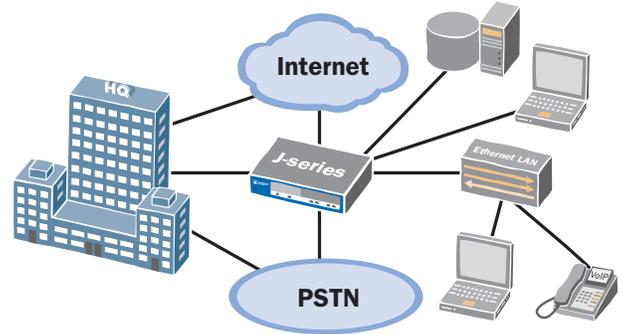*Juniper Networks J-series routers provide up to Gigabit Ethernet performance for enterprise remote, branch, and regional offices. They run the modular Juniper Networks JUNOS™ software, which offers advanced services (MPLS, IPv6, quality of service [QoS], multicast) and security (stateful firewall and IPSec VPN) at no additional charge. The J-series Services Routers support integrated IP telephony using the Avaya IG550 Integrated Gateway. The J-series routers have the performance headroom and extensible memory to meet future demands, and they provide unmatched reliability, investment protection, and value for the enterprise.*

Juniper Networks J-series Services Routers: J2320, J2350, J4350, and J6350

Product Description

Juniper Networks J-series routers are ideal for branch offices connected directly to a traditional private network, such as leased lines, Frame Relay, ATM, or MPLS, or for branch offices where the public Internet is used as an alternative to a traditional private WAN. Because the J-series routers offer superior performance while running services such as stateful firewall, Network Address Translation (NAT), and IPSec, they are also ideally suited for Metro Ethernet deployments.

The Juniper Networks J2320, J2350, J4350, and J6350 are modular routers that support Juniper Physical Interface Modules (PIMs), which provide a wide variety of common WAN and LAN interfaces, including Gigabit Ethernet. All models offer optional hardware encryption acceleration (standard on the J6350), and all except the J2320 are available in DC and Network Equipment Building System (NEBS) versions. Additionally, the J6350 offers redundant AC or DC power supplies.

Key Hardware Features of the J-series Services Routers

Product	Description
J2320	• Support for T1, E1, Synchronous Serial, ISDN Basic Rate Interface, ADSL2/ADSL2+, G.SHDSL, and Gigabit Ethernet Interfaces • Support for integrated IP telephony* • 4 fixed Gigabit Ethernet LAN ports, and 3 PIM slots • 256 MB DRAM default, expandable to 1 GB DRAM • 256 MB compact flash default, upgradeable to 1 GB • Hardware encryption acceleration (optional)
J2350	• Support for T1, E1, Synchronous Serial, ISDN BRI, ADSL/2/2+, G.SHDSL, and Gigabit Ethernet Interfaces • Support for integrated IP Telephony* • 4 fixed Gigabit Ethernet LAN ports, and 5 PIM slots • 256 MB DRAM default, expandable to 1 GB DRAM • 256 MB compact flash default, upgradeable to 1 GB • Hardware encryption acceleration (optional) • DC version available • NEBS-compliant models available
J4350	• Support for T1, E1, Fast Ethernet, Synchronous Serial, ISDN BRI, ADSL2/ADSL2+, G.SHDSL, DS3, E3, Gigabit Ethernet Interfaces • Support for integrated IP telephony using the Avaya IG550 Integrated Gateway • 4 fixed Gigabit Ethernet LAN ports, 4 PIM slots, and 2 EPIM/PIM slots • DC version available • 1 GB or 256 MB DRAM default, expandable to 2 GB DRAM • 256 MB compact flash default, upgradeable to 1 GB • Hardware encryption acceleration (optional) • NEBS-compliant models available
J6350	• Support for T1, E1, Fast Ethernet, Synchronous Serial, ISDN BRI, ADSL2/ADSL2+, G.SHDSL, DS3, E3, Gigabit Ethernet Interfaces • Support for integrated IP telephony using the Avaya IG550 Integrated Gateway • 4 fixed Gigabit Ethernet LAN ports, 2 PIM slots, and 4 EPIM/PIM slots • DC version available • 1 GB DRAM default, expandable to 2 GB DRAM • 256 MB compact flash default, upgradeable to 1 GB • Hardware encryption acceleration standard • NEBS-compliant models available • Redundant AC or DC power supplies

*Future support using the Avaya IG550 Integrated Gateway

Network Deployments

The J-series Services Routers are deployed at branch and remote locations in the network to provide all-in-one secure WAN connectivity, IP telephony, and connection to local PCs and servers via integrated Ethernet switching.

