



Cisco

C1-N7010-B2S2E-R

Datasheet

Product Overview

- Cisco Nexus 7000 Series switches are advanced data center platforms from Cisco, delivering scalable core and aggregation switching.
- Engineered for modern enterprise data centers and service providers, these switches target large-scale and mission-critical environments seeking unified fabric solutions.
- Key differentiators are real-time in-service system upgrades, continuous operations, and pervasive virtualized networking services.
- In demanding scenarios, Cisco Nexus 7000 Series ensures future-ready scalability, operational stability, and easy integration into evolving digital infrastructures.

Product Highlights

- **High Density & Scalability:** Supports up to 384 x 1G/10G, 48 x 40G, and 16 x 100G Ethernet ports for large-scale data center network demands.
- **Efficient Cooling System:** Dual redundant fan trays with variable-speed fans adjust automatically, improving cooling and allowing hot swap with no downtime.
- **Redundant Supervisors:** Dedicated dual supervisor slots provide full system redundancy, enhancing operational reliability and system uptime.
- **Modular Accessibility:** Front access to I/O and supervisor modules, rear access for fabric, fans, and power, supports easy maintenance and deployment flexibility.

Detailed Features



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Component	Specification
Chassis Slots	10 (2 supervisor, 8 I/O)



Flexible Modular Chassis Options

The Nexus 7000 provides four different chassis sizes, including 18, 10, 9, and 4 slots, allowing tailored scaling for various data center scenarios. Its design supports front-accessible module slots and various airflow patterns, boosting adaptability for space and cable management requirements.

Passive Mid-Plane Architecture

Each chassis in the Nexus 7000 Series features a passive mid-plane, providing robust connectivity between fabric and I/O modules. This design minimizes signal loss and maximizes performance, with inter-module switching handled by crossbar ASICs on the modules themselves for efficient data transfers.

High-Performance Fabric Capacity

A distributed switching fabric comprising up to five modules and the midplane delivers up to 9.9 Tbps in the 10-slot chassis. Each slot receives up to 550 Gbps bandwidth, ensuring ample capacity for high-density virtualization, multi-tenant cloud, and converged infrastructures.

Investment Protection & Upgradability

The midplane/backplane architecture enables seamless technology upgrades as requirements change. New I/O or supervisor modules can be introduced without changing chassis, offering ongoing protection for capital investments while supporting evolving standards.

Energy-Efficient Operation

With industry-leading power supplies up to 90% efficient and variable-speed fans, the Nexus 7000 minimizes wasted energy, reduces operational costs, and keeps facilities cool, meeting the environmental requirements for green data centers.

Intelligent Fan Management

Fan trays adjust speed based on thermal load, reducing power use at lower speeds. The 9-slot chassis further conserves energy by powering down unused fan rows, contributing to the switches overall efficiency.

Switch Virtualization & Consolidation

High port density, advanced performance, and device virtualization mean the Nexus 7000 consolidates network infrastructure, lowers the total power footprint, and enhances reliability while simplifying multi-tenant deployments.

Highly Reliable for Mission-Critical Networks

Continuous operation is ensured by redundant supervisors and fabric modules, rapid failover, and non-stop software upgrades, making the Nexus 7000 ideal for always-on enterprise and service provider deployments.

Technical Specifications

Product Specifications

Feature	Value
Series	Cisco ONE
Chassis	Included (Nexus 7010)
Supervisor Modules	2 × SUP2E (1 active, 1 standby)
Fabric Modules	5 × FAB2
Power Supplies	Not included
Rack Units	10U
Network Ports	Dependent on installed modules
Throughput	Up to 1.32 Tbps per slot
Forwarding Capacity	Up to 220 Gb/s per slot
Redundancy	Supervisor and Fabric Module Redundancy
Layer Type	Multi-layer
Compatibility	Cisco Nexus Series



Feature	Value
Management	CLI, API, SNMP
Environment	Enterprise Data Centers
Deployment	Modular
Power Requirements	No default supply, optional modules required
Operating Temperature	0°C to 40°C (32°F to 104°F)
Min Operating Temperature	0°C (32°F)
Max Operating Temperature	40°C (104°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Min Storage Temperature	-40°C (-40°F)
Max Storage Temperature	70°C (158°F)
Humidity	5% to 95% non-condensing

Product Comparison

Feature	C1-N7010-B2S2E-R	C1-N9K-C9504-B3	C1-N7706-B26S2E
Chassis Slots	10 (8 I/O, 2 supervisor)	4	6
Fabric Modules	5	3	6
Max 10G/40G/100 G Ports	384/48/16	216/54/18	192/48/24
Supervisor Redundancy	Yes	Yes	Yes
Throughput per Slot	Up to 1.32 Tbps	Up to 1.6 Tbps	Up to 1.2 Tbps
Management Features	CLI, API, SNMP	CLI, API, SNMP, Web UI	CLI, SNMP, Web UI
Redundant PSU/Fans	Yes	Yes	Yes
Deployment	Enterprise Data Center Core	Core/aggregation switching	Core/edge data center



Accessories

Category	Accessories
Included Accessories	- Fan Tray - Supervisor Module Blank Cover - Fixed Mounting Kit
Optional Accessories	- Power Supply Module - Fabric Module - Air Filter Kit



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References

[1] Cisco. (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