



Cisco

C1-N7009-B2S2

Datasheet



Product Overview

- Cisco Nexus 7000 Series delivers a scalable, modular core for data centers and high-demand enterprise networks.
- Ideal for mission-critical environments, it targets large enterprises, service providers, and organizations with expanding data needs.
- Offers a chassis-based system with 1/10/40/100 Gigabit Ethernet, up to 17 Tbps fabric speed, and NX-OS Software foundation.
- Integrated redundancy and optimized modularity ensure maximum availability and reliability for ongoing operations.
- Centralized management, virtualized services, and real-time upgrades make deployment and maintenance straightforward.
- The Nexus 7000 Series empowers dynamic, evolving businesses to support virtualization and high-performance workloads with confidence.

Product Highlights

- **High Port Density:** Supports up to 336 × 1/10GE, 42 × 40GE, or 14 × 100GE ports, ideal for dense campus and core data center deployments.
- **Redundant Architecture:** Two supervisor slots provide full redundancy to ensure uninterrupted system performance.
- **Efficient Cooling Design:** Side-to-side airflow and variable-speed fans maximize rack space and energy efficiency across large environments.
- **Front & Rear Module Access:** Easy serviceability with front access for I/O, supervisor, and fabric modules; rear for power and fan trays.

Detailed Features



C1-N7009-B2S2

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Component	Specification
Chassis Slots	9 (2 supervisors, 7 I/O modules)



Flexible Chassis Options

Cisco Nexus 7000 Series covers four chassis sizes 18, 10, 9, and 4-slot for different deployment scenarios. The 9-slot design offers a horizontal, compact form factor with dedicated airflow and integrated cable management, meeting varying density requirements and allowing growth without replacing the core system.

Passive Mid-plane Architecture

The chassis employs a passive mid-plane, providing robust copper connections for direct data transfers between I/O modules and fabric modules. This design approach enhances long-term reliability, reduces electromagnetic interference, and allows for seamless, internal switch traffic flow with minimal latency across the switch.

High-Performance Crossbar Fabric

Data switching is performed through advanced crossbar fabric ASICs built into the individual I/O and fabric modules. This distributed architecture enables non-blocking, line-rate data delivery, even under heavy loads, and supports rapid convergence and scalable throughput as additional modules or capacity needs are introduced.

Scalable, Fully Distributed Fabric

With up to five fabric modules per chassis, the Nexus 7000 Series achieves up to 550 Gbps per slot and aggregate capacities of 8.8 Tbps (9-slot), 9.9 Tbps (10-slot), and 18.7 Tbps (18-slot). This flexibility ensures that the platform can meet current bandwidth needs and expand further for next-generation applications as required.

Small Form Factor Performance

The 4-slot chassis offers up to 1.92 Tbps forwarding capacity within a smaller footprint, supporting high availability and performance in edge or remote data center roles. It maintains full front-accessible module slots, simplifying installation service, and suitability for space-constrained areas or branch use.

Enhanced Module Compatibility

The midplane (9/10/18-slot) and backplane (4-slot) architecture enables flexible, future-proof technology upgrades. Customers can adopt new I/O or supervisor modules as networking requirements change, safeguarding infrastructure investments and supporting evolving datacenter technology cycles.

Continuous Operation & Serviceability

Dual-supervisor modules, fabric redundancy, hot-swappable fan trays, and full separation of critical paths deliver nonstop operation. The design allows upgrades, replacements, and maintenance with minimal service interruptions, crucial for maintaining always-on core network environments.

Investment Protection

Ongoing support for both existing and emerging networking technologies, combined with exceptional scalability and upgradability, helps enterprise and service provider customers maximize ROI. The platform's modular design means the network can adapt incrementally, preserving infrastructure value and reducing total cost of ownership.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	9-slot modular chassis included
Supervisor Module	1 × SUP2 supervisor module
Fabric Modules	5 × FAB2 fabric modules
Power Supplies	Not included
Chassis Slots Total	9 total, 2 for SUP2 modules (1 active, 1 standby), 5 for FAB2, 2 available for I/O modules
Port Configuration	Modular, varies by line card
Layer Support	Layer 2 and Layer 3
Virtualization	Supports VRF, VXLAN
Redundancy	Active/Standby supervisor engines, 5 FAB2 modules for redundancy



Feature	Value
Dimensions (H × W × D)	17.3 in × 17.5 in × 24.1 in (43.9 cm × 44.5 cm × 61.2 cm)
Height	17.3 in (43.9 cm)
Width	17.5 in (44.5 cm)
Depth	24.1 in (61.2 cm)
Cooling Type	Front-to-back airflow
Operating Temperature Min	32°F (0°C)
Operating Temperature Max	104°F (40°C)
Storage Temperature Min	-40°F (-40°C)
Storage Temperature Max	158°F (70°C)
Humidity	5% to 95% non-condensing
Network Management	Cisco ONE Software
Monitoring	SNMP, Syslog, RMON
Support	Cisco SMARTnet

Product Comparison

Feature	C1-N7009-B2S2	C1-N7010-B2S2-R	C1-N9K-C9504-B2
Chassis Slots	9 slots	10 slots	4 slots
Supervisor Module	1 × SUP2 (1 active, 1 standby)	2 × SUP2 (1 active, 1 standby)	2 supervisor slots
Fabric Modules	5 × FAB2	5 × FAB2	NA (built-in fabric)
Max Ethernet Ports	336 × 1/10GE, 42 × 40GE, 14 × 100GE	up to 384 × 1/10GE	Up to 136 × 40GE or 64 × 100GE
Switching Capacity	Up to 8.8 Tbps	Up to 9.9 Tbps	Up to 12.8 Tbps
Airflow	Side-to-side	Front-to-back	Side-to-side
Virtualization	VRF, VXLAN	VRF, VXLAN	VRF, VXLAN
Dimensions (H × W × D)	17.3 × 17.5 × 24.1 in	24 × 17.5 × 30.5 in	13.6 × 17.5 × 23.5 in
Redundancy	Supervisor, fabric, fan tray	Supervisor, fabric, fan tray	Supervisor and PSU



Accessories

Category	Accessories
Included Accessories	- Supervisor Module - Fabric Module - Installation Guide
Optional Accessories	- Additional Power Supply - Advanced Line Cards - SFP/Optics Modules



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References

[1] Cisco Systems. (2023). Cisco Nexus 7000 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/nexus-7000-series-switches/Data_Sheet_C78-437762.html