Panduit Physical Infrastructure Solution for the Cisco® Nexus 7009 Switch

Solutions Brief

Consolidation and Virtualization

Cisco® Nexus 7000 Series Switches comprise a modular switching system designed to deliver 10 Gigabit Ethernet and beyond as virtualization and consolidation place increasing bandwidth demands on the network.

Like the Nexus 7010 and 7018, the Nexus 7009 addresses switch bandwidth challenges by providing a highly scalable platform that provides networks with future support for 40 and 100 Gigabit Ethernet interfaces, improving scalability and reducing CapEx as capacity requirements are scaled up.

The Cisco® Nexus 7009 Switch is based on a proven operating system (Cisco® NX-OS), with enhanced features to deliver real-time system upgrades with exceptional manageability and serviceability. Its innovative design is built to support end-to-end connectivity in both data center and campus deployments with features optimized for high availability, reliability, scalability, and ease of management.

Nexus 7009 Switch and I/O Modules

Physical Infrastructure Challenges

The Nexus 7009 provides a first in class switch platform that offers similar port density to the Nexus 7010 in 60% of the space. As a result, physical infrastructures designed to support the switch need to address higher port and power densities, meet airflow and cooling requirements, and optimize space within the rack or cabinet. The modular design of the I/O modules and backplane ensure that the Nexus 7009 switch can be upgraded efficiently. To enable network upgrades, physical infrastructure planning needs to consider cable layout schemes that will provide cost effective methods for upgrading cabling and connectivity as switch bandwidth increases.

Panduit Optimized Physical Infrastructure Solution

Based on proven reference designs that align the logical architecture with the physical layer, Cisco® and Panduit have created solutions that integrate all physical infrastructure elements for optimized performance of the switch across a variety of applications.

Power and Thermal Management Reduce Risk and Operational Cost

Reference designs, validated by Panduit and Cisco® testing, ensure even power usage within individual cabinets and across multiple cabinets, minimizing hot spots that can impact system performance and reliability. These designs enable energy conservation by establishing front to back airflow patterns that maximize power and thermal efficiencies, reducing operational costs.

Scalability and Agility

Nexus switch platforms are designed to provide efficient migration from 1Gbe to 10Gbe and beyond. Panduit infrastructure designs support this migration capability with minimal investment and downtime. Panduit® QuickNet™ Patch Panels and pre-terminated connectivity support Nexus 7009 I/O module upgrades allowing quick migration to higher speeds.

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Panduit Solutions Offer Faster Implementation, Simple Specification

Pre-Configured Physical Infrastructures

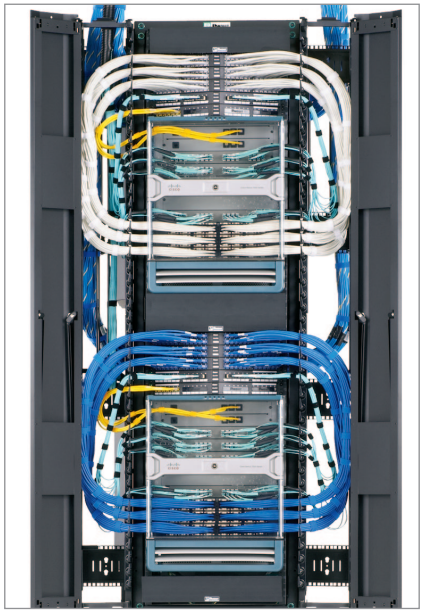
Panduit pre-configured solutions simplify installation and minimize risk through an integrated and validated physical infrastructure that arrives at partner or end user sites ready to be deployed. Pre-configured infrastructures provide benefits that:

- Reduce the time required for planning, designing, procurement, and installation by as much as 80%
- Remove complexity by delivering pre-engineered, pre-tested and validated solutions optimized for Nexus 7009 applications with a single part number
- Minimize risk to switch performance with pre-engineered and thermally validated designs
- Increase business agility by offering a modular approach that allows faster, simpler and more consistent deployments

Validated Reference Designs

Based on Panduit® Net-Access™ Cabinet and 4 Post Racks, Panduit reference designs provide recommended methods of deploying the Nexus 7009 switch and all physical infrastructure elements including power outlet units, high speed copper and fiber cabling, thermal ducting, cable management, grounding, and identification.

Single chassis in Net-Access™ Cabinet



Dual chassis in a 4 Post Rack

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Panduit Data Center Advisory Services

Panduit offers a range of services to optimize Nexus 7009 switch applications. Panduit works closely with our clients to assess their needs and to design solutions and migrations that ensure the rapid, correct, and secure deployment of a physical infrastructure that is ready to handle the latest technologies, applications, and systems.

Network Management

Panduit's Physical Infrastructure Manager™ (PIM™) Software Platform is a physical infrastructure management system for tracking the allocation and utilization of critical IT assets within your data center and throughout your enterprise. The PIM™ Software Platform is a data center infrastructure management tool that combines connectivity management data with asset tracking, allocation, and utilization information, enabling you to reclaim and repurpose IT assets effectively.

Panduit's Physical Infrastructure Manager™ (PIM™) Software Platform and PanView iQ™ (PViQ™) System Hardware provides continuous, local, and remote visibility of connectivity, power usage, asset tracking and utilization, and environment conditions for Cisco® Nexus 7009 switches and their supporting physical infrastructure.

Summary

Cisco® – Panduit reference designs and pre-configured solutions deliver high performance, flexible, scalable and reliable methods for Nexus 7009 switch deployments in both data center and campus environments.

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