



## What Is the Cisco Data Center Assurance Program?

The Cisco® Data Center Assurance Program offers customers design, deployment, and implementation guidance and assistance in developing the data center network and application infrastructure most appropriate to meet changing IT requirements. These [Cisco Validated Design \(CVD\)](#) best practices augment the Cisco Data Center 3.0 network architecture technologies and solutions by helping IT architects and data center professionals take a phased approach to building and operating a comprehensive network platform for their next-generation data centers. By taking advantage of these data center design best practices, IT professionals can build a data center-class network, deploy solutions more quickly with lower risk, facilitate technology evolution and upgrades, and help ensure that IT staff are equipped with the right skills and expertise.

### Benefits

- **Build and maintain a data center-class network:** Use Cisco Validated Design guidance to plan and implement networks that can achieve the stability and scalability required for mission-critical data centers. By using proven best practices, enterprises minimize downtime and accelerate recovery from disruptions. These designs also provide a robust foundation that customers and Cisco Services can use as a baseline from which to customize the data center network to meet the customer's unique requirements.
- **Deploy solutions more quickly, with less risk and complexity:** Use the Cisco Data Center Assurance Program design best practices to reduce the time, cost, and investment required for preproduction testing. Tried and tested designs help avoid the risks associated with technology disruptions, security exposure, non-scalable designs, and inappropriate software selection.
- **Scale and roll out applications faster and with better performance:** Cisco Application Deployment Guides help network managers and application architects optimize network performance in the data center and

over the WAN to increase performance, reduce latency, and scale application delivery.

- **Facilitate technology evolution and upgrades:** The data center network is evolving to meet the challenges associated with cost, business alignment, resilience, and facilities concerns such as power and cooling. Cisco Data Center Network best practices are constantly updated to address these challenges, so that customers can implement necessary changes them in a timely manner, with minimal risk.
- **Accelerate knowledge transfer:** The expertise and skills required to design and maintain increasingly sophisticated integrated data center networks are provided through constant training and knowledge transfer programs and infrastructure services. These programs include specialized Cisco CCIE® training such as the storage specialization, data center training labs, Cisco Press® books, Cisco Networkers, and executive briefing sessions.

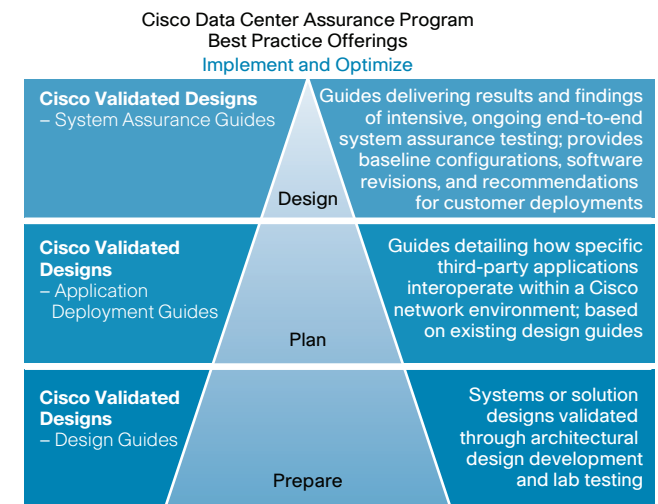
## How Is Cisco Helping Customers with the Data Center Network Lifecycle?

Cisco offers customers extensive assistance with the preparation, planning, design, implementation, and operation of data center networks. This assistance is provided in two ways: as a free set of generic best practices intended to address mainstream data center network and application deployments, providing customers with an excellent foundation upon which to base their own implementations, and through a Cisco Services engagement. Cisco and its partners have a deep understanding of data center technologies and extensive experience deploying these in complex customer environments. This combination of knowledge and experience helps customers accelerate their data center initiatives, mitigate risks, and increase the return on their data center investments. These are complementary offerings that build on each other and allow customers to use their own internal expertise or to augment their own capabilities with the expertise of Cisco Advanced Services specialists.

## Cisco Data Center Assurance Program Design Best Practices

The Cisco Data Center Assurance Program consists of three categories (Figure 1) that complement each other to help customers plan, design, implement, and optimize data center networks at each stage of the deployment lifecycle. These best practices conform to the Cisco Validated Design categories.

Figure 1. Cisco Data Center Assurance Program Offerings



- **Cisco Validated Design Guides:** These guides identify a system that has been validated through architectural review and proof-of-concept testing. Designs at this level, developed by Cisco technical solutions engineers, follow a baseline development methodology and have been approved by engineering, marketing, services, and sales departments to meet the desired criteria. Validated designs are architectural best practices that can be used by customers to design their own data center networking architectures. They incorporate emerging technologies or technology refreshes that customers may not yet have experience with. Validated designs provide a baseline for additional customer-specific proof-of-concept and pre-production testing. Existing design guides cover network best practices for enterprise and service provide



data center network infrastructure, server farms, server virtualization, data center security, and business continuance, among others.