Features and Benefits

Juniper Networks J-series Services Routers offer high performance while running advanced services, integrated voice over IP (VoIP), a state-of-the-art modular operating system, extensive connectivity options, built-in troubleshooting, and MPLS functionality by default.

Common Juniper Networks J-series deployment.

Features and Benefits of Juniper Networks J-series Services Routers

Feature	Feature Description	Benefit
High performance with services	Minimal performance degradation when running advanced services such as stateful firewall, NAT, and IPSec.	Enables migration from traditional WAN technologies to next-generation connectivity such as xDSL, fiber, and Metro Ethernet without replacing the base system.
Integrated IP telephony	Support for Avaya's IG550 Integrated Gateway, a set of plug-in modules that offer media gateway capabilities and a variety of traditional telephony interfaces for analog, digital, and ISDN trunks as well as analog and IP stations. (For more information, see http://www.avaya.com/gcm/master-usa/en-us/products/offers/ig550_integrated_gateway.htm)	• Reduces deployment and management overhead, providing low total cost of ownership. • Provides multilevel business continuity options. • Interoperates with other Juniper and Avaya products. • Offers best-in-class integration with integrated management, superior functionality, and limited performance impact, resulting in lower capital and operating expenditures and lower total cost of ownership.
Modular JUNOS operating system	Cleanly separated operating system components—the Routing Engine, Forwarding Engine, and Services Engine—enable a functional division of labor for seamless operation of many advanced features and capabilities. Each engine has its own protected processing and memory resources so that processing conflicts are never an issue.	• Minimizes network outages by separating software functions into modular components. • Prevents minor problems from proliferating to full system crashes. • Provides full control of the router even when under distributed denial of service (DDoS) attack, allowing filters to be added when needed most. • Maintains high uptime with next-generation command-line interface designed to help prevent operational errors. • Eases operations with one software code base across all routing platforms with straightforward software updates and upgrades. • Facilitates fast certification of releases and full interoperability between products. • Provides features for small and regional remote offices to help lower the operational costs of installing, managing, monitoring, and maintaining equipment. • Reduces time and effort required to perform tasks such as reordering access control lists and renaming interfaces.
Extensive connectivity options	• Large selection of modular LAN and WAN connectivity options including Gigabit Ethernet and Fast Ethernet, T1/E1, channelized T1/E1, serial, DS3, E3, ISDN, ADSL2+, and G.SHDSL physical interface modules. • Four onboard Gigabit Ethernet ports standard on J2320, J2350, J4350, and J6350.	Provides flexibility and investment protection when upgrading WAN connectivity for branch offices, allowing businesses to leverage their J-series services router for future applications such as Metro Ethernet.
Built-in troubleshooting	• Extensive debugs on all protocols • Wire-speed firewall filters with customized packet/byte counters • Port-mirroring • Packet sampling • Real-time traffic-interface/subinterface statistics. • Real-Time Performance Monitor—service-level agreement verification probes/alerts	Minimizes network downtime and decreases operating expenses and revenue losses due to outages

Feature	Feature Description	Benefit
Advanced routing features such as MPLS, BGP, and IPv6 included in the base system	• Ability to participate directly in the MPLS network and perform MPLS tagging functions without additional licenses or software upgrades. • Ability to use BGP as a routing protocol without software upgrades. Advanced BGP features such as BGP route reflector are available with a software license. • IP version 6 is supported in the base system without additional licenses or software upgrades.	• Supports a range of QoS requirements, from best-effort delivery to enhanced delivery to assured delivery. • Consolidates multiple physical networks and provides support for diverse Layer 2 networks over a common infrastructure. • Scales to meet greater throughput demands. • Provides Layer 2 traffic transport analogous to connection-oriented networks like ATM and Frame Relay. • Provides Layer 3 VPN separation from other traffic as needed by the network. • Offers MPLS fast reroute around network failures or congestion at SONET speeds—less than 50 ms. • Enables bidirectional forwarding detection for early detection of node/link failures.

