



Cisco

C1-N7706-EN-B22S2E

Datasheet



Product Overview

- The Cisco Nexus 7000 Series is Cisco's flagship line for high-performance, scalable core switching in enterprise and cloud data centers.
- This platform is ideal for mission-critical applications, large-scale virtualization, and service providers demanding resilient infrastructure.
- With up to 83 Tbps total switching capacity, support for up to 192 native 100G ports, and industry-leading 10G/40G/100G scalability, it empowers traffic optimization.
- Core upgrades include advanced redundancy, a unified NX-OS feature set, and future-ready modular architecture.
- Unified management and proven NX-OS streamline deployment and automate operations for easier network control.
- The Nexus 7700 series delivers flexible, investment-protected capacity for growing cloud, campus, and hybrid data center environments.

Product Highlights

- **High Port Density & Scalability:** Supports up to 192 × 10GE, 96 × 40GE, and 48 × 100GE ports in a compact 9RU chassis for evolving data center needs.
- **Redundant Supervision & ISSU:** Dual dedicated supervisor slots enable stateful switchover, ensuring nonstop operation and hitless in-service software upgrades.
- **High-Performance Fabric Design:** Six fabric module slots provide active parallel forwarding, achieving 10.5 Tbps or more of forwarding capacity.
- **Advanced Cooling & Maintenance:** Front-to-back airflow, hot-swappable fan trays, and optional air filters deliver reliable cooling and simplified serviceability.

Detailed Features



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Component	Specification
Rack Space	9 Rack Units (RU)
Module Slots	6 (2 supervisor, 4 I/O)



Flexible Modular Chassis Options

Cisco Nexus 7000 Series offers multiple chassis forms 18, 10, 9, and 4 slot supporting various density and port mix needs for different scales and layouts. Each is optimized for smooth cable management and airflow.

Passive Midplane Architecture

A passive midplane design interconnects fabric and I/O modules with robust copper traces for direct, high-speed data transfer, minimizing potential failures and enhancing serviceability of the chassis.

Scalable Distributed Fabric

The architecture scales up to five active fabric modules, achieving slot capacities up to 550 Gbps. In total, this enables up to 8.8 Tbps, 9.9 Tbps, and 18.7 Tbps of forwarding capacity on larger chassis and 1.92 Tbps on the 4-slot platform.

Powerful Virtualization & Consolidation

High-density, device virtualization, and advanced reliability features let organizations consolidate infrastructure, improving overall power utilization and operational efficiency without performance compromise.

Energy-Efficient Power & Cooling

Cisco power supplies reach up to 90% efficiency, significantly reducing wasted heat. Adaptive chassis fans optimize for cooling and automatically reduce their speed (and power draw) during low-load or partial slot usage.

Robust Management & Upgrade Support

Supports Cisco DCNM and a broad suite of programmatic interfaces including XML, Python, OpenFlow, and TCL. Hot-swappable modules and supervisor engines ensure ongoing network availability during upgrades or maintenance.

Advanced Layer 3 and Data Center Features

Comprehensive NX-OS enables advanced routing, automation, and security for real-time switching, making the platform ready for converged and multitenant cloud architectures.

Investment Protection & Compliance

Flexible architecture and modularity ensure easy technology upgrades. Compliance with global standards (such as NEBS, FCC, EN, UL) ensures suitability for a wide range of mission-critical and regulated deployments.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	6-Slot Modular Switch (Nexus 7706)
Supervisor Modules	2 × SUP2E (Active/Standby)
Fabric Modules	6 × Fabric-2 Modules (Included)
Power Supplies	Not Included (Supports 3.5kW HV AC/DC)
Rack Units	9RU
10G Ports	192
40G Ports	96
100G Ports	48
System Forwarding Capacity	21 Tbps
Max Local Switching Capacity	2.4 Tbps
Max Inter-Slot Switching Capacity	2.4 Tbps
Dimensions (H × W × D)	15.6 × 17.3 × 32 in. (39.62 × 43.9 × 81.3 cm)
Chassis Depth (with Cable Management)	38 in. (96.52 cm)
Operating Temperature	32 to 104°F (0 to 40°C)



Feature	Value
Humidity	5% to 90% Noncondensing
Altitude	-500 to 13,123 ft. (Certified 0–6,500 ft.)
Heat Dissipation	Max 26,280 BTU/hr (Configuration-Dependent)
Seismic Rating	Zone 4 per GR-63
Floor Loading	92 lbs/sq. ft.
Minimum NX-OS Version	6.2.6 or later
Network Management	Cisco DCNM
Programming Interfaces	XML, Python, OpenFlow, Cisco OnePK, TCL
Hot-Swap Components	Power Supplies, Fabric Modules, Fan Trays, Supervisor Engines
MIB Support	SNMPv3, v2c, v1
EMC Compliance	FCC Part 15 Class A, EN55022 Class A, VCCI Class A
Safety Compliance	UL/CSA/IEC/EN 60950-1
NEBS Compliance	SR-3580 Level 3 (Validation in Progress)
Options	Door Air Filter, Lockable Front Module Doors, Power Supply Center Cable Management

Product Comparison

Feature	C1-N7706-EN-B22S2E	C1-N7718	C1-N7710-B23S2E-R
Chassis Slots	6	18	10
System Forwarding Capacity	21 Tbps	83 Tbps	42 Tbps
10G Ports	192	768	384
40G Ports	96	384	192
100G Ports	48	192	96
Rack Units	9RU	25RU	14RU
Supervisor Module Slots	2	2	2
Max Power Supplies	4	8	4



Feature	C1-N7706-EN-B22S2E	C1-N7718	C1-N7710-B23S2E-R
Forwarding Architecture	Parallel fabric modules	Fully distributed fabric	Fully distributed fabric

Accessories

Category	Accessories
Included Accessories	- Mounting Brackets - Basic Cable Kit - Quick Start Guide
Optional Accessories	- Fabric Module - Supervisor Engine - Door Air Filter



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References

[1] Cisco Systems. (2024). 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_c78-728187.html