



Your data centre is everywhere.

Harness the power of a data centre that adapts to people, processes, technology, and data.



Cisco UCS[®]
with
Intel[®] Xeon[®]
processors

Everything, everywhere

People and machines are now creating, accumulating, and processing an unprecedented amount of data. The biggest challenge for your organisation is that this growth isn't happening in just one place—it's happening everywhere. Consider these facts:

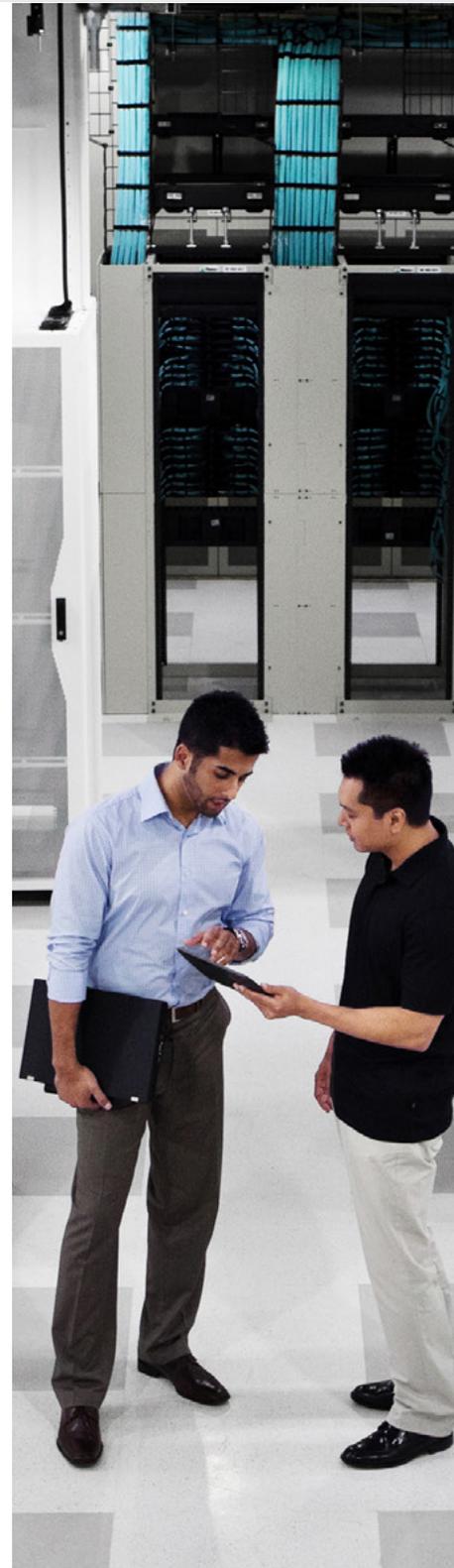
- **Traditional data centre** – Global data centre IP traffic will nearly triple (280 per cent) over the next 5 years, and data centre IP traffic will grow at a compound annual growth rate (CAGR) of 23 per cent between 2013 and 2018.*
- **Smart devices and appliances** – The number of Internet-connected devices surpassed the world's population 3 years ago. By 2020, 5 to 10 times more devices will be sold with native Internet connectivity than the number of Internet-connected PCs and smartphones.**
- **Cloud** – Global cloud IP traffic will reach 6.5 zettabytes (ZB) per year (541 exabytes [EB] per month) by the end of 2018, up from 1.6 ZB per year (137 EB per month) in 2013. It will nearly quadruple over the next 5 years, grow at a CAGR of 32 per cent between 2013 and 2018, and account for 76 per cent of total data centre traffic by 2018.*

If, as these trends suggest, data is everywhere, then computing and storage resources have to be accessible everywhere as well: from the core of the data centre to the employees, customers, citizens, and machines at the edge. With the right architecture, one that places real-time computing resources wherever data exists, you can take advantage of the huge opportunities available from the interconnected web of people, processes, data, and things: the Internet of Everything (IoE).

The key to success at both ends of the computing spectrum is to build systems that share common management and automation software. Cisco has been leading the way in dual core and edge solutions with the Cisco Unified Computing System™ (Cisco UCS®). Originally, Cisco UCS targeted highly virtualised core data centre workloads. Six years later, that focus has changed. Today, the Cisco UCS portfolio offers solutions for a broad range of uses, from the largest hyperscale data centres to the smallest remote locations, using next-generation application-centric computing.