Product Options

Juniper Networks J2320, J2350, J4350, and J6350 routers offer a number of options in terms of LAN and WAN ports, hardware encryption acceleration, power supplies, DRAM, compact flash, and feature licenses.

LAN Ports

All J2320, J2350, J4350, and J6350 routers ship with four fixed 10/100/1000 Ethernet ports. You can add more modular LAN interfaces by ordering the appropriate PIMs, Enhanced PIMs (EPIMs), or Universal PIMs (UPIMs). For more information, see the J-series WAN and LAN Modules Ordering Information section on page 8.

WAN Ports

All J2320, J2350, J4350, and J6350 routers ship without fixed WAN ports. The customer can add modular WAN interfaces by ordering the appropriate PIMs. For more information, see the J-series WAN and LAN Modules Ordering Information section on page 8.

Hardware Encryption Acceleration

The J2320, J2350, and J4350 are available with optional hardware encryption acceleration. All J6350 models include hardware encryption acceleration by default. If you purchase a J2320, J2350, or J4350 without hardware encryption, you can add it later by ordering the appropriate encryption card.

Power Supply

All J2350, J4350, and J6350 routers ship with either a DC power supply or an AC power supply and include a region-specific power cord. (The J2320 is available with AC power only.) The J6350 supports a second redundant AC or DC power supply, which can be added by ordering SSG-PS-DC or SSG-PS-AC. The region-specific AC power cable for SSG-PS-AC must be ordered separately.

DRAM

The J2320 and J2350 are upgradeable to a maximum of 1 GB DRAM. The J2320 and J2350 models without hardware encryption acceleration (J2320-JB-SC and J2350-JB-SC) come with 256 MB DRAM. All other models come with 1 GB of DRAM.

All J4350 models are upgradeable to a maximum of 2 GB DRAM. The J4350 model that ships without hardware encryption acceleration (J-4350-JB-SC) ships with 256 MB of DRAM. All other J4350 models ship with 1 GB of DRAM.

All J6350 routers ship with 1 GB of DRAM and are upgradeable to 2 GB of DRAM. Order and install two additional JXX50-MEM-512M-S DIMMs.

Note that when upgrading DRAM, DIMMs should always be installed in pairs; for example, to upgrade to 1 GB DRAM, order two JXX50-MEM-512M-S DIMMs. To upgrade to 2 GB DRAM, order four JXX50-MEM-512M-S DIMMs.

J4350 and J6350 Supported Memory Configurations

Total Memory	DIMM 0	DIMM 1	DIMM 2	DIMM 3
256 MB	128 MB	–	128 MB	–
512 MB	256 MB	–	256 MB	–
1 GB	256 MB	256 MB	256 MB	256 MB
1 GB	512 MB	–	512 MB	–
2 GB	512 MB	512 MB	512 MB	512 MB

Compact Flash

All J2320, J2350, J4350, and J6350 routers ship with 256 MB of primary compact flash. You can replace that with a larger compact flash by ordering one either JX-CF-512M-S (for 512 MB) or JX-CF-1G-S (for 1 GB).

Operating System

All J-series routers ship with the Worldwide version of JUNOS, which has standard encryption, as opposed to the US and Canada version, which has strong encryption. You can download the strong encryption version at no charge so long as you can certify eligibility. The download is available from Juniper's Customer Support Center Web site: https://www.juniper.net/customers/csc/software/.

Feature Licenses

Licenses are required to operate the J-Flow Accounting and Advanced BGP features on Juniper Networks J-series routers. To acquire licenses, order JX-JFlow-ADV-LTU (for J-Flow Accounting) or JX-BGP-ADV-LTU (for Advanced BGP). Each license is good for one chassis.

