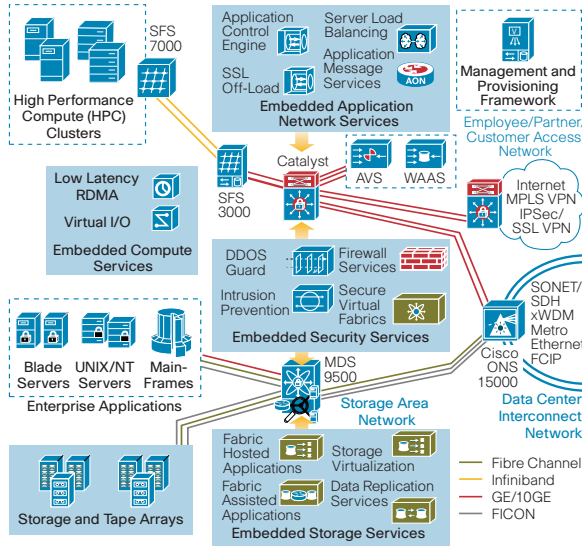


Data Center Networking Services

At-A-Glance

What is a Cisco Data Center Architecture?

Figure 1. Cisco Data Center Network Architecture



A comprehensive architecture that allows IT executives to:

- Consolidate and virtualize computing, storage, and network resources
- Deliver secure and optimized employee, partner, and customer access to information and applications
- Protect and rapidly recover IT resources and applications

The architecture is built with:

- **Networked Infrastructure**—Gigabit/10-Gigabit, server fabric, storage switching, and optical transport
- **Interactive Services**—Storage fabric services, computing services, security, Layer 4-7 switching, and application optimization services
- **Management**—Fabric manager (element and network management) and VFrame technology (server and service provisioning)

The architecture is based on:

- **Cisco® Service-Oriented Network Architecture (SONA)**, the enterprise implementation of the Intelligent Information Network (IIN) technology vision. Cisco SONA emphasizes the value of the interactive services provided within the networked infrastructure, such as application optimization and security, server, and storage fabric switching to enhance business applications.

For More Information

For more information about Cisco DCN services, visit:

<http://www.cisco.com/datacenter/AS>

<http://www.cisco.com/go/storage networking>

Who should engage Cisco Data Center Networking (DCN) services?

- Customers developing their data center strategies based on **business requirements**
- Customers looking to **reduce risk** by deploying tested and supported architectures for their mission-critical applications
- Customers looking to deploy **next-generation data center networks**
- Customers looking to **optimize** existing data center network resources
- Customers looking to **optimize processes and application/infrastructure resources** for business continuance
- Customers looking to work with **partners** in building a scalable data center network infrastructure to accommodate application growth and business requirements
- Customers looking to build a **business case** to support acquisition of resources

Cisco DCN services offer a unique value proposition:

- Provide business and technical assessments to help customers identify gaps between *current state* and *future state*
- Promote network architectures that best meet customers' objectives
 - Customers benefit from Cisco's experience in deploying these technologies
 - Build networks based on individual customer requirements while using best-practices designs
- Help customers with reliable implementations of data center networks
 - Customers benefit from economies of scale generated from end-to-end process and planning
 - Reduce customer risk by deploying validated designs
- Offers network optimization services for a data center network
 - Making it easier to plan changes and major migrations
 - Improving return on investment (ROI) using faster reconfiguration and integration of new applications into the data center infrastructure
- Delivering network support that will improve reliability and performance
 - Augmenting customer operational staff with onsite technical support to resolve problems rapidly
 - Transferring knowledge to facilitate customer organization
 - Providing remote support for a Cisco subject matter expert

Enterprise Architecture Framework

- Cisco methodology is based on an *application-focused* and *architecture-centric* approach that analyzes pertinent information across the entire technology stack for a holistic view of technology components and interdependencies.

- This methodology is founded on an *enterprise architecture framework* that allows the Cisco services team to capture and analyze vital data points from all layers and create a single, common view of all the services required to support business applications.
- Project management office (PMO) is responsible for coordinating among all pertinent Cisco resources as appropriate.

Figure 2. Enterprise Architecture Framework

Business Layer		High Level Business Needs and Business Processes
Application Layer	Application Architecture	Business Applications, Dependencies Among Them and Application-interface
	Integration Architecture	
Data Layer	Data Architecture	Data Requirements, Dependencies, Data Maintenance, Distribution and Sharing in Support of Application Architecture
	Storage Architecture	
Platform Layer	System Software	OS, DBMS, Application Servers, Middleware, and Servers Hosting Software and Applications
	Server Architecture	
Network Layer	Security Software	Hardware and Network Components Including LANs, WANs, Access, Distribution, Core, SAN, Optical, CDN, etc.
	Network Architecture	
Physical Layer	Power/Cooling Architecture	Power, UPS, Cooling, Access, Fire Suppression, Floor Space/Type, Generators, Compliance
	Cabling Architecture	

Cisco Data Center Networking Services Delivery Model

Figure 3 below outlines which teams produce a Cisco DCN services offering.

