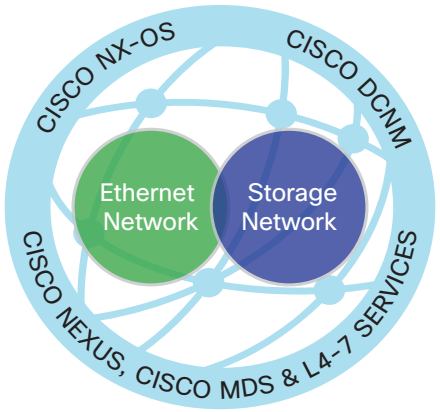
Cisco Unified Fabric

Cisco Unified Fabric: A More Intelligent Network for Your Applications

Lack of time. Isolated resources. Growing complexity. Limited scalability. Are these challenges too familiar? If so, you can benefit from Cisco® Unified Fabric, a solution to help you move your people and processes to next-generation technologies while achieving scalability. Cisco Unified Fabric, consisting of the Cisco Nexus® Family, Cisco MDS 9000 Family, and Layer 4 through 7 services, provides a flexible and comprehensive data center networking solution that delivers intelligent and high-performing network services to servers, storage, and applications. This industry-proven portfolio can help you create a more agile, simplified, and flexible network foundation. Extending from the hypervisor to the data center core, it provides consistent operations across physical, virtual, and cloud-based deployments.

Using software-defined network (SDN), automation, and orchestration tools, Cisco Unified Fabric helps you create an open, programmable network backbone that is easier and faster to deploy and manage. It takes a revolutionary approach, using Cisco Application Centric Infrastructure (ACI), in which network behavior is guided by the applications themselves. This approach results in simplified operations and management and closer alignment between the network and the applications that it transports.

Figure 1. Cisco Unified Fabric – Delivering Architectural Flexibility



Growing Opportunities and Evolving Requirements

New technologies and applications are allowing businesses to reach new customers, create competitive advantage, and ultimately increase revenue. Big data and analytics, mobile application access, network programmability, and cloud-based application delivery are business enablers. However, they also lead to growing volumes of data, variable traffic patterns, and increasing complexity, which can result in resource constraints, infrastructure sprawl, and increased operating expenses.

Cisco Unified Fabric provides built-in intelligent capabilities to align the network with business and application requirements today and in the future. It can help you build a data center network foundation that:

- Meets the performance, scale, and capacity needs of diverse applications (whether virtualized or bare metal) and increasing network traffic
- Provides the underlying infrastructure that helps you simplify management and operations regardless of architectural preference
- Delivers built-in, intelligent capabilities that help ensure that the network aligns with both business and application requirements today and in the future

Delivering Business Benefits

Cisco Unified Fabric takes a holistic approach to delivery of Ethernet, storage, and Layer 4 through 7 services to data centers of various sizes and designs. Benefits include:

- **Scalability and performance to meet both current and future needs:** Build an intelligent, high-performing infrastructure with multidimensional scalability for the data center network. The solution accommodates increasing switch sizes and performance, system scale, and geographic span in a simplified, evolutionary manner.
- **Reduced complexity and simplified operations:** Create an open, programmable network backbone that is easier and faster to deploy and manage. SDN, automation, and orchestration tools such as Cisco Dynamic Fabric Automation (DFA) and ACI create a closer alignment between the network and the applications it transports.
- **Cloud readiness:** Build an agile and efficient network foundation delivering high availability, high density 10-, 40-, and 100-Gbps connectivity, server workload mobility, and secure multitenancy. Cisco Unified Fabric delivers operational consistency across physical, virtual, and cloud architectures through Cisco Overlay Transport Virtualization (OTV) and DFA and the Cisco InterCloud solution.

- **Evolutionary approach to LAN and SAN convergence:** Make it easier for data center managers to meet the day-to-day needs of the evolving network while freeing time and resources to focus on strategic activities that benefit the business. With LAN and SAN networking solutions both provided through our Cisco Nexus and Cisco MDS 9000 Family portfolios, you can use a common operating system (Cisco NX-OS Software) and benefit from single-pane management with Cisco Prime™ Data Center Network Manager (DCMN).
- **Architectural flexibility:** Deliver simplicity of design and operations, scalability, high performance, resiliency, and flexibility through technologies such as Cisco DFA, FabricPath, OTV, virtual PortChannel (vPC), and more. Whether you have switches located at the end of the row, top of the rack, or middle of the row, or whether you have a tiered or a fabric-based architecture, the Cisco Nexus Family offers a broad portfolio of purpose-built data center fixed-configuration or modular switches that can be placed in these existing architectures.

Almaviva Tele Sistemi Ferroviari (TSF)

"Cisco's unified fabric product portfolio enabled us to build an agile and efficient architecture offering new revenue-generating services to successfully win contracts for several hundred million euros. With industry-leading, enterprise-class end-to-end FCoE across its Nexus and MDS platforms, Cisco's data center architecture enabled seamless convergence of our virtualized data center to provide competitive pricing, faster deployment, and new services while lowering OpEx and CapEx."

— **Francesco Barbieri**, Manager of Data Center Operations, TSF

NetApp

"Application virtualization reduced our infrastructure costs by 40 percent, and the Cisco Nexus 2000 and 5000 access switches are an important enabler … The VDC support on the Cisco Nexus 7000 saved US$150,000 on our DMZ, or 43 percent of the total budgeted costs."

—**Mike Morris**, Manager, IT, Communications Engineering, NetApp

Molina Healthcare

"Cisco MDS 9710 Multilayer Directors are cornerstones of our infrastructure. They deliver superior performance and availability to support our nonstop operations and provide high consistency across the data center. The Cisco MDS 9710 will be essential to supporting all of our data center storage infrastructure."

—**Gautam Mukherjee**, Manager, IT Service Design, Enterprise Infrastructure Services, Molina Healthcare

University Health System

"We found that purchasing Cisco data center solutions was far more cost effective compared to home-run cabling; plus Cisco gives us easier installation and all of the features we need, including outstanding flexibility and scalability."

—**Ari Friedman**, IS Project Manager, UHS

Why Cisco?

Whether you want to quickly seize new opportunities to meet rising customer expectations, improve operation efficiency to lower costs, mitigate risk, or accelerate growth, Cisco Unified Fabric can help you achieve your data center networking goals. It uses new, revolutionary approaches that only Cisco offers, such as Cisco ACI and DFA.

Serving more than 55,000 Cisco NX-OS customers, Cisco Unified Fabric is the interconnection point for applications, stored data, and users that can help you:

- Build an intelligent, high-performing infrastructure with multidimensional scalability for the data center network
- Simplify your data center architecture and reduce costs with LAN and SAN convergence, helping you reduce capital costs with fewer devices, simpler management, and more flexible configuration policies
- Create an open, programmable network backbone that is easier and faster to deploy and manage

The Cisco Unified Fabric portfolio delivers the intelligence, performance, and future-growth capabilities that help you take full advantage of your investments and create a more operationally efficient, agile network that aligns with your business strategies.

For More Information

For more information, visit Cisco Unified Fabric.

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