

Cisco Unified Data Center Architecture



Redefine the Power of IT

In today's fast-paced global economy, business agility isn't an option. It's a necessity. With technology becoming a core part of most business strategies, business agility is closely tied to IT's ability to roll out new applications and services quickly and cost effectively. IT teams now need to provision applications in hours instead of months, and resources need to scale up or down in minutes, not hours.

Cisco® Unified Data Center provides policy-based infrastructure programmability, openness, and automation that is application centered and aware.

Building Blocks for Data Center Success

Cisco Unified Data Center provides a complete architecture platform, including products and solutions in three critical areas:

- **Cisco Unified Computing:** This highly scalable computing solution integrates servers, flash-memory acceleration, and networking with embedded management and automation to simplify operations for physical, virtual, and cloud workloads.
- **Cisco Unified Fabric:** High-performance data and storage networking simplify deployment, help ensure the quality of the user experience, and reduce operating costs. Cisco's integrated network services help provide high-speed connectivity and high availability, increase application performance, and reduce security risk in multitenant environments.
- **Cisco Unified Management:** Automation, orchestration, and lifecycle management tools simplify deployment and operation of physical and bare-metal; virtual; and private, public, and hybrid cloud environments.

Gain Control over Increasing Complexity

Today's IT infrastructure supports more data and applications across more environments and devices than chief information officers (CIOs) a decade ago ever imagined. And by 2020, you'll be dealing with 14 times the data and 10 times the number of physical and virtual servers in data centers today.¹ You'll need a forward-thinking architecture to meet the growing demands for agility resulting from challenges such as these:

- New mobile, social, and big data applications are more dynamic as a result of multitenancy, greater peak demand, varying performance needs, and more distributed users.

- IT teams are being asked to support more devices and 24-hours-a-day use around the world.
- New applications and usage models bring new security vulnerabilities and the need to rapidly respond to threats.

Unable to meet these demands with financially and operationally efficient models, data center teams have become overwhelmed with a huge increase in management and administration tasks.

Deliver More Value, Faster, to All Lines of Business

Imagine expanding the automation of IT processes and consistently delivering services transparently across both physical and virtual environments from a single point of management. Cisco Unified Data Center uses a fabric-based infrastructure in which the network is a common denominator to simplify your infrastructure and create an application-centric environment. This approach allows you to:

- **Simplify:** Address all computing, storage, and management layers from the common denominator of the network. Rapidly assign resources to applications without involving multiple teams and eliminate duplication of effort. And, by pooling resources, you'll increase control and interoperability, leading to reduced total cost of ownership (TCO).
- **Create consistency between physical and virtual elements:** Look at hardware and software together to understand challenges at the infrastructure level and address them with a single, centralized policy-management function.
- **Expand the use of automation:** Replace manual configurations with model-based orchestration and automation. With open APIs, you'll avoid vendor lock-in, allowing you to use your existing tools and expend less time and fewer resources on manual workflows. With more automated functions tightly integrated into the infrastructure, you can automate delivery of applications, computing, storage, and networking for faster, more needs-based IT service.
- **See everything:** Gain greater visibility into your cloud, virtual, hardware, and software use. Identify unauthorized cloud services, as well as overutilized, underutilized, and redundant services, to reduce risk and improve capacity planning.

¹ Increasing Complexity, IDC, June 2013



Sophisticated Capabilities Made Simple

Cisco Unified Data Center can help you deliver exceptional value while aligning IT strategy with business strategy:

- Simplifying your infrastructure dramatically reduces costs and IT resource requirements, increases efficiency, and reduces risk and the number of potential failure points.
- Greater automation of the delivery of IT services adds efficiency and speed and mitigates risk.
- Consistent, centralized control across all platforms allows you to deploy applications in physical or virtual environments up to 90 percent more quickly.
- The capability to treat physical and virtual machines identically allows you to eliminate duplication of labor, processes, and network layers.

Increased Revenue Opportunity in a Competitive Market

Fastweb, a leading telecom provider in Italy, was looking for new revenue streams in a highly competitive marketplace. The company identified cloud-based services as a high-value opportunity for enhancing revenue, customer retention, and market position. Cisco Unified Data Center architecture has been critical in helping Fastweb provide a cloud-based service that allows customers to set up and configure an entire virtual data center in just a few minutes. “The portal is a vital element in the cloud stack,” says Mirko Santocono, enterprise value-added services product manager at Fastweb. “What Cisco offers is the automation and orchestration of cloud, strongly integrated with the network, which is quite complex. Nobody right now in the Italian market can do that.” With strong growth forecast, scalability is very important to Fastweb. “Cisco is aligned with our expectations. It’s easy to expand capacity by adding new UCS blades. Visibility is also key. We operate a multitenant environment so it’s important to track the capacity used by each customer,” Santocono says. Because the Cisco Unified Computing System™ (Cisco UCS®) has low rack space, power consumption, and cabling requirements, Cisco’s unified cloud solution is allowing Fastweb to deliver significant value and savings to its customers. Estimates suggest that customers can reduce IT expenditures by about 50 percent over three years by using Fastweb services instead of maintaining their own on-premises infrastructure. According to Marco Pennarola, head of enterprise marketing at Fastweb, “Agility and reliability differentiate our company in the market. Delivering cloud over our Cisco platform helps us stand out and provides a flexible and innovative pricing model.”

Why Cisco?

Cisco accelerates IT and data center transformation that bring agility and financial efficiency to your business. It transforms your data center from a cost center to a business enabler with expertise in [services](#) that uses industry best practices and [financial](#) support.

Why Cisco? Here’s why:

- “Initial investment has been reduced by 58 percent, while maintenance costs have been reduced by 17 percent, and rack costs by 58 percent. The combined total reduction in TCO is over 50 percent.”
– NTT Data
- “A 13-month payback, 166 percent ROI, and IT capital and operating savings of more than US\$1.27 million over 3 years.”
– Oak Hills School District
- “The time to provision services is being reduced from eight hours to one.”
– SENAI, Santa Catarina
- “Last year some 80 percent of our IT dollars went into break-fix. In the last three months, that percentage has dropped to 16 percent with recovered resources being applied to new-project work. We’re also doing more with less across the company.”
– Seven Corners
- “Achieved a six-fold increase in server utilization and lowered power consumption of its entire server estate by a third.”
– Cineca

For More Information

To learn how Cisco Unified Data Center can add simplicity and speed to your IT architecture, visit <http://www.cisco.com/en/US/netsol/ns340/ns394/ns224/architecture.html>.