Specifications

Protocols
· IPv4, IPv6, ISO CLNS

Routing and Multicast
· OSPF
· BGP
· BGP Router Reflector*
· RIPv2
· Static routes
· IS-IS
· Multicast (IGMPv3, PIM, SDP, DVMRP, source-specific)
· MPLS
· IPv6 Multicast Listener Discovery (MLD)

IP Address Management
· Static
· DHCP (client and server)
· DHCP relay

Encapsulations
· Ethernet (MAC and tagged)
· PPP (synchronous)
· Frame Relay
· HDLC
· Serial (RS-232, RS-449, X.21, V.35, EIA-530)
· 802.1q support
· MLPPP
· MLFR (FRF.15, FRF.16)
· PPPoE
· Data-link switching (DLSw)

Traffic Management
· Marking, policing, and shaping
· Class-based queuing with prioritization
· WRED
· Queuing based on VLAN, DLCI, interface, bundles, or filters

Security
· Network attack detection
· DoS and DDoS protections (anomaly-based)
· Tunnels (GRE, IP-in-IP, IPSec)
· DES (56-bit), 3DES (168-bit), AES (256-bit) encryption
· MD5 and SHA-1 authentication
· Prevent replay attack
· Stateful firewall filters

Voice Transport
· FRF.12
· Link fragmentation and interleaving (LFI)
· Compressed Real-Time Transport Protocol (CRTP)

High Availability
· Virtual Router Redundancy Protocol (VRRP)
· Dial backup

IPv6
· OSPFv3
· Multicast Listener Discovery (MLD)
· BGP
· QoS
· IPv4 tunneling
· 6PE

MPLS
· Layer 2 VPN
· Layer 3 VPN
· LDP
· RSVP
· Circuit Cross-connect (CCC)
· Translational Cross-connect (TCC)

System Management
· Juniper Networks JUNOScope Manager
· Juniper Networks J-Web browser interface
· Juniper Networks Service Deployment System™ (SDX)
· Juniper Networks JUNOScript™ XML API
· Juniper Networks JUNOS command-line interface (console, telnet, SSH)
· SNMPv2 and SNMPv3

SLA and Measurement
· Real-time performance monitoring
· Top talkers (sessions, packets, bandwidth usage)
· J-Flow flow monitoring and accounting services*

Logging and Monitoring
· Syslog
· Traceroute

Administration
· External administrator database (RADIUS, LDAP, SecureID)
· Auto configuration
· Configuration rollback
· Rescue configuration with button
· Commit confirm for changes
· Auto record for diagnostics
· Software upgrades

Certifications
· ETSI EN-300386-2 Telecommunication Network Equipment Electromagnetic Compatibility Requirements

*Requires additional license; see Ordering Information on page 6 for more information