*Cisco Global Cloud Index: Forecast and Methodology, 2013-2015, Cisco, 2014.

**Bhavesh Patel, "Internet of Things: What Does It Mean for Data Centres?"; Data Centre Knowledge, June 16, 2014.



Global data centre IP traffic will nearly
TRIPLE BY 2020
 due in part to increased application use.

Exploring the new data centre dynamic

From analytics to enterprise resource planning to sales, new application types are placing different and increasingly greater demands on centralised resources. At the same time, IT has the growing burden of supporting decentralised computing.

Fortunately, technology leaders and their line-of-business counterparts—who often control the budget—are in a unique position to build on the benefits of both centralised control and edge computing to create operation speed and agility, or what we call “Fast IT.” Cisco UCS, a critical component of Fast IT, unifies compute, storage, networking, virtualisation, and management solutions in a single fabric.

“There are times when we bring control and compute back to the ‘glass house,’ and there are times when we swing the other way and empower branch offices, individuals on the business frontlines, even intelligent, autonomous systems. In reality, rather than merely following a trend, the critical task for us in IT is to strike the right balance for the specific needs of a particular organisation.”

— Scott Clark, vice president of advanced services,
cloud and IT transformation business, Cisco



Traditional IT infrastructure can be complex and manual. Cisco UCS addresses the needs of organisations more effectively by integrating network, computing, and storage resources to provide the foundation for management automation and orchestration of physical and virtual systems. Using this model, technology leaders can deliver dramatically better results:

- Accelerated infrastructure deployments
- More adaptive computing environments
- Processes that support differentiation
- Reduced costs

Although this model can help IT managers address the new complexity in data centre technology, it's also critical to the success of chief information officers. Your organisation's most senior technology leaders are perpetually working to free up resources to help drive innovation and lock down better results. Building a system in which all of an organisation's computing resources—from the edge to the core to the cloud—share a common management platform is the key to accelerated growth.

Delivering data centre performance from core to edge

Your data centre needs to evolve so you can deploy and scale applications more quickly, reduce risk, and lower your total cost of ownership. The challenge is choosing from a large variety of technologies, partners, applications, and computing models: public, private, and hybrid. Cisco has developed an ecosystem of partners and technologies that deliver the speed, scale, and insight you need with the operational simplicity that makes investment in multiple initiatives practical.

With 30 years of experience in networking involving more than 50 million connected devices and over 6 million customer interactions each year, Cisco understands both sides of the data centre equation. You need a better way to plan, assemble, size, optimise, and maintain your data centres.



years of networking experience



million connected devices



million customer interactions



Unified Computing System

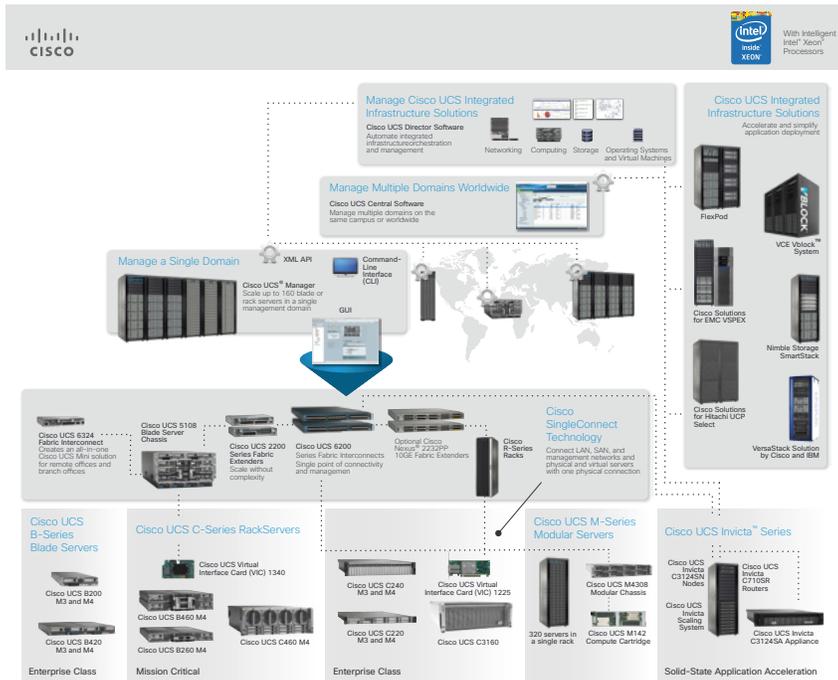
Cisco offers you a ready-made framework for the next-generation data centre. Cisco UCS is an application-centric computing environment that offers exceptional capabilities through a full range of features.

