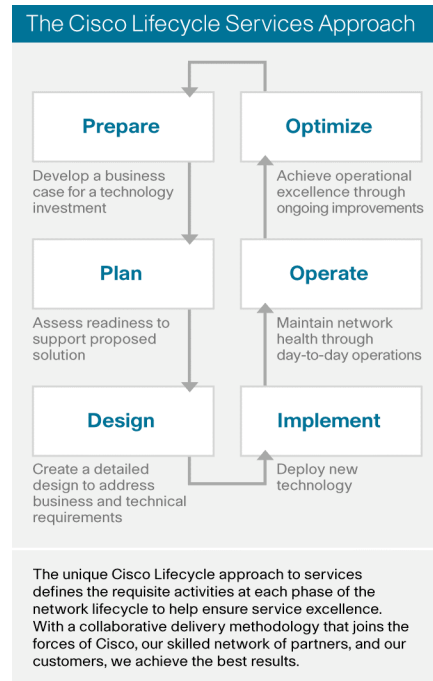


Cisco Data Center Architecture Assessment Service

Increase the Efficiency and Adaptability of Your Data Center



Service Overview

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.

Leading Cisco Data Center Networking Expertise

Cisco uses leading practices to help you define your IT and business requirements and develop an architectural plan to improve the efficiency and adaptability of your data center. Our data center architects hold a variety of industry certifications and have deep expertise in all phases of the planning, design, implementation, operation, and optimization of the infrastructure of large data centers. Our product and technology expertise is constantly enhanced by hands-on experience with real-life networks and broad exposure to the latest technology and implementations.

Cisco and our partners deploy and operate networks using a lifecycle of prepare, plan, design, implement, operate, and optimize phases that align business and technical requirements. The lifecycle approach helps companies to accelerate their success with advanced technologies while increasing the return on 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, virtualization, and a services-oriented architecture. 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 Area	Benefits
Data Center Architecture	
Service-oriented data center <ul style="list-style-type: none"> • Business factors and alignment of data center network infrastructure to them (for example, promote business agility) • Maturity of IT services • Migration from a fragmented application and server approach to a service-oriented network architecture (SONA) Evolution of data center architecture <ul style="list-style-type: none"> • Data center consolidation <ul style="list-style-type: none"> ○ Reduced number of data centers ○ Storage consolidation ○ Server and application consolidation ○ Integration of services on the Cisco Catalyst® platform Data center high availability <ul style="list-style-type: none"> • Server high availability • Fault tolerance in the data center • Cisco IOS® Software high-availability features (nonstop forwarding [NSF] and stateful switchover [SSO]) Other data center architecture topics <ul style="list-style-type: none"> • Data center enterprise edge • Unsecured network area design concerns • Teleworker, extranet, and VPN architecture 	<ul style="list-style-type: none"> • Align your data center infrastructure to business needs • Move toward a service-oriented 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
Data Center IP Infrastructure	
Data center server farm architecture <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Data center network Layer 2 and Layer 3 design • Data center network access, aggregation, and core design Spanning tree design and scalability <ul style="list-style-type: none"> • Selection of Spanning Tree Protocol Routing and cabinet design, cabling, and density considerations <ul style="list-style-type: none"> • Server farm cabinet layout • Cabling topics 	<ul style="list-style-type: none"> • 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

Assessment Area	Benefits
Data Center Security	
<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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 Area	Benefits
Storage Area Networking	
Storage area network (SAN) consolidation <ul style="list-style-type: none"> • Performance and scalability • Migration topics • SAN island consolidation SAN security <ul style="list-style-type: none"> • Data integrity and encryption • Device authorization and traffic isolation SAN management <ul style="list-style-type: none"> • Management of changes • SAN performance optimization SAN extension <ul style="list-style-type: none"> • IP SAN Intelligent SAN services	<ul style="list-style-type: none"> • 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
File Services and Branch Consolidation	
Branch consolidation <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Reduce operating costs by using less security patching and fewer backup and restore operations • Increase manageability • Increase application performance and security
Application Optimization	
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Improve application performance • Enhance end-user application response times • Increase availability through server and application load balancing

Assessment Area	Benefits
Business Continuance	
<p>IT services essential to the business</p> <ul style="list-style-type: none"> • Understanding of crucial IT services and applications, especially the following: <ul style="list-style-type: none"> ○ Recovery point objective (RPO) ○ Recovery time objective (RTO) ○ Recovery access objective (RAO) <p>Data center resiliency enhancement</p> <ul style="list-style-type: none"> • Data center resiliency (Cisco IOS Software high-availability features) • Spanning tree scalability <p>Disaster recovery capabilities</p> <ul style="list-style-type: none"> • Data center interconnect and distributed data center • Cluster design and server high-availability design 	<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • VSAN and storage virtualization • IT service virtualization and service-oriented data center • Server virtualization and data center automation (VFrame) 	<ul style="list-style-type: none"> • 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
Services-Oriented Architecture	
<ul style="list-style-type: none"> • Data center optimization for service-oriented architecture (SOA) (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 	<ul style="list-style-type: none"> • Develop a SONA to address SOA issues • Use SSL termination to increase security • Use XML to reduce costs • Improve transaction processing

Assessment Delivery Process

The Cisco Data Center Architecture Assessment Service is delivered in a structured process that consists of the following phases:

1. **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.
2. **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.
3. **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.
4. **Completion of the report:** 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 has the following structure:
 - I. Executive summary
 - II. Current status of data center infrastructure
 - III. Customer requirements analysis

- IV. Assessment findings
 - V. New data center networking architecture proposal
 - VI. Data center networking architecture evolution
 - VII. Conclusions
5. **Review and final presentation:** Electronic copies of the Cisco Data Center Architecture Assessment report are sent to you for review prior to presentation of the report, in person, to your management at your location.

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 that 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

Why Cisco Services

Cisco Services make networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration between people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

The unique Cisco Lifecycle approach to services defines the requisite activities at each phase of the network lifecycle to help ensure service excellence. With a collaborative delivery methodology that joins the forces of Cisco, our skilled network of partners, and our customers, we achieve outstanding results.

Availability and Ordering Information

The Cisco Data Center Architecture Assessment is available in the United States, Europe, and some emerging markets. Contact your local service account manager about availability in your area. This service is available for purchase as a transactional statement of work (SOW)-based service, and the part number for this service is CON-DCN-CNSLT.

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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