Product Comparison

Specification	J6350	J4350	J2350	J2320
Maximum Performance and Capacity				
JUNOS version support	JUNOS 8.0	JUNOS 8.0	JUNOS 8.4	JUNOS 8.4
Forwarding performance (large packets)	2 Gbps+	1 Gbps+	750 Mbps+	600 Mbps+
Forwarding performance (IMIX)	1 Gbps	600 Mbps	500 Mbps	400 Mbps
3DES + SHA-1 VPN performance (large packets)	500 Mbps	300 Mbps with hardware acceleration 30 Mbps without	225 Mbps	175 Mbps
Network Connectivity				
Fixed I/O	4x 10/100/1000	4x 10/100/1000	4x 10/100/1000	4x 10/100/1000
Maximum PIM slots	6	6	5	3
Maximum EPIM slots	4	2	0	0
WAN interface options	See WAN and LAN Module Part Numbers, page 8			
LAN interface options	See WAN and LAN Module Part Numbers, page 8			
Flash and Memory				
Memory minimum and maximum (DRAM)	1 GB, 2 GB	256 MB, 2 GB	256 MB, 1 GB	256 MB, 1 GB
Memory slots	4	4	4	4
Compact flash minimum and maximum	256 MB, 1 GB	256 MB, 1 GB	256 MB, 1 GB	256 MB, 1 GB
USB port for external storage	Yes	Yes	Yes	Yes
Dimensions and Power				
Dimensions (W x H x D)	17.5 x 3.5 x 21.5 in. (445 x 89 x 546 mm)	17.5 x 3.5 x 21.5 in. (445 x 89 x 546 mm)	17.5 x 2.6 x 15.1 in. (445 x 66 x 374 mm)	17.5 x 1.75 x 15.1 in. (445 x 44 x 383 mm)
Weight	25.0 lb (11.3 kg) No interface modules, 1 power supply / 30.7 lb (13.9 kg) 6 interface modules, 2 power supplies	23.0 lb (10.4 kg) No interface modules / 25.3 lb (11.5 kg) 6 interface modules	16 lb (7.3 kg) No interface modules / 19 lb (8.6 kg) 5 interface modules	15 lb (6.8 kg) No interface modules / 16.6 lb (7.6 kg) 3 interface modules
Rack mountable	Yes, 2 RU	Yes, 2 RU	Yes, 1.5 RU	Yes, 1 RU
Power supply (AC)	100–240 VAC, 420 W	100–240 VAC, 350 W	100–240 VAC, 300 W	100–240 VAC, 275 W
Average power consumption	166 W	143 W	80 W	80 W
Input frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Maximum current consumption	5.7 A @ 90 VAC	5.7 A @ 90 VAC	3.5 A @ 100 VAC	3.2 A @ 100 VAC
Maximum inrush current	30 A	32 A	32 A	42 A
Average heat dissipation	566 BTU/hour	488 BTU/hour	273 BTU/hour	273 BTU/hour
Maximum heat dissipation	1145 BTU/hour	1070 BTU/hour	1195 BTU/hour	1091 BTU/hour
Power supply (DC)	-48 to -60 VDC, 420 W	-48 to -60 VDC, 420 W	-48 to -60 VDC, 300 W	–
Redundant power supply (hot swappable)	Yes	No	No	No
Noise level	61.2 dB	59.3 dB	59.2 dB	40.0 dB
Certifications				
Safety certifications	TUV, CSA, CB	TUV, CSA, CB	TUV, CSA, CB	TUV, CSA, CB
EMC Certifications	FCC class B, CE class B, C-Tick, VCCI class B	FCC class B, CE class B, C-Tick, VCCI class B	FCC class A, CE class A, C-Tick, VCCI class A	FCC class A, CE class A, C-Tick, VCCI class A
Environment				
Operational temperature	32°–122° F, (0°–50° C)	32°–122° F, (0°–50° C)	32°–122° F, (0°–50° C)	32°–122° F, (0°–50°C)
Nonoperational temperature	4°–158° F, (-20°–70° C)	4°–158° F, (-20°–70° C)	4°–158° F, (-20°–70° C)	4°–158° F, (-20°–70° C)
Humidity	10%–90% noncondensing	10%–90% noncondensing	10%–90% noncondensing	10%–90% noncondensing
Mean time between failures (Bellcore model)	12 years with redundant power	7.6 years	6.8 years	7.2 years
Other	NEBS Level 3	NEBS Level 3	NEBS Level 3	–

Ordering Information

The following tables outline part numbers for J6350, J4350, J2350, and J2320 base systems and options; associated WAN and LAN modules; and additional accessories.

J6350 Part Numbers

J6350 Base System	J6350 Options
Available Models	**Interface Modules**
• J-6350-JB (AC with hardware encryption acceleration)	Various choices; see page 8
• J-6350-JB-N (AC NEBS compliant with hardware encryption acceleration)	**Redundant Power Supply**
• J-6350-JB-DC-N (DC NEBS compliant with hardware encryption acceleration)	• DC Supply (SSG-PS-DC)
Default Configuration	• AC Supply (SSG-PS-AC)
• Modular chassis with 6 slots (2 PIM slots, and 4 EPIM/PIM slots) for interface modules (PIMs or EPIMs)	**Region-Specific AC Power Cables for SSG-PS-AC**
• 4 fixed 10/100/1000 ports	• CBL-JX-PWR-AU (Australia)
• DC or AC power supply with region-specific power cord (optional redundant power supply can be ordered)	• CBL-JX-PWR-CH (China)
• 1 GB DRAM	• CBL-JX-PWR-EU (Europe)
• 256 MB primary compact flash; no secondary compact flash	• CBL-JX-PWR-IT (Italy)
• JUNOS Worldwide version	• CBL-JX-PWR-JP (Japan)
	• CBL-JX-PWR-UK (United Kingdom)
	• CBL-JX-PWR-US (USA)
	Additional DRAM
	2 GB (2 x JXX50-MEM-512M-S, added to default)
	Primary Compact Flash (replaces default)
	• 512 MB (JX-CF-512M-S)
	• 1 GB (JX-CF-1G-S)
	Additional Software Feature Licenses
	• Advanced BGP (JX-BGP-ADV-LTU)
	• J-Flow Accounting (JX-JFlow-LTU)