- A revolutionary control panel and API that combine road-tested Intel® Xeon® processor-based servers with networking and storage access to deliver stateless pools of resources from core to edge to cloud
- A management environment that automates the configuration of all components through application-centric policies plus workflow automation, which combines physical and virtual infrastructure with OS, hypervisors, cloud platforms, and middleware
- Integrated infrastructure solutions that use the Cisco storage partner ecosystem to deliver accelerated application performance, reduced provisioning time, and lower TCO
- Partnerships with world-class software vendors—including Microsoft, Oracle, and SAP—that emphasise solutions over products

“We have numerous customers that have said, ‘What used to take me months from the project perspective now takes me weeks. And what used to take me weeks from the provisioning perspective of this infrastructure, now that it’s installed, now takes me minutes.’”

– Jim McHugh, vice president of data centre marketing, Cisco

Figure 1. Cisco UCS



For more information about Cisco Unified Computing System, please visit <http://www.cisco.com/go/ucs>.

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Cisco UCS powers applications at every scale.



Automation and orchestration

Cisco® ONE Software brings simplicity and clarity to buying software for your data centre, WAN, and access domains. At each stage in the product lifecycle, Cisco ONE Software helps make buying, managing, and upgrading your network and infrastructure software simple and clear.

Cisco ONE Software bundles include:

Foundation for Compute

- UCS Director Foundation
- Prime Service Catalogue
- Cisco Intercloud Fabric™ for Business (4 hybrid ports for 1-year subscription)
- Cisco Nexus® 1000V Essential Edition
- UCS Performance Manager
- UCS Central
- Energy Management

Enterprise Cloud Suite

- UCS Director
- Prime Service Catalogue
- UCS Performance Manager
- Virtual Application Container Services (includes Nexus 1000V Advanced)

Private and hybrid cloud

Cisco and its intercloud partners offer hybrid cloud services that are highly secure, open, flexible, and hypervisor independent through more than 250 data centres in more than 50 countries. With Cisco Intercloud Fabric, IT managers can build highly secure hybrid clouds that extend their existing data centres to public clouds as needed, on demand, and with consistent network and security policies.

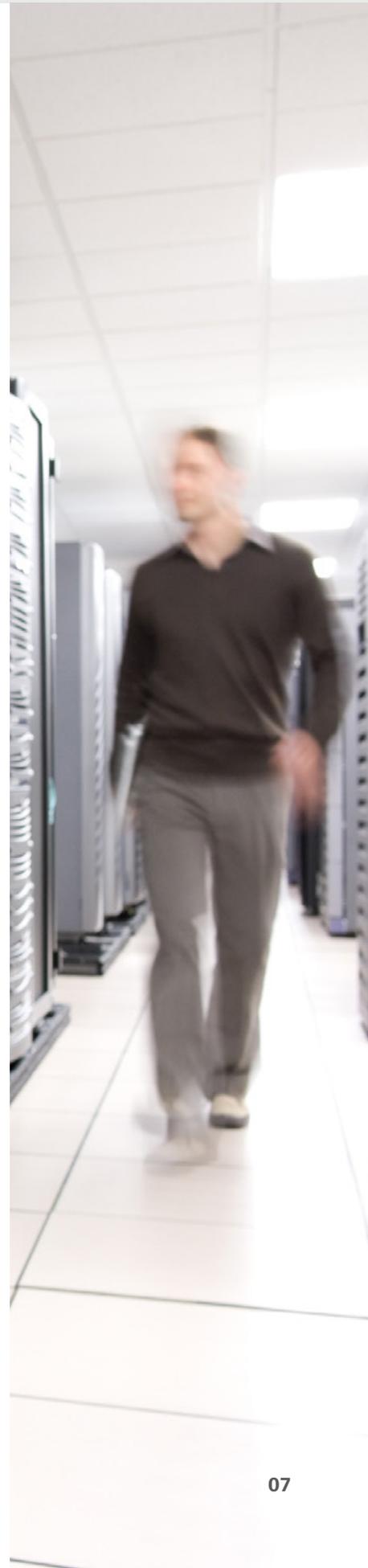
“Cisco lets you deploy a hybrid cloud that operates as one unified environment—straddling your data centre boundaries—while you maintain complete control with our hybrid cloud orchestration and management framework.”

