Cisco Data Center Architecture Assessment Service

Align networks, computer systems, and storage devices.

Increase the efficiency, adaptability, and scalability of your data center by deploying Cisco Data Center Architecture Assessment Service.

Data centers are crucial assets that can help businesses gain competitive advantage. As businesses grow and merge, they often end up with a network sprawl of duplicate data center resources and silos that increase operating costs and complexity, while reducing the availability and reliability of critical data center resources. Failure to address these issues can result in outages, a limited ability to expand data center capabilities, and compromised business resiliency. Data center inefficiencies can also make it difficult to cost-effectively deliver the robust level of application services that customers and internal users demand.

Data centers are evolving toward architectures in which networks, computer systems, and storage devices act in unison. To achieve this, data centers need an end-to-end architecture that is efficient, adaptable, and scalable. As IT organizations migrate from fragmented, older data centers to more cost-effective and agile ones, they must first develop a sound architecture that can serve as the foundation for their evolution to a next-generation data center.

The Cisco® Data Center Architecture Assessment Service helps you understand the current state of your architecture and determine which changes can best help you achieve your business and IT goals. This assessment provides you with findings, customized recommendations for the next steps in your data center evolution, as well as a long-term plan for your data center architecture. A more robust data center environment can increase your resource availability, so you can deploy applications faster and enhance the return on your network investment.

Creating a Plan for the Evolution of Your Data Center

The Cisco Data Center Architecture Assessment Service is the first step in planning your data center transformation. This project-based service helps you create a plan for evolving your data center by providing you with a holistic view of the changes needed throughout your data center infrastructure to realize your long-term vision.

The Cisco Data Center Architecture Assessment Service evaluates the following areas:

- Data center architecture
- Data center IP infrastructure
- Data center security

The Cisco Data Center Architecture Assessment Service can also include storage area networking, file services, branch consolidation, application optimization, business continuance, and virtualization. You can customize this assessment service to fit your requirements by selecting the service options you need. Table 1 describes the core assessment areas.

Table 1. Core Assessment Areas and Benefits

Assessment Areas	Benefits
Data Center Architecture	
Virtualized data center • Alignment of data center network infrastructure to business objectives Maturity of IT services **Evolution of data center architecture** • Data center consolidation –Reduced number of data centers –Storage consolidation –Server and application consolidation –Integration of services on the Cisco Catalyst® platform **Data center high availability** • Server high availability • Fault tolerance in the data center • Cisco IOS® Software high-availability features (nonstop forwarding and stateful switchover) **Other data center architecture areas** • Data center enterprise edge • Unsecured network area design concerns • Teleworker, extranet, and VPN architecture	• Align your data center infrastructure to business needs • Move toward a virtualized data center infrastructure • Align IT operations with IT services and related processes • Improve use of data center resources • Achieve cost savings through data center consolidation • Improve the performance of your current data center infrastructure • Increase the resiliency of your data center • Take advantage of high-availability features • Increase performance of your VPN remote-access service

Assessment Areas	Benefits
Data Center IP Infrastructure	
Data center server farm architecture · Shared application and security services · Server-to-server communications · Clustered servers · Network interface card (NIC) teaming requirements · Blade server connectivity **Data center server farm design** · Data center network Layer 2 and Layer 3 design · Data center network access, aggregation, and core design **Spanning tree design and scalability** · Selection of Spanning Tree Protocol **Routing and cabinet design, cabling, and density considerations** · Server farm cabinet layout · Cabling topics	· Increase the availability of the data center IP infrastructure · Improve the resiliency of the data center IP infrastructure · Efficiently use cabling and rack resources · Avoid outages because of spanning tree design problems · Select the appropriate Spanning Tree Protocol
Data Center Security	
· Virus protection and denial-of-service (DoS) attack prevention · User access to data · VPN, IP Security (IPsec), and Secure Sockets Layer (SSL) · Internal and external security · Data integrity · Role-based access control (RBAC)	· Increase data integrity · Avoid security breaches · Proactively enhance data center security · Use RBAC to conform to Information Technology Infrastructure Library (ITIL®) change management processes

Depending on your requirements, you might want to broaden the scope of your architecture assessment to include areas such as storage area networking, file services, branch consolidation, application optimization, business continuance, virtualization, and a services-oriented architecture. Table 2 describes these additional assessment areas.

