "rack and stack" architecture.
- The Cisco 7201 can act as an IPv6 gateway between IPv4 and IPv6, handling IPv6 VPN architectures as well.
- The Cisco 7201 can offer a high-end CPE solution in which an ISP needs to provide a very powerful customer premises router with numerous available uplink options.
- The Cisco 7201 can function as an MPLS VPN customer edge router as well as provide Metro Ethernet services by using Layer 2 tunneling.
- With the capability of holding very large numbers of routes with the maximum of 2GB of RAM installed, the Cisco 7201 is particularly well suited to being a low-cost route reflector within an ISP's network capable of IPv4 and VPNv4 address spaces.

Q. Where is the Cisco 7201 positioned in an enterprise customer's network?

A. Similar to the Cisco 7301, the Cisco 7201 can be used as high-end CPE in a large branch, where full integrated services with higher performance are required—up to Gigabit Ethernet or more.

The Cisco 7201 can work as a high-speed Internet gateway with wide-area networking connectivity through the port adapter slot and LAN connectivity through the four onboard Ethernet ports.

The Cisco 7201 can also be used as an optimized edge router, with the Cisco 7201 as the master controller. In this application, WAN availability, WAN performance, load distribution, and cost management are critical factors.

The Cisco 7201 is an ideal platform to provide tunnle-less VPN services. Benefits include greater value through service integration, increased security, operational simplicity, and optimized network usage.

Q. Which port adapters are supported on the Cisco 7201?

A. Please check the detailed port adapter support list in the Cisco 7201 data sheet at [[PLS SUPPLY URL]].

Q. Which port adapters are not supported on the Cisco 7201?

A. The port adapters with the following part numbers are currently not supported on the Cisco 7201:

- PA-SRP-OC12MM
- PA-SRP-OC12SMI
- PA-SRP-OC12SML
- PA-SRP-OC12SMX
- PA-A3-OC12MM
- PA-A3-OC12SMI
- PA-FE-TX
- PA-FC-1G
- PA-MC-8T1
- PA-MCX-2TE1
- PA-MCX-4TE1
- PA-MCX-8TE1
- PA-VXA-1TE1-24+
- PA-VXA-1TE1-30+
- PA-VXB-2TE1+
- PA-VXC-2TE1+
- PA-5EFL
- PA-4R-DTR
- PA-4E

Q. Which Cisco IOS Software releases support the Cisco 7201?

A. The Cisco 7201 will initially be supported at first customer shipment (FCS) with Cisco IOS Software Releases 12.4XD7 (special release) and 12.2(31)SB4. Later, the following releases will be supported on the Cisco 7201: 12.5 Mainline, 12.2SR, and 12.4T.

Q. What is the architecture of the Cisco 7201?

A. The Cisco 7201 NPE-G2 is the next-generation 1RU version of the Cisco 7200 NPE-G2 platform. The Cisco 7201 processing engine is very similar to that of the NPE-G2, with Motorola 7448 PowerPC processor CPU with Marvel MV644465 system controller chip. The Marvell system controller has mainly three native Gigabit Ethernet ports and two PCI-X host interfaces. The fourth Gigabit Ethernet port is implemented using an Intel i82546 dual MAC/PHY Ethernet controller chip; the other port of the i82546 is used for management of the Fast Ethernet port. The clock speed of the CPU is 1.8 GHz.

- The Cisco 7201 supports up to 2-GB main memory, doubling the size of the memory that the Cisco 7301 can support.
- The Cisco 7201 has a larger boot ROM (up to 4 MB).
- The Cisco 7201 supports most port adapters available for Cisco 7000 series routers (refer to previous list of port adapters not supported).

Q. 13. How do I order a Cisco 7201?

A. To place an order, visit the Cisco Ordering Home Page at https://tools.cisco.com/qtc/order/IPCLoginServlet?session=11703920234832153320312539O and refer to Table 1.

To download software, visit the Cisco Software Center at http://www.cisco.com/kobayashi/sw-center/.

Table 1. Ordering Information

Product Name	Part Number
Cisco 7201 Router base system—Chassis, 1GB Memory, Dual power supplies by default (you have choice between Dual AC or Dual DC) and 256MB Flash	CISCO7201
Cisco 7201 Router Spare—Chassis, 1GB Memory, Dual power supplies by default (you have a choice between Dual AC or Dual DC) and 256MB Flash	CISCO7201=
Cisco 7201 Single AC Power Supply option	PWR-7201-AC
Cisco 7201 Single AC Power Supply—Spare	PWR-7201-AC=
Cisco 7201 Single DC Power Supply option	PWR-7201-DC
Cisco 7201 Single DC Power Supply—Spare	PWR-7201-DC=
Cisco 7201 1GB Memory option	MEM-7201-1GB
Cisco 7201 1GB Memory—Spare	MEM-7201-1GB=
Cisco 7201 2GB Memory option	MEM-7201-2GB
Cisco 7201 2GB Memory—Spare	MEM-7201-2GB=
Cisco 7201 Compact Flash Disk, 256 MB	MEM-7201-FLD256
Cisco 7201 Compact Flash Disk, 256 MB—Spare	MEM-7201-FLD256=
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-64FT=
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-128FT=
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	MEMUSB-256FT=
Cisco 1000BASE-SX SFP (DOM)	SFP-GE-S
Cisco 1000BASE-SX SFP (DOM)—Spare	SFP-GE-S=
Cisco 1000BASE-LX/LH SFP (DOM)	SFP-GE-L
Cisco 1000BASE-LX/LH SFP (DOM)—Spare	SFP-GE-L=
Cisco 1000BASE-ZX Gigabit Ethernet SFP (DOM)	SFP-GE-Z
Cisco 1000BASE-ZX Gigabit Ethernet SFP (DOM)—Spare	SFP-GE-Z=
Cisco 1000BASE-T SFP (NEBS 3 ESD)	SFP-GE-T=
Rack Mount for Cisco 7201	CISCO7201-RCKMNT=

Q. Where can I get pricing or future product information for the Cisco 7201?

A. Check the current Cisco Product Price List at https://tools.cisco.com/qtc/pricing/MainServlet or contact product marketing by sending an e-mail to the ask-7201-pm alias and cs-7200 for customer support.

Americas 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: 408 527-0883

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

Europe Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 800 020 0791
Fax: +31 0 20 357 1100

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Printed in USA

C67-398740-00 3/07