— Dr. Gee Rittenhouse,
vice president and general manager of the cloud and virtualisation group, Cisco

Path to differentiation: gravity, diversity, and velocity

Cisco delivers data centre flexibility, reach, agility, and the potential to deliver several specific real-world benefits to businesses.

- Our integrated infrastructure allows businesses to bring data and applications together instantly, no matter where they physically reside on the network. Because of its many different form factors, Cisco UCS lets organisations analyse data and create better insight wherever they need it: in branch offices, on oil rigs, next to large data warehouses, etc.
- The Cisco UCS technology portfolio provides a broad range of hardware options optimised for diverse applications and use cases:
 - Computing at the edge
 - Mission-critical applications
 - Big-data management and analytics
 - Hyperscale cloud computing
 - Private and hybrid cloud architectures
- Agile infrastructure, open APIs, and automation software provide business leaders with the analytics, cloud environment, and data centre performance they need to manoeuvre quickly. Cisco delivers the operational speed that allows companies to stay competitive, develop additional markets, and generate new revenues.



Optimising with services

A functional and highly flexible data centre requires more than high-quality components to be valuable. You also need best practices and the appropriate people, processes, and information to tie everything together. Cisco Services can help your organisation bring the full potential of the data centre to fruition and transform it from cost centre to revenue generator.

To help you transform your organisation into a more cohesive, agile, and cost-effective business resource, Cisco Services uses the Cisco Domain Ten® framework to analyse the 10 domains, or key elements, of the corporate IT environment. After this assessment has been made and critical gaps analysed, a typical next step is deployment of Cisco Data Centre Optimisation Services.

To assess the potential impact on your organisation, review Forrester's *The Total Economic Impact of Cisco Data Centre Optimisation Services* report. Using actual Cisco customers, Forrester's Total Economic Impact (TEI) methodology assessed Cisco Domain Ten services to address four critical questions:

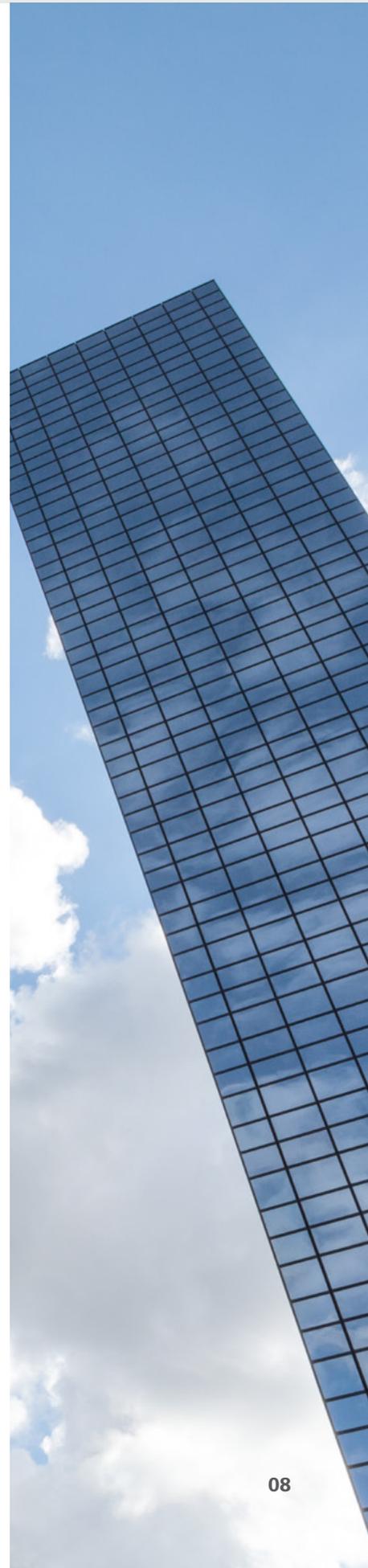
- What are the business benefits?
- What is the impact on project costs?
- How will future initiatives benefit from this project?
- How will risks be mitigated?

