



Cisco

C1-N5K-C5672UP

Datasheet



Product Overview

- Cisco introduces the Nexus 5600 Series, designed as next-generation, high-performance data center access switches for modern networks.
- The C1-N5K-C5672UP targets virtualized and cloud-driven enterprises, large-scale data centers, and managed service providers requiring dense connectivity.
- With 48 × 10G SFP+ fixed ports, 16 unified ports, and 6 × 40G QSFP+ uplinks, it enables reliable, high-throughput switching and storage convergence.
- Key differentiators include consistent Layer 2/3 performance at line rate, FCoE unification, and advanced programmability for hybrid cloud needs.
- The switch supports Cisco NX-OS, offering robust management, automation, and agile deployment, simplifying network expansion and monitoring.
- C1-N5K-C5672UP maximizes application uptime, energy efficiency, and operational control in both traditional and virtualized data center environments.

Product Highlights

- Cloud & Virtualization Optimization:** Delivers scalable 10G/40G performance for demanding data centers and supports dynamic virtualization/automation.
- High Port Density & Redundancy:** 48 × 10G and 6 × 40G ports, rear-facing ports/power, hot-swappable modules, matched to server layouts for short cabling and easy service.
- Low Latency Connectivity:** Cut-through switching ensures ~1 microsecond port-to-port latency for rapid server and storage traffic flows.
- Intelligent Network Analytics:** Integrated SPAN/ERSPAN enables non-disruptive monitoring and efficient multi-session traffic analysis for advanced troubleshooting.

Detailed Features



C1-N5K-C5672UP

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Component	Specification
Fixed Ports	48 × 10G SFP+ (1G/10G Ethernet, FCoE)
Unified Ports	16 × Unified (8G/4G/2G FC or 10G Ethernet/FCoE)
Uplink Ports	6 × 40G QSFP+ (breakout to 4 × 10G supported)
Switching Capacity	1.44 Tbps (non-blocking)
Forwarding Rate	1,071 Mpps (64-byte packets)



Virtualization & Cloud Readiness

The Nexus 5600 Series is tailored for growing virtual machine density and elastic cloud deployments. It seamlessly integrates server and storage infrastructure for reliable, scalable bandwidth as IT teams scale or migrate workloads.

Port Density & Efficient Cabling

With up to $48 \times 10G$ SFP+ and 16 unified ports, the switch offers maximum bandwidth aggregation and minimal cabling. Rear placement of power and ports streamlines rack layouts and reduces cabling complexity for efficient data center operation.

Energy-Efficient Design

Using advanced power-saving technologies, the switch ensures operations within limited power, space, and cooling footprints. Even at only 25% load, it maintains around 90% power supply efficiencylowering costs and ensuring green operation.

Microsecond Low Latency

Cut-through switching design keeps port-to-port latency at approximately 1 microsecond regardless of packet size or features. This maintains real-time processing for latency-sensitive applications and high-speed storage networks.

Advanced Traffic Monitoring

Supports up to 31 concurrent SPAN/ERSPAN sessions for granular, non-intrusive application and network analytics. Efficiently reallocates unused fabric bandwidth to monitoring when needed, aiding rapid issue isolation.

Dynamic Buffer Management

The 25-MB shared buffer is intelligently allocated per $12 \times 10G$ or $3 \times 40G$ ports. Tuning is automatic during data surges, preventing congestion and enabling sustained performance amid bursty traffic.

Comprehensive Multicast & Replication

Supports up to 32,000 L3 multicast routes and 8,000 IGMP snooping groups in hardware. Optimized multicast traffic replication ensures large-scale multimedia and multi-tenant data flows remain consistent and lossless across the fabric.

High-performance ISL Flexibility

Up to 240 Gbps of inter-switch link bandwidth, including direct 16-Gbps Fibre Channel ISL support and FCoE. Extended buffer credits support long-haul SAN and high-availability data center backbone scenarios up to 16 km.

Technical Specifications

Product Specifications

Feature	Value
Form Factor	1RU Top-of-Rack (ToR) Switch
Fixed Ports	$48 \times 10G$ SFP+ (1G/10G Ethernet, FCoE)
Unified Ports	$16 \times$ Unified (8G/4G/2G FC or 10G Ethernet/FCoE)
Uplink Ports	$6 \times 40G$ QSFP+ (breakout to $4 \times 10G$ supported)
Switching Capacity	1.44 Tbps (non-blocking)
Forwarding Rate	1,071 Mpps (64-byte packets)
Latency	$\sim 1 \mu s$ (cut-through switching)
Buffer Size	25 MB shared (dynamic allocation per $12 \times 10G$ or $3 \times 40G$ ports)
MAC Address Table	256,000 entries
VLANs	4,000 active
L3 Multicast Routes	32,000
IGMP Snooping Groups	8,000