J4350 Part Numbers

J4350 Base System	J4350 Options
Available Models	**Interface Modules**
• J-4350-JB-SC (AC without hardware encryption acceleration)	• Various choices; see page 8
• J-4350-JB (AC with hardware encryption acceleration)	• Cryptographic Acceleration Module, to be used with J-4350-JB-SC only (JXH-HC-S)
• J-4350-JB-N (AC NEBS compliant with hardware encryption acceleration)	**Additional DRAM**
• J-4350-JB-DC-N (DC NEBS compliant with hardware encryption acceleration)	(DRAM upgrades must be installed in matching pairs)
Default Configuration	For J4350 without encryption acceleration:
• Modular chassis with 6 slots (4 PIM slots and 2 EPIM/PIM slots) for interface modules (PIMs or EPIMs)	• 512 MB (JXX50-MEM-256M-S, added to default)
• 4 fixed 10/100/1000 ports	• 1 GB (2 x JXX50-MEM-512M-S, replaces default)
• AC or DC power supply and region-specific power cord	• 2 GB (4 x JXX50-MEM-512M-S, replaces default)
• 1 GB DRAM (256 MB DRAM on J-4350-JB-SC)	For J4350 models with encryption acceleration:
• 256 MB primary compact flash; no secondary compact flash	• 2 GB (2 x JXX50-MEM-512M-S, added to default)
• JUNOS Worldwide version	**Primary Compact Flash (replaces default)**
	• 512 MB (JX-CF-512M-S)
	• 1 GB (JX-CF-1G-S)
	Additional Software Feature Licenses
	• Advanced BGP (JX-BGP-ADV-LTU)
	• J-Flow Accounting (JX-JFlow-LTU)

J2350 Part Numbers

J2350 Base System	J2350 Options
Available Models • J2350-JB-SC - J2350, JUNOS, Base Memory (256 MB), software encryption, AC power supply • J2350-JH - J2350, JUNOS, High Memory (1 GB), hardware encryption, AC power supply • J2350-JB-SC-N-TAA - J2350, JUNOS, Base Memory (256 MB), software encryption, AC Power Supply, NEBS, TAA • J2350-JH-N-TAA - J2350, JUNOS, High Memory (1 GB), hardware encryption, AC power supply, NEBS, TAA • J2350-JH-DC-N-TAA - J2350, JUNOS, High Memory (1 GB), hardware encryption, DC power supply, NEBS, TAA **Default Configuration** • Modular chassis with 5 slots for interface modules (PIMs) • 4 fixed 10/100/1000 ports • AC or DC power supply and region-specific power cord • 1 GB DRAM (256 MB DRAM on J2350-JB-SC) • 256 MB primary compact flash with secondary external compact flash slot • JUNOS Worldwide version	**Interface Modules** • Various choices; see page 8 • Cryptographic Acceleration Module, to be used with J2350-JB-SC only (JXH-HC2-S) **Additional DRAM** (DRAM upgrades must be installed in matching pairs) For J2350 without encryption acceleration: • 1 GB (2 x J-MEM-512M-S replaces default) **Primary Compact Flash (replaces default)** • 512 MB (JX-CF-512M-S) • 1 GB (JX-CF-1G-S) **Additional Software Feature Licenses** • Advanced BGP (JX-BGP-ADV-LTU) • J-Flow Accounting (JX-JFlow-LTU)

J2320 Part Numbers

J2320 Base System	J2320 Options
Available Models • J2320-JB-SC - J2320, JUNOS, Base Memory (256 MB), SW Encryption, AC power supply • J2320-JH - J2320, JUNOS, High Memory (1 GB), hardware encryption, AC power supply **Default Configuration** • Modular chassis with 3 slots for interface modules (PIMs) • 4 fixed 10/100/1000 ports • AC power supply and region-specific power cord • 1 GB DRAM (256 MB DRAM on J2320-JB-SC) • 256 MB primary compact flash with secondary external compact flash slot • JUNOS Worldwide version	**Interface Modules** • Various choices – see pae 8 • Cryptographic Acceleration Module, to be used with J2320-JB-SC only (JXH-HC2-S) **Additional DRAM** (DRAM upgrades must be installed in matching pairs) For J2350 without encryption acceleration: • 1 GB (2 x J-MEM-512M-S replaces default) **Primary Compact Flash (replaces default)** • 512 MB (JX-CF-512M-S) • 1 GB (JX-CF-1G-S) **Additional Software Feature Licenses** • Advanced BGP (JX-BGP-ADV-LTU) • J-Flow Accounting (JX-JFlow-LTU)

