





## Refurbished CISCO ISR4221-B-K9 Datasheet

CISCO > ROUTERS

## Cisco 4000 Series Integrated Services Routers

Architectural Highlights  Architectural Features		
Multicore processors	High-performance multicore processors support high-speed WAN connections. The data plane uses an emulated Flow Processor (FP) that delivers Application-Specific Integrated Circuit (ASIC)-like performance that does not degrade as services are added.	
Embedded IP Security (IPsec) VPN hardware acceleration	Increases scalability. When combined with an optional Cisco IOS XE Software Security license, enables WAN link security and VPN services.	
Integrated Gigabit Ethernet ports	The Cisco 4000 Family provides up to four built-in 10/100/1000 Ethernet ports for WAN or LAN. Based on the platform, some of the 10/100/1000 Ethernet ports can support Small Form-Factor Pluggable (SFP)-based connectivity in addition to RJ-45 connections, enabling fiber or copper connectivity. Optionally, depending on the platform, up to 30W PoE+ can be enabled on two of the built-in front panel Gigabit Ethernet interfaces to provide power to external devices such as fourth-generation (4G) LTE routers.  An additional dedicated Gigabit Ethernet port is provided for device management.	
USB-based console access	A mini type-B USB console port supports management connectivity when traditional serial ports are not available.  Traditional console and auxiliary ports are also available.	
Optional integrated power supply for distribution of PoE	An optional upgrade to the internal power supply provides inline power (802.3af-compliant PoE or 802.3at-compliant PoE+) to optional integrated switch modules.  Redundant PoE conversion modules provide an additional layer of fault tolerance.	
Optional integrated Redundant Power Supply (RPS)	For the ISR 4400 Series, power redundancy is available by installing an optional integrated RPS for decreasing network downtime and protecting the network from power failures.  Optional PoE boost mode increases total PoE capacity to up to 1000W.	
Cisco Enhanced Services Module (SM-X)	Each service-module slot offers high data-throughput capability of up to 10 Gbps toward the system and up to 1 Gbps to other module slots. Support for both single- and double-wide service modules provides flexibility in deployment options. An SM-X slot can be converted into a Network Interface Module (NIM) slot using an optional carrier card. Service modules support Online Insertion and Removal (OIR), avoiding network disruption when installing new or replacement modules.	
Cisco Network Interface Modules (NIMs)[3]	Up to three integrated NIM slots on the Cisco 4000 Family allow for flexible configurations.  Each NIM slot offers options of up to two 2Gbps connections. One towards the route processor and one for direct module to module communication. The ISR 4221 has only one 1Gbps connection to the Route Processor  NIMs support OIR.  Special NIMs add support Solid-State Drives (SSDs) and Hard Disk Drives (HDDs).	
Cisco Integrated Services Card (ISC) slot on motherboard	Integrated Services Card natively supports the new Cisco High-Density Packet Voice Digital Signal Processor Modules (PVDM4s), providing greater-density rich-media voice.  Each Integrated Services Card slot connects to the system architecture through an up-to 2-Gbps link. Future modules can be hosted on the Integrated Services Card slot, improving system functions.	
Flash memory support	A single flash memory slot is available to support high-speed storage densities, upgradable to up to 32 GB. The ISR4221 ships with a fixed 8GB Flash Two USB type A 2.0 ports provide capabilities for convenient storage .	
DRAM	For the ISR 4400 Series, the default control-plane memory is 4 GB, upgradable to 16 GB to provide additional scalability for control-plane features. The default data-plane memory is 2 GB. For the ISR 4300 Series, the default memory is 4 GB, upgradable to 16 GB (only 8GB for 4321) to provide additional scalability.  The ISR 4200 Series comes with 4GB Fixed DRAM	

Specifications of Cisco 4000 Family Integrated Services Routers		
Cisco IOS XE Software		
Protocols	IPv4, IPv6, static routes, Routing Information Protocol Versions 1 and 2 (RIP and RIPv2), Open Shortest Path First (OSPF), Enhanced IGRP (EIGRP), Border Gateway Protocol (BGP), BGP Router Reflector, Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol Version 3 (IGMPv3), Protocol Independent Multicast sparse mode (PIM SM), PIM Source Specific Multicast (SSM), RSVP, CDP, ERSPAN, IPSLA, Call Home, EEM, IKE, ACL, EVC, DHCP, FR, DNS, LISP, OTV[6], HSRP, RADIUS, AAA, AVC, Distance Vector Multicast Routing Protocol (DVMRP), IPv4-to-IPv6 Multicast, MPLS, Layer 2 and Layer 3 VPN, IP sec, Layer 2 Tunneling Protocol Version 3 (L2TPv3), Bidirectional Forwarding Detection (BFD), IEEE802.1ag, and IEEE802.3ah	
Encapsulations	Generic routing encapsulation (GRE), Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR) (FR.15 and FR.16), High-Level Data Link Control (HDLC), Serial (RS-232, RS-449, X.21, V.35, and EIA-530), and PPP over Ethernet (PPPoE)	
Traffic management	QoS, Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Hierarchical QoS, Policy-Based Routing (PBR), Performance Routing, and NBAR.	
Cryptographic Algorithms	Encryption: DES, 3DES, AES-128 or AES-256 (in CBC and GCM modes); Authentication: RSA (748/1024/2048 bit), ECDSA (256/384 bit); Integrity: MD5, SHA, SHA-256, SHA-384, SHA-512	

Cisco ISR 4000 Feature Bundles  Bundles		
Application Experience with Voice (AXV)	AX + Voice	
Voice with Security (VSEC)	Voice + Security	
Application Experience (AX)	IP Base + Security + advanced networking protocols: L2TPv3, BFD, MPLS, VRF, VXLAN (Bandwidth <100Mbps) Application Experience: PfRv3, WAAS with AppNav, NBAR2, AVC, IP SLA Hybrid Cloud Connectivity: LISP, OTV (for Bandwidth <100Mbps), VPLS, EoMPLS Intelligent Web Caching: Akamai Connect	
Voice (V)	IP Base + Unified Communications: CME, SRST, CUBE	
Security (SEC)	IP Base + Advanced Security: Zone Based Firewall, IPSec VPN, EZVPN, DMVPN, FlexVPN	

Cisco ISR 4000 Performance Licenses		
Platform		
Performance-on-Demand License	FL-4220-PERF-K9	
Features	Increases the performance from base performance 35 Mbps to 75 Mbps	

Cisco ISR 4000 Booster (boost) Performance Licenses		
Part number		
FL-4220-BOOST-K9 (=)	Booster Performance License for 4220 Series Router	
FL-4320-BOOST-K9 (=)	Booster Performance License for 4320 Series Router	
FL-4330-BOOST-K9 (=)	Booster Performance License for 4330 Series Router	
FL-4350-BOOST-K9 (=)	Booster Performance License for 4350 Series Router	
FL-4430-BOOST-K9 (=)	Booster Performance License for 4430 Series Router	
FL-44-BOOST-K9 (=)	Booster Performance License for 4450 Series Router	
FL-4460-BOOST-K9 (=)	Booster Performance License for 4460 Series Router	

## The next steps...

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