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Six Reasons to Modernize Your Data Center Network

Address performance demands and operational complexity while staying ahead of evolving business needs.

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A data center that meets the demands of tomorrow

If you're wondering how to make your data center network more agile and elastic while improving performance and planning for sustainability, it might be time for a change. Read on for six compelling reasons to start modernizing.

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1. Network complexity

Managing IT operations can be complicated, with too many tools, too much complexity, and a lack of end-to-end consistency. A change is in order if you want to reduce the operational sprawl, complexity, and fragmentation that limit agility, availability, flexibility, security, and speed.

In a recent IDC Business Value report respondents reported a 26% improvement in team productivity after adopting Cisco® Nexus® Dashboard. The streamlined management of network components has freed up teams to focus more on innovation and strategic business tasks.

Cisco solutions for operational simplicity address this top challenge for organizations. Cisco Nexus Dashboard is an operations and automation platform with unified common services to manage your data center network with insights, orchestration, and a fabric controller. It leverages common policies, infrastructure telemetry, and APIs to abstract complexity from the data center network infrastructure and eases the burden of configuring and managing data center networking infrastructure.

Are you ready?

- One platform makes it easy.

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2. AI/ML needs

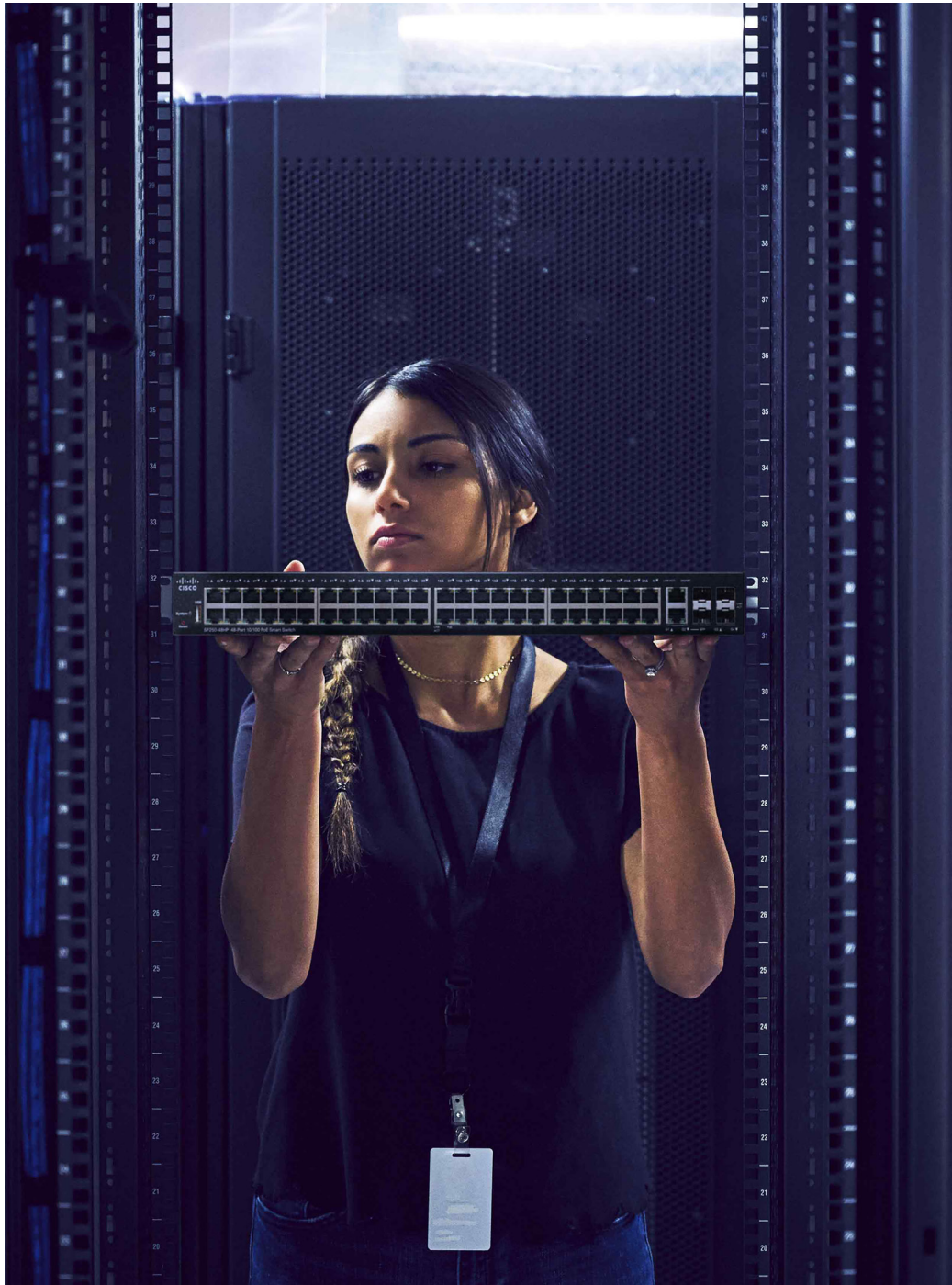
Artificial Intelligence/Machine Learning (AI/ML) applications require low-latency, lossless networks. Your data center must have the right hardware, software, and configurations tailored for AI workloads, with networks that can detect vulnerabilities and issues while tuning for optimal performance.