WAN and LAN Module Part Numbers

Part Number	Description	Supported on J2320, J2350	Supported on J4350, J6350
Physical Interface Module (PIM)			
JX-1DS3-S	1-Port DS3 PIM	No	Yes
JX-1E3-S	1-Port E3 PIM	No	Yes
JX-2T1-RJ48-S	2-Port T1 PIM	Yes	Yes
JX-2E1-RJ48-S	2-Port E1 PIM	Yes	Yes
JX-2CT1E1-RJ45-S	2-Port Channelized T1/E1 PIM	Yes	Yes
JX-2Serial-1SL-S	2-Port Synchronous Serial PIM	Yes	Yes
JX-2FE-TX-S	2-Port FE PIM	No	Yes
JX-4BRI-S-S	4-Port ISDN BRI – S Interface	Yes	Yes
JX-4BRI-U-S	4-Port ISDN BRI – U Interface	Yes	Yes
JX-1ADSL-A-S	1-Port ADSL Annex A PIM	Yes	Yes
JX-1ADSL-B-S	1-Port ADSL Annex B PIM	Yes	Yes
JX-2SHDSL-S	2-Port 2-wire or 1-Port 4-wire G.SHDSL Interface	Yes	Yes
Enhanced Physical Interface Module (EPIM)			
JXE-1GE-TX-S	1-Port Gigabit Copper EPIM	No	Yes
JXE-1GE-SFP-S	1-Port Gigabit SFP EPIM	No	Yes
JXE-4FE-TX-S	4-Port FE EPIM	No	Yes
Universal Physical Interface Module (UPIM)			
JXU-6GE-SFP-S	6-Port SFP Gigabit Ethernet Universal PIM, SFPs sold separately	Yes	Yes
JXU-8GE-TX-S	8-Port Gigabit Ethernet 10/100/1000 Copper Universal PIM	Yes	Yes
JXU-16GE-TX-S	16-Port Gigabit Ethernet 10/100/1000 Copper Universal PIM	Yes	Yes
JXU-1SFP-S	1-Port SFP 100 Mbps or Gigabit Ethernet Universal PIM (SFP sold separately)	Yes	Yes

Small Form Pluggable (SFP) Modules

The one-port 100 Mbps or Gigabit Ethernet Universal PIM and the six-port SFP Gigabit Ethernet Universal PIM requires an SPF module to provide the physical interface. The SFP must be ordered separately from the UPIM.

SFP Module Part Numbers

Part Number	Description
JX-SFP-1GE-LX	SFP 1000Base-LX Gigabit Optical Transceiver SFP Module
JX-SFP-1GE-SX	SFP 1000Base-SX Gigabit Optical Transceiver SFP Module
JX-SFP-1GE-T	SFP 1000Base-T Gigabit Copper Transceiver SFP Module
JX-SFP-1FE-FX	SFP 100Base-FX Optical Transceiver Module (JXU-1SFP-S only)

Serial Interface Cables

The two-port Serial PIM requires separate purchase of serial cables.

Serial Cable Part Numbers

Part Number	Cable Type	Length	Connector Type
JX-CBL-EIA530-DCE	EIA530 cable (DCE)	10 ft (3 m)	Female
JX-CBL-EIA530-DTE	EIA530 cable (DTE)	10 ft (3 m)	Male
JX-CBL-RS232-DCE	RS232 cable (DCE)	10 ft (3 m)	Female
JX-CBL-RS232-DTE	RS232 cable (DTE)	10 ft (3 m)	Male
JX-CBL-RS449-DCE	RS449 cable (DTE)	10 ft (3 m)	Female
JX-CBL-RS449-DTE	RS449 cable (DTE)	10 ft (3 m)	Male
JX-CBL-V35-DCE	V.35 cable (DTE)	10 ft (3 m)	Female
JX-CBL-V35-DTE	V.35 cable (DTE)	10 ft (3 m)	Male
JX-CBL-X21-DCE	X.21 cable (DCE)	10 ft (3 m)	Female
JX-CBL-X21-DTE	X.21 cable (DTE)	10 ft (3 m)	Male

About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.

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To purchase Juniper Networks solutions, please contact your Juniper Networks sales representative at 1-866-298-6428 or authorized reseller.