Table 2. Additional Assessment Areas and Benefits

Assessment Areas	Benefits
Storage Area Networking	
Storage area network (SAN) consolidation · Performance and scalability · Migration topics · SAN island consolidation **SAN security** · Data integrity and encryption · Device authorization and traffic isolation **SAN management** · Management of changes · SAN performance optimization **SAN extension** · IP SAN **Intelligent SAN services**	· Consolidate SAN islands to decrease costs · Increase use of the SAN infrastructure · Reduce costs with the latest IP SAN technologies · Define a clear SAN architecture plan and verify the implementation steps · Analyze SAN security and plan enhancements · Improve SAN management and optimize SAN performance · Use intelligent SAN services to reduce costs

Assessment Areas	Benefits
File Services and Branch Consolidation	
Branch consolidation · Centralization of branch data, currently on file server, in a secure data center · WAN bandwidth and application performance acceleration **Consolidation of file services** **Multimedia application support for branches**	· Reduce operating costs by using less security patching and fewer backup and restore operations · Increase manageability · Increase application performance and security
Application Optimization	
· Essential enterprise services (Domain Name System [DNS] and Dynamic Host Configuration Protocol [DHCP]) · Server and application load balancing · Server resource offloading · SSL offloading and application acceleration · Application security · File and software distribution	· Improve application performance · Enhance end-user application response times · Increase availability through server and application load balancing
Business Continuance	
IT services essential to the business · Understanding of crucial IT services and applications, especially the following: –Recovery point objective (RPO) –Recovery time objective (RTO) –Recovery access objective (RAO) **Data center resiliency enhancement** · Data center resiliency (Cisco IOS Software high-availability features) · Spanning tree scalability **Disaster recovery capabilities** · Data center interconnect and distributed data center · Cluster design and server high-availability design	· Increase the availability of the data center environment · Improve the resiliency of the data center infrastructure · Analyze business continuity requirements and plan the necessary steps · Optimize the use of Cisco IOS Software high-availability features
Virtualization	
· VSAN and storage virtualization · IT service virtualization and virtualized data center	· Use a virtualized SAN infrastructure for lower total cost of ownership (TCO) · Improve the service level of IT service · Use server virtualization for lower TCO
Virtualized Architecture	
· Data center optimization for virtualized architecture (policy, quality of service [QoS], and flexibility) · Migration from fragmented applications to shared, virtual, service-oriented architecture · SSL, TCP, and Extensible Markup Language (XML) termination	· Develop an architecture to address virtualization issues · Use SSL termination to increase security · Use XML to reduce costs · Improve transaction processing

Expert Delivery

The Cisco Data Center Architecture Assessment Service is delivered in a structured process by Cisco data center experts. The components of the Cisco Data Center Architecture Assessment Service are:

- Data collection
- Architecture workshop
- Analysis
- Reports and final review

Table 3 describes the activities, deliverables, and benefits for each of these components.

Data Collection

Cisco sends you a questionnaire to collect baseline data about your data center infrastructure. The collected data helps us assess what you require and provide an assessment that is very specific and focused on your needs. The high-level data collected provides information about the range of applications and storage, server, and other data center networking devices. Baseline data related to business continuance, security, and virtualization is collected as well.

Data Center Architecture Workshop

In this workshop, conducted at your site, the Cisco data center architect and your IT team jointly review input from the questionnaire and collect data to determine the status of the data center infrastructure to outline requirements, constraints, processes, and future deployment strategies.

Analysis

The Cisco data center architect analyzes the collected information and develops an initial draft of the Cisco Data Center Architecture Assessment report. The initial draft is created by the Cisco data center team in conjunction with several members of your IT team. The intent of this report is to solicit feedback from you as to whether the draft recommendation meets your general requirements.

Reports and Final Review

The Cisco data center architect evaluates and incorporates the feedback from you and the Cisco data center architect team and continues to finalize the report. The final Cisco Data Center Architecture Assessment report provides you with an executive summary, information on the current status of your infrastructure, a requirements analysis, the findings of the assessment, a proposal for your new data center architecture, and conclusions. Electronic copies of this report are sent to you for review prior to presentation of the report, in person, to your management at your location.

