



Cisco

C1-N7004-S2

Datasheet

Product Overview

- Cisco Nexus 7000 Series delivers advanced, scalable networking designed for demanding data center environments.
- The C1-N7004-S2 targets small to medium-size enterprises, service providers, and co-location sites requiring robust aggregation and core connectivity.
- It features a modular 4-slot chassis, supports 1/10/40/100GbE ports, and delivers fabric architecture scalability beyond 17 Tbps.
- Redundant supervisor slots, front-access modules, and real-time NX-OS software upgrades enhance uptime and manageability.
- Easy integration with Cisco Unified Fabric enables seamless deployment, system resilience, and high availability for critical workloads.
- Ideal for businesses needing hassle-free operation, future-ready expansion options, and reliable 24/7 data center performance.

Product Highlights

- **High Port Density:** Supports up to 96 x 1/10GbE, 12 x 40GbE, and 4 x 100GbE ports for flexible, high-speed connectivity in a compact frame.
- **Redundant Supervisors:** Two dedicated supervisor slots ensure full redundancy and high system availability for mission-critical environments.
- **Efficient Cooling:** Side-to-rear airflow and redundant fan tray keep the chassis cool, support hot swapping, and optimize rack density.
- **Front Accessibility:** All modules, including power and fans, are easily accessible from the front for simplified maintenance and rapid service.

Detailed Features



C1-N7004-S2

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Component	Specification
Rack Space	7RU
Chassis Slots	2 supervisor modules, 2 I/O modules
Power Supply Slots	4
Port Density	Up to 96 x 1/10GbE, 12 x 40GbE, 4 x 100GbE



Flexible Modular Design

The Nexus 7000 Series comes in 18-slot, 10-slot, 9-slot, and 4-slot chassis to suit diverse data center sizes and architectures. This modularity ensures that customers can select the platform that exactly fits their performance, port density, and expansion requirements, with easy future upgrades.

Passive Mid-Plane Architecture

Cisco's passive mid-plane approach mechanically connects the I/O and fabric modules, optimizing signal integrity and data transfer reliability. By separating data and control paths, this architecture reduces points of failure and supports high throughput, making it ideal for mission-critical deployments.

Direct Intermodule Switching

All intermodule traffic flows through high-performance crossbar fabric ASICs on each I/O and fabric module, providing efficient data forwarding. In the 7004 chassis, the mid-plane physically links I/O module ASICs directly, delivering a simpler, low-latency solution even without separate fabric modules.

Scalable Fabric Performance

With up to five fabric modules in larger chassis, Cisco Nexus 7000 can scale to 550 Gbps per slot, totaling up to 18.7 Tbps. Even the 4-slot chassis achieves 1.92 Tbps forwarding via built-in fabric, accommodating sudden traffic spikes and high-bandwidth applications without degradation.

Redundant and Hot-Swappable Components

Redundancy at every level, including power supplies, supervisors, and fans, safeguards against downtime. Hot-swapping lets admins replace critical components without service disruption, a must for always-on data centers.

Optimized Cable Management and Airflow

Integrated cable management in all chassis models helps maintain tidy installations and airflow efficiency. Each chassis accommodates side-to-side or side-to-rear airflow, maximizing rack space and minimizing cooling costs.

Software-Driven Investment Protection

The platform's design allows flexible technology refreshes thanks to its midplane and backplane technology, securing investments while letting customers adopt emerging protocols, line cards, or supervisor innovations continuously.

Comprehensive Service Portfolio

Cisco's unified software, NX-OS, enables seamless system upgrades, virtualization, and pervasive network services across the series. The platform supports both Layer 2 and Layer 3 features for overlay and underlay network designs, boosting versatility and operational agility.

Technical Specifications

Product Specifications

Feature	Value
Chassis	4-slot modular (7RU)
Included Components	1 × N7004 chassis, 1 × SUP2 supervisor module
Power Supply	Not included
Supervisor Module	1 × SUP2 (expandable to 2 for redundancy)
Data Rate	Up to 10 Gbps per port
Total Ports	Varies with line cards
Form Factor	7 rack units (7RU)
Dimensions (W × H × D)	17.3 in × 7 in × 24 in (43.9 cm × 17.8 cm × 61 cm)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Relative Humidity	5% to 95% non-condensing



Feature	Value
Layer Support	Layer 2 and Layer 3
Redundancy	Supported (requires additional components)
Cooling	Fan modules (not included)
Management	CLI, SNMP, XML API
Security Features	Access control lists, port security
Regulatory Approvals	CE Mark, FCC Part 15, UL
Part Number	C1-N7004-S2

Product Comparison

Feature	C1-N7004-S2	C1-N7710-B26S2E-R	C9300L-48UXG-4X-E
Chassis Slot Count	4	10	Fixed (no slot)
Supervisor Redundancy	Yes (up to 2 supervisors)	Yes (multiple supervisors)	No
Maximum Ports	Up to 96 x 1/10GbE, 12 x 40GbE, 4 x 100GbE	Up to 160 x 10GbE, 40 x 40GbE	48 x mGig/1G, 4 x 10GbE uplinks
Forwarding Capacity	Up to 1.92 Tbps	9.9 Tbps	488 Gbps
Power Supply Slots	4	4	2 (redundant)
Layer Support	Layer 2/3	Layer 2/3	Layer 2/3
Management	CLI, SNMP, XML API	CLI, SNMP, Web	CLI, SNMP, Web, REST API
Hot-Swappable Modules	Yes	Yes	No
Stacking Support	No	No	Yes (stackwise)
Form Factor	7RU modular	16RU modular	1RU fixed



Accessories

Category	Accessories
Included Accessories	- Supervisor Module (SUP2) - Chassis Slide Rails - Basic Documentation Kit
Optional Accessories	- Additional Power Supply Modules - High Capacity Fan Tray - Enhanced Line Cards



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References

[1] Cisco. (2022). 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