

Nexus Switches Overview



<https://t.me/learningnets>

Nexus Switches Overview

▷ Cisco Data Center Switches

- <http://www.cisco.com/go/nexus>

▷ Core Switches

- Nexus 9000 & 7000/7700

▷ Aggregation Switches

- Nexus 6000 & 5000

▷ Access Switches

- Nexus 9000, 6000, 5000, 3000, 2000

Nexus 9000

- ▷ Both Modular and Fixed chassis
 - [Compare Nexus 9000 Models](#)
- ▷ Core & Access LAN Switch
 - 1/10/40/100Gbps Ethernet Ports
 - Layer 2 & Layer 3 LAN Switching
 - FEX Aggregation
- ▷ Supports both NX-OS mode and ACI mode (SDN)
 - All other Nexus platforms support only NX-OS mode
- ▷ 9500 Highly Redundant
 - Supervisors, Line Cards, Fabric Modules, Power Supplies
 - Supports both SSO & ISSU

Nexus 7000/7700

▷ Modular chassis

- [Compare Nexus 7000 Models](#)
- [Cisco Nexus 7000 I/O Module Comparison Matrix](#)

▷ Core, Aggregation, & Access LAN & FCoE Switch

- 1/10/40/100Gbps Ethernet Ports
- Layer 2 & Layer 3 LAN Switching
- Fibre Channel over Ethernet (FCoE) SAN Switching
- No Native Fibre Channel support

▷ Highly Redundant

- Supervisors, Line Cards, Fabric Modules, Power Supplies
- Supports both SSO & ISSU

Nexus 6000 & 5000

- ▷ Both modular and fixed chassis
 - [Compare N5K models](#)
- ▷ Aggregation & Access LAN & SAN Switch
 - 1/10/40Gbps Ethernet Ports
 - Layer 2 & Layer 3 LAN Switching
 - Fibre Channel over Ethernet (FCoE)
 - Native Fibre Channel (FC)

Nexus 3000

▷ Fixed chassis

- [Compare Nexus 3000 Models](#)

▷ Access LAN Switch

- Fixed chassis
- 1/10/40Gbps Ethernet Ports
- Layer 2 & Layer 3 LAN Switching

▷ Programmability

- OpenStack, Chef, Puppet, Python, and Bash shell support

▷ Low Latency

- High-Frequency Trading (HFT) and High-Performance Computing (HPC)

Nexus 2000

▷ Fixed chassis

- [Compare Nexus 2000 Models](#)

▷ 1/10/40Gbps Fabric Extender (FEX)

- Acts like a remote line card of “parent” switch
 - Parent is N9K, N7K, N6K, or N5K

▷ No local switching

- Traffic is switched/routed by parent

▷ Used to implement End of Row (EoR) design

- Single management point through parent switch(es)
- Alternative to Top of Rack (ToR) and Middle of Row (MoR) designs

Nexus 1000v

▷ Virtual Switch

- Runs as a Virtual Machine (VM)

▷ NX-OS CLI for Hypervisor's vSwitch

- VMware ESXi
- Microsoft Hyper-V
- Linux KVM

▷ Adds features not native to Hypervisor

- Private VLANs, VXLAN, ACLs, SPAN/ERSPAN, NetFlow, QoS, etc.

Multilayer Director Switches (MDS) Overview

▷ Cisco SAN Switches

- <http://www.cisco.com/go/mds>

▷ Core Switches

- MDS 9700/9500

▷ Edge Switches

- MDS 9200/9100

MDS vs. Nexus

▷ Similarities

- Both run NX-OS
- Both support SAN switching

▷ Differences

- MDS is not a LAN switch
- Higher SAN port density
 - E.g. 16Gbps Native FC
- MDS has more SAN specific features
 - E.g. SAN Extension (FCIP)

Q&A