Table 3. Cisco Data Center Architecture Assessment Activities, Deliverables, and Benefits

Activities and Deliverables	Benefits
Data collection · Cisco data center experts administer infrastructure questionnaire · Cisco data center experts provide baseline data regarding your business continuance, security, and virtualization needs/requirements **Data center workshop** · On-site workshop administered by Cisco data center experts · Cisco data center experts and your IT team collaboratively review input from the infrastructure questionnaire and outline requirements, constraints, processes, and future deployment strategies **Analysis** · Cisco data center architects analyze the information collected in the infrastructure questionnaire and the workshop · Cisco data center experts and your IT team work in conjunction to draft report findings · Cisco data center experts provide an initial draft of the Cisco Data Center Architecture Assessment report **Reports and final review** · Cisco data center architect delivers a Cisco Data Center Architecture Assessment Report, which directly incorporates feedback from your IT team. · The report includes executive summary, current state of your infrastructure, requirements analysis, assessment findings, proposal for your new data center architecture, and conclusions. · Cisco provides electronic copies of the final report for you and your IT team to review prior to the final presentation of the report.	· A detailed, specific assessment focused on your business and IT needs. · Discovery and comprehensive inventory of data center compute, storage, and network assets · A detailed outline of your data center enables future data center projects to get started quicker. · Use Cisco data center expertise to develop your data center architecture strategy and roadmap · Collaboration between Cisco data center experts and your IT team will create a best in breed data center architecture specific for your business. · A blueprint for your data center strategy and roadmap

Benefits

The Cisco Data Center Architecture Assessment Service helps you identify the gaps in your existing data center infrastructure and create an architectural plan that can help increase the efficiency and adaptability of your data center. This assessment uses best practices and proven methodologies to address the elements that contribute to inefficiency in your data center and help you plan for data center transformation. You receive recommendations than can help you implement a data center–wide strategy to optimize your existing environment or to build a new data center.

The Cisco Data Center Architecture Assessment Service can help you to:

- Identify data center architecture improvements that can help you cost-effectively increase your data center's efficiency, scalability, and agility
- Increase resource availability, so you can deploy applications faster and enhance the return on your network investment
- Create a next-generation data center architecture plan that can help you evolve your data center to meet your long-term goals

Follow-on Services

As a next step to transforming your data center architecture, Cisco recommends you take advantage of their expertise in planning and design. Cisco offers planning and design services in five key technology areas: application distribution (ACE), application delivery (WAAS), unified fabric (Nexus), SAN, and Unified Computing. Cisco also offers Virtualization Services to support businesses that are migrating or continuing their evolution to a virtualized environment. These services are the Cisco Virtualization Assessment Service and the Cisco Virtualization Accelerator Support Service.

Cisco Expertise

Cisco uses leading practices and proven methodologies to help you quickly identify gaps in your current data center architecture. The Cisco Data Center Architecture Assessment Service is delivered by Cisco data center architects who hold a wide array of industry certifications and are subject matter experts in business and technology architectures and data center technologies. They have direct experience in conducting assessments as well as planning, designing, and supporting a wide range of data center solutions, including technologies such as virtualization, unified computing, Cisco Application Control Engine (ACE), Cisco Wide Area Application Services (WAAS), unified fabric (Cisco Nexus), and SAN solutions. Our product and technology expertise is continually enhanced by hands-on experience with customer networks and broad exposure to the latest technology and implementations.

Why Cisco Data Center Services?

Today, the data center is a strategic asset in a world that demands better integration among people, information, and ideas. Your business and your data center work better when technology products and services are aligned with your business needs and opportunities. Using a unique, unified view of data center assets, Cisco and our industry-leading partners deliver services that accelerate the transformation of your data center. Cisco takes an architectural approach to help you efficiently integrate and manage data center resources. Cisco Data Center Services help you reduce costs, deliver high availability, and improve application performance.

Availability

The Cisco Data Center Architecture Assessment is a statement of work (SOW)-based service and is widely available. Contact your local service account manager about availability in your area.

For More Information

For more information about Cisco Data Center Services, contact your local Cisco account manager or visit www.cisco.com/go/dcservices.

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