Cisco ASR 9001 Router Data Sheet

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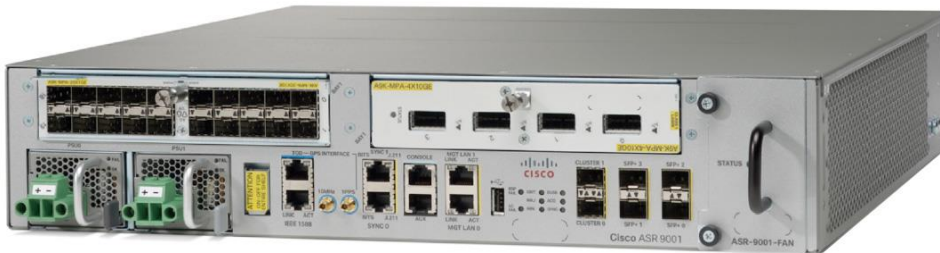Website：https://www.uritprice.com

Contents

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Product overview

Part of the Cisco® ASR 9000 Series, the Cisco ASR 9001 Router (Figure 1) is a compact high-capacity Provider Edge (PE) router that delivers 120 Gbps of nonblocking, full-duplex fabric capacity in a Two-Rack-Unit (2RU) form factor. Based on the same Cisco IOS® XR software image as the other routers in the Cisco ASR 9000 Series, the Cisco ASR 9001 Router delivers the features and services found on the ASR 9000 Series platforms, allowing customers to standardize on the same Cisco IOS XR image. The Cisco ASR 9001 Router has an Integrated Route Switch Processor (RSP) and two modular bays that support 1 GE, 10 GE, and 40 GE Modular Port Adapters (MPAs). The base chassis has four integrated 10 GE Enhanced Small Form-Factor Pluggable (SFP+) ports, a GPS input for stratum-1 clocking, Building Integrated Timing Supply (BITS) ports, and management ports.

Figure 1.
Cisco ASR 9001 Router

Cisco ASR 9000 Series Aggregation Services Routers deliver exceptional scale, service flexibility, and high availability to Carrier Ethernet transport networks. The routers are powered by Cisco IOS XR Software, an innovative self-healing, distributed operating system designed for always-on operation. This is the same operating system that powers industry-leading routers such as the Cisco CRS Carrier Routing System, bringing the same reliability, scalability, performance, and comprehensive features that have made the Cisco CRS the dominant entity in the service provider core. Cisco IOS XR Software also allows for an end-to-end IP/MPLS solution to service provider requirements based on the same software, thereby reducing the operational complexity of managing multiple operating systems. The Cisco ASR 9000 Series further enhances the IP Next-Generation Network (IP NGN) Carrier Ethernet design for converged, resilient, intelligent, and scalable transport of consumer, business, wholesale, and mobile services.

Cisco ASR 9000 Series Carrier Ethernet applications include business services such as Layer 2 and Layer 3 VPN (L2VPN and L3VPN), IPTV, Content Delivery Networks (CDNs), mobile backhaul transport networks, and Broadband Network Gateway (BNG). Features supported include Ethernet Services; L2VPN; IPv4, IPv6, and L3VPN; Layer 2 and Layer 3 multicast; IP over Dense Wavelength-Division Multiplexing (IPoDWDM), Synchronous Ethernet (SyncE), Ethernet Operations, Administration, and Maintenance (EOAM) and MPLS OAM, Layer 2 and Layer 3 Access Control Lists (ACLs), Hierarchical Quality of Service (HQoS), MPLS Traffic Engineering Fast Reroute (MPLS TE-FRR), Multichassis Link Aggregation (MC-LAG), Integrated Routing and Bridging (IRB) and Cisco Nonstop Forwarding (NSF) and Nonstop Routing (NSR).

Note: Site to Site IPSec VPN is not currently supported on the ASR 9001 platform.

The integrated RSP has 8 GB RAM and is capable of holding several millions of routes, which makes the Cisco ASR 9001 Router useful as a dedicated route-reflector appliance.

Features and benefits of the Cisco ASR 9001 Router are listed in Table 1.

Table 1. Features and benefits of Cisco ASR 9001 Router

Feature	Benefit
Scalable fabric	Designed to support high 1/10/40 Gigabit densities in a 2RU form factor Provides built-in scalability for investment protection
Integrated port	Four 10 GE services-enabled SFP+ ports
Integrated route processor with 8 GB RAM	Runs Cisco IOS XR, a carrier-class operating system with high memory capacity suitable for a dedicated route-reflector application
Distributed forwarding plane architecture	Allows MPA cards to support independent forwarding for enhanced performance and scale
Control plane extension ports	Two 10 G out-of-band Ethernet communications ports support Network Virtualization (nV) technology for high-availability cluster applications
Hardware-based IEEE 1588 support	Delivers timing services over the packet network efficiently and reliably
Two independent clock source connections: BITS and Synchronization Supply Unit (SSU) with DOCSIS® Timing Interface (DTI)	Offers redundant, centralized network synchronization support
GPS	Provides option for Stratum-1 clocking
DWDM	DWDM support based on the Optical Transport Network (OTN) protocol that is specified in ITU-T G.709. This standard combines the benefits of SONET/SDH technology with the Multi-wavelength networks of DWDM. It also provides for Forward Error Correction (FEC) that can allow a reduction in network costs by reducing the number of regenerators used
Embedded USB memory (eUSB) port	Provides access to USB flash memory devices for software image loading and recovery
Front-panel LEDs	Provides visual indication of RSP status (active or standby), power management, and activity on compact flash and Hard Disk Drive (HDD)
Management ports	Provides easy access to system console
Power supply	Redundant AC or DC power supplies

Product specifications

Table 2 provides details about the Cisco ASR 9001 Router. The system is designed for high performance and high reliability. The Cisco ASR 9001 has an integrated RSP capable of supporting fabric bandwidth up to 120 Gbps.

