Cisco Nexus 9504 Chassis

DATASHEET

4-Slot Modular Data Center Switch

PRODUCT OVERVIEW

The **Cisco Nexus 9504** is a modular 4-slot chassis designed for core, aggregation, and spine deployments in enterprise data centers and cloud environments. It delivers high performance, high port density (1G to 400G), and comprehensive redundancy in a compact modular form factor with high energy efficiency and low operational costs.

CHASSIS ARCHITECTURE & CAPACITY

SPECIFICATION	DETAILS / VALUE
Form Factor	7 Rack Units (7RU) Modular Chassis
Line-Card Slots	4 Payload Slots for Line Cards
Fabric Modules	Up to 6 Fabric Modules (N+1 / N+N Redundancy)
Supervisor Slots	2 Supervisor Slots (1+1 Redundancy)
System Switching Capacity	Up to 17.28 Tbps (depending on Line Cards/ASICs)
Forwarding Capacity	Up to 5.1 Billion Packets Per Second (Bpps)
System Architecture	Direct-attach Line Cards to Fabric (Midplaneless)

Line Card & Speed Options

- **400G Connectivity:** Up to 64 x 400G ports
- **100G Connectivity:** Up to 128 x 100G ports
- **40G Connectivity:** Up to 144 x 40G ports
- **1/10/25G Connectivity:** Up to 576 x 1/10/25G ports
- **Flexibility:** Supports N9K-X9000 & Cloud Scale Line Cards

Power & Redundancy

- **Power Slots:** Up to 4 Power Supply Units (PSUs)
- **PSU Options:** 3KW AC/DC, High Efficiency (N+1, N+N)
- **System Cooling:** 3 Fan Trays (Front-to-Back Airflow)
- **Redundancy:** Dual Supervisors, Redundant Power & Fans

SOFTWARE & NETWORK PROTOCOLS

Operating Systems	Cisco NX-OS Software / Cisco ACI (Spine/Leaf Fabric Mode)

Protocols Supported	VXLAN EVPN, SRv6, BGP, OSPF, IS-IS, MPLS, PTP (IEEE 1588)
Management & Automation	Nexus Dashboard, Telemetry, Ansible, Terraform, Python, REST APIs