Feature	Value
FabricPath Support	Supported (ENHANCED_LAYER2_PKG license required)
Power Supplies	2 × 1100W (1+1 redundancy, hot-swappable), AC: N55-PAC-1100W, DC: N55-PDC-1100W
Cooling	3 × hot-swappable fan modules (2+1 redundancy)
Airflow Options	Port-side intake (blue) or fan-side intake (red)
Layer 2 Protocols	IEEE 802.1Q VLAN, PVST+, MSTP (64 instances), LACP, vPC, FabricPath, VXLAN bridging/routing (line-rate)
Layer 3 Protocols	Static, RIP, OSPFv2/v3, EIGRP stub (LAN_BASE_SERVICES_PKG), BGP, PIM-SM/SSM/Bidir, IS-IS (LAN_ENTERPRISE_SERVICES_PKG)
FCoE/NPV Support	Native on all ports (FCOE_NPV_PKG license required)
Fibre Channel	8G/4G/2G FC on unified ports (SFP+ optics: DS-SFP-FC8G-SW/LW), up to 15 buffer credits per port, SAN extension up to 3.7 km @ 8G
Management Ports	1 × 10/100/1000 Ethernet (RJ45), 1 × Console (RJ45)
Management Protocols	SNMPv3, SSHv2, RADIUS/TACACS+, NetFlow
Security Features	ACLs (RACL/VACL/PACL), DHCP snooping, IP Source Guard, 802.1X, port security, Dynamic ARP Inspection
Physical Dimensions	1.75 × 17.3 × 30 in. (4.4 × 43.9 × 76.2 cm)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Humidity Range	5% to 95% (non-condensing)
Base Operating System	Cisco NX-OS 7.x (included)
Optional Licenses	ENHANCED_LAYER2_PKG (FabricPath, advanced L2), FCOE_NPV_PKG (FCoE NPV), LAN_ENTERPRISE_SERVICES_PKG (full L3 routing: BGP, OSPF, PIM)
Chassis Options	N5K-C5672UP (standard), N5K-C5672UP= (spare)
Fan Modules	N6K-C6001-FAN-F (front-to-back), N6K-C6001-FAN-B (back-to-front)
Compliance	Safety: UL 60950-1, EN 60950-1; EMC: FCC Part 15 Class A, EN55022 Class A; RoHS: Compliant (with exemptions for BGA/press-fit connectors)

Product Comparison



Feature	C1-N5K-C5672UP	C1-N5K-C5648-B-36Q	C1-N5K-C5648Q
Fixed Ports	48 × 10G SFP+	48 × 10G SFP+	48 × 10G SFP+
Unified Ports	16 × Unified (8G/4G/2G FC or 10G Ethernet/FCoE)	12 × Unified Ports	12 × Unified Ports
40G Uplink Ports	6 × 40G QSFP+	6 × 40G QSFP+	4 × 40G QSFP+
Switching Capacity	1.44 Tbps (non-blocking)	1.44 Tbps	1.28 Tbps
Forwarding Rate	1,071 Mpps	1,071 Mpps	950 Mpps
Buffer Size	25 MB shared	25 MB shared	9 MB shared
FCoE/FC Support	All ports, FC/FCoE Unified	Unified Ports only	Unified Ports only
Operating Temp	0°C to 40°C	0°C to 40°C	0°C to 40°C
Management OS	NX-OS 7.x	NX-OS 7.x	NX-OS 7.x
Redundant PSUs	2 × 1100W (hot-swappable)	2 × 1100W (hot-swappable)	2 × 750W (hot-swappable)

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Power Adapter - Rack Mount Kit - Console Cable
Optional Accessories	<ul style="list-style-type: none"> - SFP+ Transceivers - QSFP+ Modules - Redundant Power Supply



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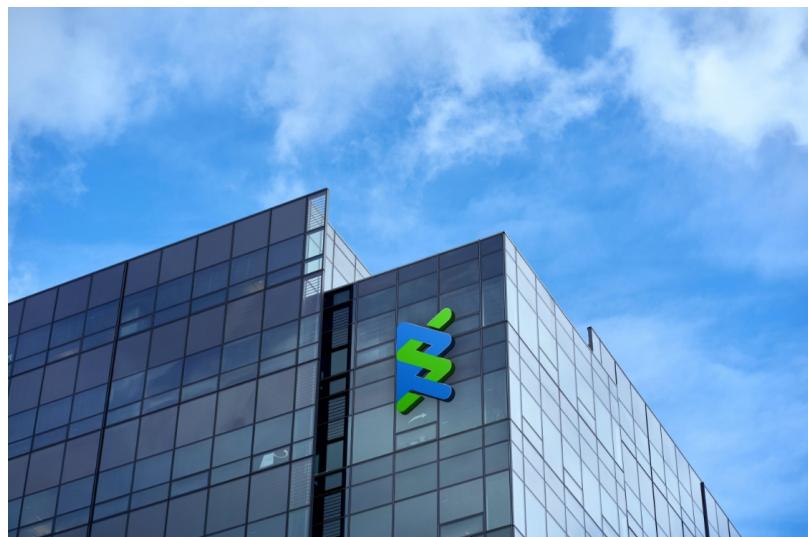


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- [1] Cisco. (2023). Cisco Nexus 5624Q Switch Data Sheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-5624q-switch/datasheet-c78-733100.html>
- [2] Cisco. (2023). Cisco Nexus 5000 Series Switches Product Bulletin. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-5000-series-switches/bulletin-c25-735319.html>