Table 2. Specifications for Cisco ASR 9001 Router

Category	Part Number or Specification
Chassis	ASR 9001
Integrated interfaces	4 x 10 GE SFP+
Modular port adapters	20 x 1 GE, 2 x 10 GE, 4 x 10 GE, 1 x 40 GE
Redundancy	Power supply redundancy
Power supply part number	• A9K-750W-AC • A9K-750W-DC
Physical specifications	• Height: 3.472 inches (88.2 mm) • Width: 17.42 inches (442 mm) • Depth: 18.5 inches (470 mm) • Weight of chassis: 30.2032 lbs (13.7 kg) • Weight of chassis with two MPAs: 36.37623 lbs (16.5 kg)
Power inputs	• Worldwide ranging AC (90-265V; 50-60 Hz) • Worldwide ranging DC (-40V to -72V)
Power consumption	425 watts typical, 525 watts maximum
Environmental conditions	• Operating temperature: 32 to 104°F (0 to 40°C) • Storage temperature: -40 to 167°F (-40 to 75°C) • Relative humidity: 10 to 90%, noncondensing • Regulatory compliance
Environmental Specifications	
Operating temperature (nominal)	41 to 104ºF (5 to 40ºC)
Operating temperature (short-term)	23 to 131ºF (-5 to 55ºC)
Operating humidity (nominal) (relative humidity)	10 to 85%
Operating humidity (short-term)	5 to 90% Note: Not to exceed 0.024 kg water or dry air
Storage temperature	-40 to 158ºF (-40 to 70ºC)
Storage (relative humidity)	5 to 95% Note: Not to exceed 0.024 kg water or dry air

Category	Part Number or Specification
Operating altitude	1800m
Air flow	Side to side
Compliance	
Network Equipment Building Standards (NEBS)	Cisco ASR 9001 is designed to meet: • SR-3580: NEBS Criteria Levels (Level 3) • GR-1089-CORE: NEBS EMC and Safety • GR-63-CORE: NEBS Physical Protection • VZ.TPR.9205: Verizon TEEER
ETSI standards	Cisco ASR 9001 is designed to meet (qualification in progress): • EN300 386: Telecommunications Network Equipment (EMC) • ETSI 300 019 Storage Class 1.1 • ETSI 300 019 Transportation Class 2.3 • ETSI 300 019 Stationary Use Class 3.1 • EN55022: Information Technology Equipment (Emissions) • EN55024: Information Technology Equipment (Immunity) • EN50082-1/EN-61000-6-1: Generic Immunity Standard
EMC standards	Cisco ASR 9001 is designed to meet: • FCC Class A • ICES 003 Class A • AS/NZS 3548 Class A • CISPR 22 (EN55022) Class A • VCCI Class A • BSMI Class A • IEC/EN 61000-3-2: Power Line Harmonics • IEC/EN 61000-3-3: Voltage Fluctuations and Flicker • EN 50121-4: Railway EMC
Immunity	Cisco ASR 9001 is designed to meet: • IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8kV Contact, 15kV Air) • IEC/EN-61000-4-3: Radiated Immunity (10V/m) • IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2kV Power, 1kV Signal) • IEC/EN-61000-4-5: Surge AC Port (4kV CM, 2kV DM) • IEC/EN-61000-4-5: Signal Ports (1kV) • IEC/EN-61000-4-5: Surge DC Port (1kV) • IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10Vrms) • IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30A/m) • IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations • EN 50121-4: Railway EMC

Category	Part Number or Specification
Safety	Cisco ASR 9001 is designed to meet: • UL/CSA/IEC/EN 60950-1 • IEC/EN 60825 Laser Safety • ACA TS001 • AS/NZS 60950 • FDA: Code of Federal Regulations Laser Safety

Ordering information

Table 3 provides ordering information for the Cisco ASR 9001 Router.

Table 3.   Ordering information

Part Number	Product Description	Supported Software Release
ASR-9001	ASR 9001 Router with 4 x 10 GE	Cisco IOS XR Software Release 4.2.1 or later
A9K-750W-AC	AC Power Entry module	Cisco IOS XR Software Release 4.2.1 or later
A9K-750W-DC	DC Power Entry module	Cisco IOS XR Software Release 4.2.1 or later
A9K-MPA-20x1GE	20 x 1 GE Modular Port Adapter	Cisco IOS XR Software Release 4.2.1 or later
A9K-MPA-2x10GE	2 x 10 GE Modular Port Adapter	Cisco IOS XR Software Release 4.2.1 or later
A9K-MPA-4x10GE	4 x 10 GE Modular Port Adapter	Cisco IOS XR Software Release 4.2.1 or later
A9K-MPA-1x40GE	1 x 40 GE Modular Port Adapter	Cisco IOS XR Software Release 4.2.3 or later

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

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