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CISCO

Cisco Nexus 7000 Series Switches in the Campus Core

The number of devices connecting to networks is unprecedented. Anytime, anywhere access is helping to increase productivity, but it's bringing a tighter focus on the speed, scale, and security of enterprise campus networks. As you build your campus network infrastructure to meet these growing demands, you need to ensure that your network infrastructure can handle future traffic growth.

Cisco Nexus® 7000 Series Switches (Figure 1) offer a very high density of line-rate 10, 40, and 100 Gigabit Ethernet ports (Table 1), complementing the Cisco Catalyst® 6500 and 6800 Series Switches. Cisco Nexus 7000 Series Switches can help meet your business requirements today and prepare your network for tomorrow's business outcomes.

Figure 1. Cisco Nexus 7000 Series Portfolio

Benefits

- Robust and scalable support for Layer 2 and Layer 3 protocols, including BGP, OSPF, IS-IS, and EIGRP

- Strong security through the Cisco TrustSec® solution, SGTs, and SGACLs

- High availability with in-service software upgrades, patching, and maintenance

- Virtualization support through virtual device contexts (VDCs), which allow one Cisco Nexus 7000 Series Switch to be virtualized into a maximum of 8 virtual switches

- Segmentation flexibility with support for OTV, LISP, MPLS, VPLS, and VXLAN

- Operational consistency for customers already running Cisco® NX-OS Software in their data centers

Table 1. Port Densities of the Cisco Nexus 7000 Series

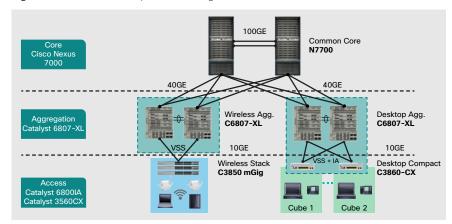|	Cisco Nexus 7700 Platform				Cisco Nexus 7000 Series			
	Cisco Nexus 7700 18-Slot Switch	Cisco Nexus 7700 10-Slot Switch	Cisco Nexus 7700 6-Slot Switch	Cisco Nexus 7700 2-Slot Switch	Cisco Nexus 7000 4-Slot Switch	Cisco Nexus 7000 9-Slot Switch	Cisco Nexus 7000 10-Slot Switch	Cisco Nexus 7000 18-Slot Switch
1/10-Gbps Ports	768	384	192	48	96	336	384	768
40-Gbps Ports	384	192	96	24	24	84	96	192
100-Gbps Ports	192	96	48	12	12	42	48	96
I/O Modules	16	8	6	1	2	7	8	16
Supervisors	2	2	2	1	2	2	2	2

Next Steps

For more information about the Cisco Nexus 7000 Series, visit http://www.cisco.com/go/nexus7000.

Cisco Nexus 7000 Series in a Multitier Campus Core

In a typical three-tier campus core network with access, aggregation, and core tiers (Figure 2), the switches at the aggregation tier provide the Layer 2 to Layer 3 boundary and redundant gateway functionality. Switches at the core tier provide high-speed Layer 3 functionality at scale to the entire campus core network.

Figure 2. Three-Tier Campus Core Design

The VDC capability lets you create up to eight logical switches on one physical Cisco Nexus 7000 Series Switch with flexible separation of hardware and software. Each VDC also provides a secure administrative context and fault isolation. By reducing the number of physical switches that need to be managed, VDCs also let you lower your capital and operational expenses. And by integrating Cisco TrustSec security into your campus network, you can simplify the provisioning and management of network access, accelerate security operations, and consistently enforce security policies across the network.

With its combination of high port densities, speeds up to 100 Gbps, extensive Layer 2 and Layer 3 capabilities, VDCs, and Cisco TrustSec support, Cisco Nexus 7000 Series Switches are a very compelling choice as a core switch in campus networks.

Supporting MPLS in the Campus Core

Many enterprises use MPLS technologies in their campus core to create scalable IP VPNs, improve bandwidth utilization, hide network complexity, and improve uptime. The Cisco Nexus 7000 Series offers extensive MPLS capabilities, including traffic engineering, MPLS QoS, Layer 3 VPNs, Layer 2 VPNs, multicast VPNs, VPLS, and PE-CE routing.

Together with the Catalyst 6500 and 6800 Series, the Cisco Nexus 7000 Series offers a complete, feature-rich portfolio of Ethernet switches that can meet all of your campus core needs.