Cisco Unified Data Center

A CISCO CLOUD PORTFOLIO SOLUTION

Overview

The Cisco® cloud portfolio provides a powerful set of capabilities enabling customers to build public, private, and hybrid clouds and offer new cloud services and applications dynamically and on demand. The Cisco cloud portfolio uniquely combines the three pillars of the cloud — innovative Cisco Cloud Applications and Services, Cisco Unified Data Center, and Cisco Cloud Intelligent Network — into an integrated architecture that helps customers achieve the promise of the world of many clouds. Only Cisco uniquely enables this world of many clouds, connecting people and organizations with an assured cloud experience.

Transform Your Business by Transforming Your Data Center

The first step for IT managers wanting to transform their businesses through cloud technologies is to evaluate the flexibility of their data center environments. Many data centers rely on traditional systems with complex integration layers that consume resources and limit the ability of IT to respond to new business requirements. To become more responsive and take advantage of virtualization and cloud technologies, IT managers must think differently about how to make their data center architecture more agile, efficient, innovative, and collaborative. To move from a cost center to a service center, IT needs a standardized, easy-to-manage, and high-performance data center platform.

A Unified Data Center Provides the Foundation for Cloud Computing

The Cisco Unified Data Center provides a superior foundation for cloud computing by unifying computing, networking, storage, and management in a common platform designed to automate deployment and management across physical and virtual resources for superior delivery of IT as a service (ITaaS; Figure 1).

- Eliminates infrastructure and application silos, increasing resource utilization and achieving better economies of scale

- Provides automatic and consistent deployment and management of IT resources, increasing predictability and accelerating time-to-service

- Reduces the need for complex integration, freeing resources (budget, time, and staff) to support and guide business innovation

Figure 1. Cisco Unified Data Center: The Platform for Delivering IT as a Service

Unified Management	Unified Fabric	Unified Computing
Automated Resource Management (Physical and Virtual)	Highly Scalable, Secure Network Fabric	Modular Stateless Computing Elements

Uniquely Designed to Unify Data Center Resources and Incorporate Intelligent Network Services

Cisco Unified Data Center was designed to be a platform for delivering ITaaS and enabling cloud services and applications (Table 1).

Table 1. Main Features of the Cisco Unified Data Center

Unified	The network is the common foundation for innovation: from stateless computing, to management services, to support for virtualization and cloud computing.
Open	Support for open standards and best-in-class solutions allows interoperability and an evolutionary approach to cloud computing.
Resilient	High-availability within and between data centers enables business resilience, disaster recovery, and data mobility.
Secure	Integration of security at all layers – from the network to the application – helps ensure compliance and reduce business risk.
Intelligent	The unified data center can optimize and dynamically prioritize network traffic, integrate security, and provide management and services to physical and virtual resources.
Scalable	The infrastructure can provide increased bandwidth and compute power to handle any application, workload, or number of virtual machines.

Cisco's Unified Platform Delivers Critical Business Benefits

Cisco Unified Data Center components deliver real business value to Cisco customers.

- **Financial efficiency:** Unified architecture and intelligent automation reduce both the capital expenditures (CapEx) and operating expenses (OpEx) required to deploy and maintain IT infrastructure

- **IT simplification:** Maintenance is less costly and is achieved with a smaller IT staff, disaster recovery is less complex and faster to implement, and availability and quality standards are easier to help ensure

- **Business agility:** The capability to deploy new infrastructure with greater speed and flexibility allows IT to operate less like a cost center and more like a service center. Management solutions that work across physical, virtual, and cloud resources and support best-in-class Cisco ecosystem partners allow IT to support and guide business innovation as never before
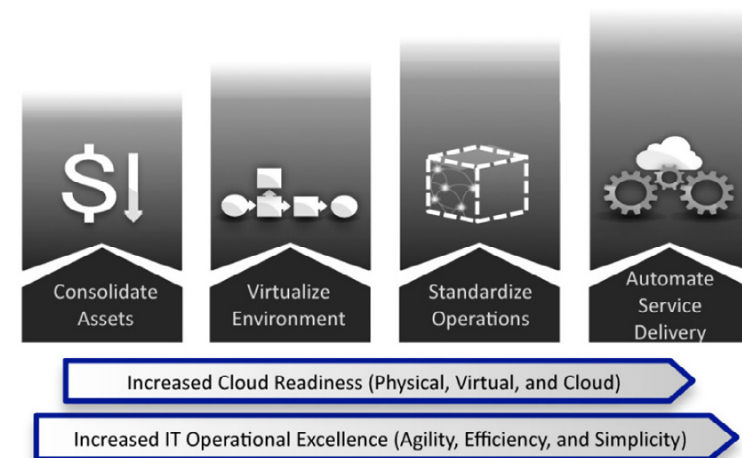
Unified Architecture Offers the Best Platform for ITaaS and Cloud Applications

Cloud is the next step in the evolution of IT, and clouds are responsible for massive growth in data center and network traffic. The future will find organizations building their own private clouds, purchasing services from public cloud providers, using software as a service (SaaS), and participating in interconnected communities of clouds. We are moving to a world of many interconnected clouds, and organizations must evolve their data center infrastructure to participate efficiently (Figure 2).

Consolidation and virtualization within a single data center is only the beginning. A single network or data center alone cannot deliver the full promise of the cloud. Instead, data centers need to work together to enable dynamic, agile cloud services. Cisco is well positioned to deliver the unified infrastructure required to share resources within and between data centers, and the intelligent and cloud-ready network to provide a consistent and secure user experience, independent of user and resource location.

The comprehensive Cisco Unified Data Center platform components (Table 2) and Cisco's broad ecosystem of partners are helping both enterprises and service providers plan and build secure private, public, and hybrid clouds.

Figure 2. The Journey to IT Delivered as a Service

Table 2. Cisco Unified Data Center Product Components

Cisco Unified Management Solutions
Management solutions simplify and automate the process of deploying IT infrastructure and services with speed and enterprise reliability. Solutions operate transparently across physical and virtual resources in cloud environments. **Unified computing management:** Simplify management of hardware and software components and configurations through an extensible, policy-based architecture. · Cisco UCS™ Manager **Self-service automation and orchestration:** Deploy and manage complex data center processes across resources in multivendor environments. Support cloud computing with a self-service portal and service catalog for on-demand provisioning. · Cisco Intelligent Automation for Cloud · Cisco Intelligent Automation for SAP **Data center network management:** Optimize the overall uptime and reliability of your network and improve business continuity. · Cisco Data Center Network Manager (DCNM) **Network services management:** Deploy a policy-based solution for organizing, provisioning, and deploying network services and resources in a cloud environment. · Cisco Network Services Manager
Unified Fabric Solutions
Flexible network solutions deliver network services to servers, storage, and applications, providing transparent convergence, scalability, and sophisticated intelligence. Solutions include: · Cisco multilayer data center switches · Cisco Nexus® switches · Cisco Catalyst® switches · Cisco Fabric Manager · Cisco NX-OS Software
Unified Computing Solutions
Cisco's next-generation data center system unites computing, network, storage access, and virtualization into a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility. The Cisco Unified Computing System™ (Cisco UCS) is built with: · Blade servers · Rack-mount servers · Fabric interconnects · Virtual interface cards (VICs)

For More Information

Learn more about Cisco's cloud portfolio at www.cisco.com/go/cloudstrategy.
Learn more about Cisco Unified Data Center solutions and customer successes at www.cisco.com/go/datacenter.