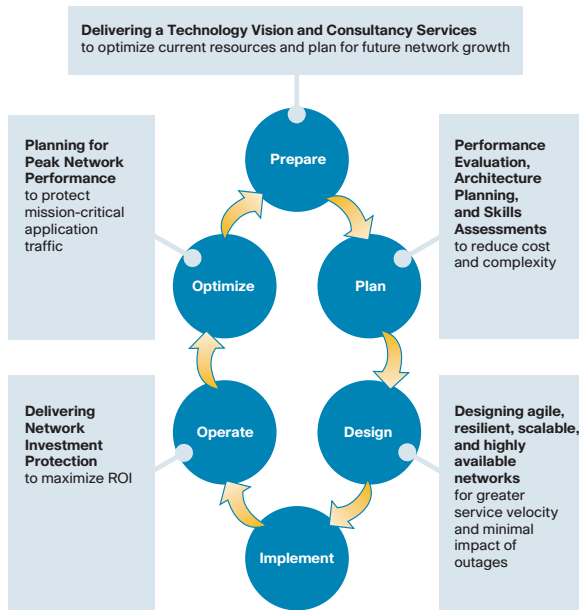
Figure 3. Cisco DCN Delivery Methodology

Business Architects	<ul style="list-style-type: none"> • Project Management Office (PMO) • Business Assessment • Business Case/Optimization • ROI/TCO/Cisco Capital • Business Applications, Data, and Platform Layer (Cisco and Partners)
Domain Architects	<ul style="list-style-type: none"> • DC Infrastructure Design • Infrastructure Applications, Power and Cooling, Network, HA Assessments • Individual Tech Expertise Covering: CDN, SAN, Optical, WAFS/NAS, AONS, IB, L2/L3, L4/L7 • Bridge Expertise Gap in Customer Environment • Network Layer Assessments
High Touch Support	<ul style="list-style-type: none"> • Solution Support Focus • Single Point of Reactive Focus • Onsite
Technical Assistance	<ul style="list-style-type: none"> • Product Support Focus • Follow-the-Sun Model • Remote

At-A-Glance

What is Cisco Lifecycle Services Model?

Figure 4. Cisco Lifecycle Services Model



Cisco Data Center Networking Services help customers build optimized data center networks. Cisco can bring together the depth and breadth of expertise across data center networking technologies to help customers **prepare, plan, design, implement, operate, and optimize** the network lifecycle. Cisco Systems® also advises customers how to align their data center strategies with their business objectives and operational processes to industry standards and best practices.

Cisco Sales Contacts for DCN Services

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Cisco DCN Lifecycle Services

Prepare—Development of a data center technology vision that aligns with current and future business requirements. This includes:

- Alignment of IT- and Business-Strategy
- Current and future state gap analysis
- Project Management Office (PMO)

Plan—Construction of a Data Center Network Architecture based upon a detailed specification of requirements and restrictions combined with a process analysis and skills assessment. This includes:

- Definition of requirements and restrictions
- Building the Data Center Network Architecture

Implement—Implementation of the solution in a new/existing production environment or migration of the existing situation to the new architecture. This includes:

- Implementation/Migration project plan development
- Equipment installation, testing, configuration
- Connectivity and interoperability testing

Operate and Optimize—Constantly evolving business requirements require an ongoing attention to optimization, expansion or replacement of the existing IT environment. New technologies that create new business opportunities need to be integrated and equipment and operation failures need to be quickly analyzed and resolved to minimize business and revenue impact. This includes:

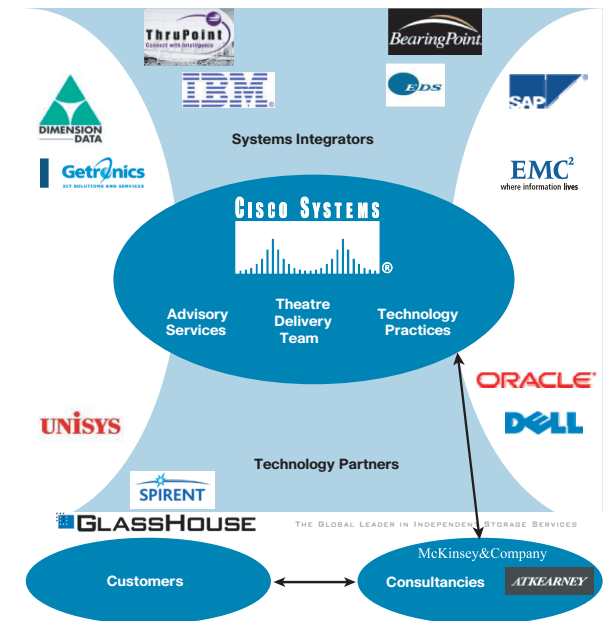
- Advice with change planning and implementation
- Recommendations from assigned engineer to improve availability and security
- Analysis of support processes and ITIL standard compliance
- Onsite support expertise
- 24 x 7 x 365 access to Global Technical Assistance Center
- Software upgrades for bug fixes
- Parts replacement with onsite installation
- Access to Cisco Connection Online for technical and device information

Cisco DCN Services Partnering Strategy

- Cisco has an infrastructure of strong partnerships in the data center spanning systems integrators, channel partners, storage manufacturers, application vendors, and technology partners.
- Large storage manufacturers or systems integrators may often prime these deals where Cisco may subcontract through them.
- Cisco can also be the prime vendor if requested by the customer. This situation occurs most often in large accounts in which there is an existing direct relationship with the customer.

- Cisco can use these partners for staff augmentation to meet growing demand for services, as needed.
- As Cisco continues to expand its portfolio of products in the data center, many new partners related to these specific technologies may be used across the data center as these products are integrated into the architecture.
- This strategy allows Cisco to deliver on its core competency of networking while using the skills of individual partners to deliver a variety of options to meet a customer's unique requirements.

Figure 5. Cisco Services Partnering



Technologies Included Under Cisco DCN Services

- Optical networking
- Content delivery networking
- Layer 2 and Layer 3
- Security
- Cisco AONS and application optimization
- Storage Area Networking (SAN)
- Network management
- InfiniBand
- Wide Area File Services (WAFS) and network attached storage (NAS)