#### ▪ Cisco Validated Design Application Deployment

**Guides:** These guides build upon the design guides and identify the incremental changes required to optimize the network specifically for applications. Technology deltas include server load balancing, application switching, WAN, and application optimization technologies. These design guides are specific to a given customer resource management (CRM) or enterprise resource planning (ERP) application, such as Oracle E-Business Suite 11i, SAP NetWeaver, or Microsoft SharePoint.

#### ▪ Cisco Validated Design System Assurance Guides:

These designs identify a system that has undergone extensive architectural and customer-relevant testing. Designs at this level meet the requirements of Cisco Validated Design Guides and are certified to a baseline level of quality that is maintained through ongoing regression testing. IT architects are urged to use these guidelines as a baseline from which modifications can be made to customize the network to meet their own specific requirements. System Assurance Guides are architectural best practices that have been reviewed and updated with appropriate customer feedback and can be used by customers with a similar environment, with minimum additional proof-of-concept or preproduction testing. Updates to system assurance guides incorporating new features, technologies, and applications are published periodically, allowing customers to introduce new features and products with minimal disruption.

Cisco Validated Design system assurance designs provide customers with a high degree of confidence in the system-level integrity and production readiness of the design. In addition, ongoing testing of new software images and extended software maintenance versions helps ensure the sustainability of the design. These designs also provide customers with regulatory support, such as Sarbanes-Oxley and Basel II vendor test support and documentation. Finally, important mainstream applications are tested on

top of this system assurance baseline to help ensure application performance and function. The availability of the completed test reports provides a high level of transparency and allows customers to better analyze any risks associated with their specific deployments.

#### Cisco Data Center Services

Cisco augments its data center networking best practices with services that provide business and technical assessments to help customers identify gaps in their current data center infrastructure and operations. Cisco uses an architectural approach to help customers plan and design data center solutions that meet their current needs and provides a blueprint to help them reach their long-term data center visions. Customers benefit from end-to-end processes and planning and can reduce risk by deploying Cisco Validated Designs. Cisco also offers network optimization services that help customers realize the full potential of their data center investment by improving network performance, availability, security, and quality of service (QoS). Customers can augment internal operation staff with onsite or remote technical support to help resolve problems rapidly and transfer knowledge to their internal support organizations

#### Why Data Center Design Best Practices?

The role of the network in the data center is becoming ever more crucial; the network is evolving into the intelligent integrated platform for next-generation data centers. Because it is pervasive and scalable and promotes standards, the network is developing into a foundation across which information, application services, and all data center resources, including servers and storage, are shared, provisioned, protected, and accessed. With this in mind, customers need to plan, design, and deploy a data center network that can provide the highest levels of stability, performance, security, and resilience to withstand and recover rapidly from disruptions. IT architects and network planners need to adopt design best practices to help ensure that the data center network they are deploying can achieve these goals. They also need to plan ahead so that the network is designed to meet today's

requirements and can also transparently evolve to facilitate the ongoing consolidation, virtualization, and automation of data center resources.

The best practices used in the Cisco Data Center Assurance Program take into account the integration of a wide range of standard network technology services such as Ethernet and Fibre Channel switching and integrated security and specific application-based services such as optimization for Oracle or Microsoft, as well as non-networking computing, storage, and application technologies. Most IT organizations do not have the resources to develop all these best practices themselves and rely on the expertise and experience of vendors, consultant, and others.

#### Why Cisco?

Cisco is in a unique position to offer the comprehensive best-in-class data center networking technologies, best practices, and services required to satisfy customers' immediate and ongoing infrastructure and application requirements. Cisco helps customers successfully plan, deploy, and operate a data center-class network by sharing expertise, experience, and best practices resulting from extensive solution-level lab testing, numerous real-world deployments, and partner engagements. Cisco enables customers to take a phased architectural approach to attainment of a next-generation data center by providing a coherent strategy, vision, and roadmap and delivering network products that are designed to be modular, extensible, and interoperable. By taking this approach, customers can achieve investment protection and incremental value from project to project.

#### For More Information

- Cisco Enterprise Data Center: [www.cisco.com/go/dc](http://www.cisco.com/go/dc)
- Cisco Data Center Design Guides: [www.cisco.com/go/dccdesignzone](http://www.cisco.com/go/dccdesignzone)
- Cisco Application Optimization: [www.cisco.com/go/optimizemyapp](http://www.cisco.com/go/optimizemyapp)