

Cisco

C1-N5672UP-4FEX-1G

Datasheet



Product Overview

- Cisco extends its leadership in data center networking with the Nexus 5600 Series, optimized for modern, high-density environments.
- Ideal for top-of-rack or middle-of-row deployment, this platform targets cloud providers, data center integrators, and large enterprises.
- Key highlights include up to 1.44 Tbps switching capacity, 1 billion pps forwarding rate, and support for 72 × 1G/10G ports via FEX modules.
- Advanced features like unified LAN and SAN switching, VXLAN/NVGRE virtualization, and large shared packet buffers enhance network flexibility.
- Simple deployment, hot-swappable PSUs/fans, and Cisco NX-OS integration streamline both initial setup and ongoing operation.
- The Nexus 5600 10-Gbps family helps future-proof your data center, delivering agility, performance, and scalability for evolving workloads.

Product Highlights

- **Virtualization and Cloud Optimization:** Delivers scalability and high performance, ensuring seamless deployment for modern virtualized and cloud-ready data centers.
- **High Density and Serviceability:** Rear-aligned ports and hot-swappable modules enable straightforward cable management and fast replacement, increasing uptime.
- **Low Latency & Intelligent Monitoring:** Cut-through switching ensures ~1μs latency with advanced SPAN/ERSPAN for non-disruptive traffic analysis and troubleshooting.
- **Flexible Buffer and Multicast Enhancements:** Dynamic buffer management and line-rate multicast support improve throughput and reliability for demanding applications.

Detailed Features



C1-N5672UP-4FEX-1G

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Component	Specification
Uplink Module Slots	2 Slots (for additional connectivity)
Switching Capacity	1.44 Tbps
Forwarding Rate	1 Billion packets per second (bps)
Max Port Expansion	72 × 1G/10G Ethernet ports (via FEX)
Layer Support	Layer 2 & Layer 3



Virtualization and Cloud Readiness

The Cisco Nexus 5600 Series is purpose-built for the demands of virtualized and cloud-enabled data centers. Its architecture supports seamless scaling of virtual machines and workloads, minimizing overhead and maximizing bandwidth between physical and virtual assets. This ensures smooth server deployments and facilitates rapid provisioning, making it a reliable choice for dynamic cloud service providers and large-scale enterprises.

High Density and Redundancy

Designed for rack-mount environments, the switch features rear-facing ports and power for efficient cabling and airflow. It includes redundant, hot-swappable power supplies and fans accessible from the front, allowing operators to replace components without service interruption. Service lights and modular design simplify monitoring and maintenance, enhancing overall system uptime and operational reliability.

Energy-Efficient Operation

The 5600 platform is engineered to reduce power consumption and carbon footprint. Intelligent power supplies maintain up to 90% efficiency even at low utilization rates, adapting dynamically to changing workloads without sacrificing availability. This design assists data centers in meeting environmental targets while delivering the power and cooling needed for dense, enterprise-grade deployments.

Ultra-Low Latency Networking

Using cut-through switching technology, the device maintains port-to-port latency at approximately 1 microsecond for all packet sizes, even with advanced features enabled. This exceptional performance ensures fast transaction times and optimized responsiveness for time-sensitive applications, supporting latency-critical processes across a range of industries and service environments.

Advanced SPAN and ERSPAN Analysis

Cisco's intelligent port monitoring (SPAN/ERSPAN) enables comprehensive traffic diagnostics and monitoring. The system supports up to 31 line-rate sessions, re-allocating unused fabric bandwidth to analytic traffic as required. This capability provides clear insights into network events and application flows for robust troubleshooting, without impacting core data throughput.

Dynamic Buffer Management

A shared 25-MB packet buffer is flexibly allocated across 40GE and 10GE ports, dynamically tuning memory resources during periods of congestion. This design prevents packet drops and improves overall throughput, making the switch suitable for bursty or unpredictable traffic patterns often seen in cloud and virtualized workloads.

Enhanced Multicast and Forwarding

The platform offers line-rate Layer 2/3 multicast for all frame sizes, with up to 32,000 multicast routes and hardware-based IGMP snooping. Flow-based hashing and enhanced Bidir-PIM facilitate efficient multi-host distribution and optimized bandwidth use, supporting robust video, voice, and other group communication services.

Long-Range High-Speed ISLs

The 5600 supports 16-Gbps Fibre Channel ISLs and, with FCoE, up to six 40-Gbps ISLs per switch (240 Gbps aggregate). Enhanced buffer credits extend Fibre Channel ISL distances up to 16 km, making the solution ideal for geographically dispersed data center architectures and storage networks requiring high throughput and minimal latency.

Technical Specifications

Product Specifications

Feature	Value
Product Type	Network Switch Chassis
Chassis Type	Cisco ONE N5672UP
Fabric Extender (FEX) Ports	4 × 1G FEX (Includes FETs)
Maximum Port Expansion	72 × 1G/10G Ethernet ports (via FEX)
Uplink Module Slots	2 Slots (for additional connectivity)
Switching Capacity	1.44 Tbps
Forwarding Rate	1 Billion packets per second (bps)
Power Supplies	Dual redundant, hot-swappable



Feature	Value
Cooling System	Hot-swappable fan trays
Layer Support	Layer 2 & Layer 3
Routing Protocols	OSPF, BGP, EIGRP, RIP
Virtualization Support	VXLAN, NVGRE
Form Factor	1RU (Rack Unit)
Dimensions (W×D×H)	17.3 × 22.5 × 1.72 in (43.9 × 57.2 × 4.37 cm)
Width	17.3 in (43.9 cm)
Depth	22.5 in (57.2 cm)
Height	1.72 in (4.37 cm)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Operating Temperature Min	32°F (0°C)
Operating Temperature Max	104°F (40°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Storage Temperature Min	-40°F (-40°C)
Storage Temperature Max	158°F (70°C)
Humidity	5% to 95% (non-condensing)

Product Comparison

Feature	C1-N5672UP-4FEX-1G	C9200L-48PXG-2Y-A	C9300L-48PF-4X-10A
Switching Capacity	1.44 Tbps	176 Gbps	176 Gbps
Forwarding Rate	1 Billion pps	130.95 Mpps	130.95 Mpps
Port Expansion	72 × 1G/10G via FEX	48 × 10/100/1000BASE-T + 4 × 10G SFP+	48 × 10/100/1000BASE-T PoE+ + 4 × 10G SFP+
Uplink Module Slots	2 Slots	4 × 10G SFP+	4 × 10G SFP+
Virtualization Support	VXLAN, NVGRE	None	None
PoE Support	No	Yes (Full port PoE+)	Yes (Full port PoE+)
Redundant Power	Dual redundant, hot-swappable	Yes	Yes



Feature	C1-N5672UP-4FEX-1G	C9200L-48PXG-2Y-A	C9300L-48PF-4X-10A
Management OS	Cisco NX-OS	Cisco IOS XE	Cisco IOS XE
Physical Size (WxDxH)	17.3 × 22.5 × 1.72 in	17.5 × 17.5 × 1.73 in	17.5 × 17.5 × 1.73 in

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Power Cords - Mounting Brackets - Console Cable
Optional Accessories	<ul style="list-style-type: none"> - SFP/SFP+ Modules - Additional Fan Trays - Redundant Power Supply



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References

[1] Cisco Systems. (2023). Cisco Nexus 5600 Platform Switches Data Sheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-5624q-switch/datasheet-c78-733100.html>