Based on a foundation of trust and the need to meet the high-performance demands of AI/ML networks, Cisco AI-native infrastructure delivers lossless Ethernet for the best network performance, highest throughput, and lowest job completion time. Our solutions provide economies of scale and industry-wide interoperability, allowing you the flexibility and choice of network architecture to protect your investment.

According to the Cisco Global AI Readiness Index, while 97% of businesses are aware that AI will increase infrastructure workloads, only 17% of organizations have networks that are fully flexible to handle this complexity.

Are you ready?

- Read the Cisco Global AI Readiness Index.
- Check out the Cisco Data Center Networking Blueprint for AI/ML Applications.



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3. Sustainability goals

Data centers consume a significant amount of energy, and as the adoption of AI/ML and other high-performance workloads continue to grow, your data center's energy needs will increase. To control costs, reduce emissions, and comply with regulations, sustainability is top of mind. Addressing these challenges entails an examination of multiple factors, including performance, power, cooling, space, and the impact on network infrastructure. Finding sustainable and energy-efficient solutions is crucial for minimizing the environmental impact and cost.

You can accelerate your data center's transition to a more sustainable future with solutions, services, and programs from Cisco. Our offerings can help you drive simplified energy management, transformative energy and resource efficiency, and business model transformation through improved lifecycle management. Migration to modern hardware such as the Cisco Nexus 9800 Series Switches, built with circular design principles and more energy-efficient infrastructure models than previous generations, can help reduce your environmental footprint.

With Cisco Nexus Dashboard, you can glean visibility into data center IT equipment energy consumption and cost. The insights you can get into carbon footprint greenhouse gas emissions of managed devices and sustainability metrics can help identify top-impacting devices.

Are you ready?

- Discover the next generation of high-performance data center switches.
- Gain visibility at a site, equipment, or power distribution unit outlet level.

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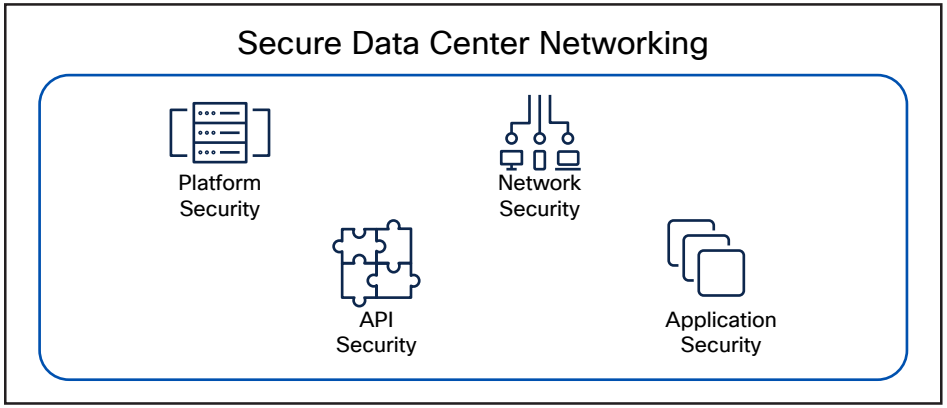
4. Security concerns

Data centers must be resilient and reliable, which means proactively identifying, assessing, and managing potential risks. This includes security protocols, disaster recovery planning, redundancy and reliability systems, compliance management, continuous monitoring, and incident response.

The fortress-like security of Cisco's data center networking solutions helps your data center remain protected with end-to-end segmentation of your network in addition to encryption technologies, including MACsec and RadSec. Our visionary approach to data center protection integrates seamless, application-centric infrastructure security with robust network segmentation, and a one-fabric experience that keeps your critical data safe. Leverage Cisco's full range of solutions for network security, visibility, and policy control, built to enhance your network's defenses.



Are you ready?

- Build a network that unites data center and cloud.
- Make your network agile with Cisco Application Centric Infrastructure.

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5. Multi-fabric complexity

Data center fabrics have been divided into application-specific and network-specific types to meet distinct needs. Today, these fabrics must evolve to help you simplify network operations and to support high-performance and AI/ML workloads. A common policy and streamlined management across all fabrics are essential for modern data center operations. Fabric discovery, policy, validation, and management must be seamless.

Cisco offers a consistent user experience to deliver data center use cases across different fabric technologies. Use the Cisco Nexus Dashboard to facilitate common policy and end-to-end segmentation across Cisco Application Centric Infrastructure (ACI) and Cisco NX-OS, centralizing operations across both fabrics.

Are you ready?

- Reduce complexity.

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6. Growth management

Data centers must scale network and compute infrastructure to cope with the increased traffic and processing power required. Those AI/ML applications you're adding require high-speed and low-latency network connections to efficiently handle the large volumes of data being processed. You'll need to ensure that your data center has sufficient bandwidth and can scale easily to support these requirements.

Cisco's 400G switching portfolio revolutionizes data center networking with high throughput and high-density, energy-efficient design, crucial for heavy-duty applications like AI and 4K/8K media streaming. It enables your data center to accommodate massive data growth, offering rapid transfers, scalable networks, and greater reliability to future-proof against upcoming digital demands.

Are you ready?

- Meet the high-speed, high-performance Nexus portfolio.

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Get started now

Book a meeting and receive expert guidance on modernizing your network infrastructure with AI-ready infrastructure.

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