The 6-month Forrester study examined Cisco Domain Ten, specifically the Cisco Data Centre Optimisation Services, in major areas including applications, computing, and networking. It identified a risk-adjusted ROI of 119 per cent, with payback in less than 1 year, and net present value of more than US\$700,000 due to tangible business outcomes like faster time to market.

“With Domain Ten, Cisco brought all of this worldwide knowledge to the table, and then helped us develop an architectural blueprint suited to our needs.”

– Matthew Maw, general manager, technical systems, Tatts Group, Ltd.

[Download the Cisco Domain Ten white paper >](#)

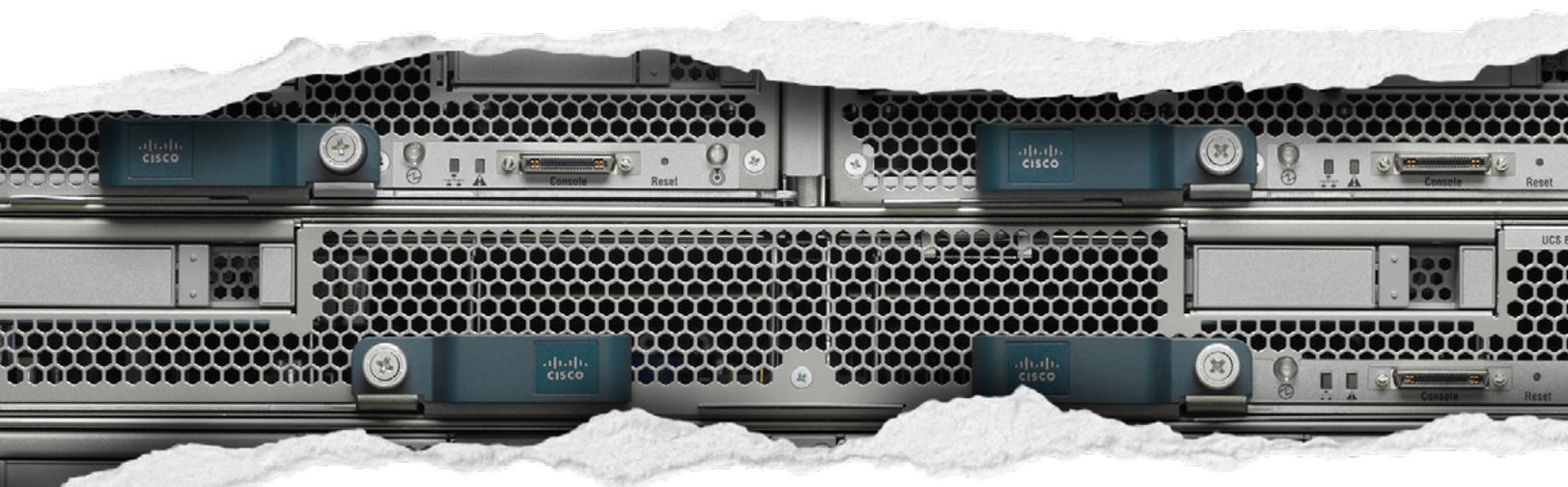


Conclusion

In a world where everything and everyone is connected, companies recognise the need to transform the way they manage data and the entire IT infrastructure. As a result, a new model for the data centre—a hybrid of centralised and decentralised models—is emerging. Cisco has developed a holistic, first-of-its-kind approach that starts with industry-leading products to connect core and edge applications; provides services to help you customise your computing platforms; delivers an outstanding ecosystem of technology partners; and places your organisation at the centre of everything, everywhere.

Contact an expert and let Cisco help you build the data centre of tomorrow >





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