Cloud Computing
Changing the Role and Relevance of IT Teams

January 2015
Empowering IT to Meet Today’s Priorities

The Internet of Everything is taking shape all around us. People, processes, data, and things are becoming more connected, and the power of those connections is creating new opportunities and richer experiences. We’re moving into a services on demand economy, and it’s redefining what IT can bring to a business.

Imagine an IT team that’s less reactive and more proactive, less tactical and more strategic. An organization that anticipates business needs, makes proactive recommendations, and supports new requests and opportunities with speed and efficiency – becoming partners with the lines-of-business.

The truth is, companies are already looking to IT to be more strategic and influential. IT organizations are focusing on supporting growth, boosting revenue, advancing innovation, and delivering new customer experiences. Their mission is no longer about managing and troubleshooting technology. It’s about transforming business processes and driving new business outcomes.

Driving Business Agility Through the Intercloud

To meet these new expectations, many IT leaders are turning to cloud computing. Cloud provides the agility and flexibility organizations need to rapidly innovate in a dynamic environment. And just as IT roles are changing, cloud models are evolving as well. Decisions about whether to build or buy and whether to use private or public clouds are giving way to hybrid cloud and multi-cloud models. Because there is no “one size fits all” cloud model or solution, organizations are learning that the best approach is often a mixture of physical, virtual, and cloud environments, including multitenant and multi-cloud deployments. Surveys show that 93 percent of enterprises are pursuing or considering a hybrid cloud strategy, and 50 percent are already using both public and private cloud.

To support these increasingly mixed infrastructures, IT needs a new approach to cloud. Not all cloud deployments are equal, and many offer only limited choice and control of policies and workloads. Achieving workload portability across multi-cloud environments can be difficult, requiring rewritten code or even additional hardware. A truly fresh approach to cloud should offer:

- A choice of consumption models, enabling organizations to choose how to deploy cloud capabilities based on their own applications, SLAs, security needs, and business objectives. Organizations should be free to build their own cloud, buy software as a service (SaaS), select partner-hosted services from cloud providers, or take a hybrid IT approach and fuse on-premises and cloud resources.

Enabling the Internet of Everything

In recent years, dramatic Internet growth has created extraordinary opportunities – as well as new challenges – for IT leaders. But an even greater transformation is occurring in the form of the Internet of Everything (IoE), which Cisco defines as the networked connection of people, process, data, and things.

Cisco estimates that about 200 million devices, or “things,” were connected to the Internet in 2000. As a result of extraordinary innovation in many areas, including video, mobility, social media, and cloud, this number has risen to approximately 10 billion today, and a significant upsurge to 50 billion connected devices is expected by 2020. By connecting the unconnected, IoE will give rise to new sources of value for organizations in the coming years.

The cloud, as a democratizing force for IT-led value, will be one of IoE’s principal enablers.

What is the potential outcome of IoE? Cisco predicts that the IoE value at stake will be US$19 trillion for companies and industries worldwide in the next decade. More specifically, over the next 10 years, the value at stake will present global enterprises with an opportunity to increase profits by nearly 21 percent. In other words, US$19 trillion of value (net profit) will be “up for grabs” – propelled by IoE and enabled by the cloud.

For more information, visit: www.internetofeverything.com.
• A common platform for physical, virtual, and cloud services that simplifies operations and management capabilities. This foundation should support open, secure workload portability.

• The ability to extend applications anywhere, combining the best of on-premises solutions and the best of the cloud. Organizations need the ability to connect and collaborate the way they choose, across multiple applications and platforms, choosing any consumption or deployment model, with confidence and without compromise.

• Interoperability and open standards that let organizations build on a robust ecosystem of industry-leading technologies and avoid being locked into a single vendor or platform.

• End-to-end security to meet demanding compliance requirements across cloud deployments, including public, private, and hybrid environments.

To provide these capabilities, Cisco and its partners are building the platform for the Internet of Everything by interconnecting clouds into the Intercloud. Just as the Internet brought together networks that were once closed and separate, the Intercloud connects private, public, and hybrid clouds into an interconnected global “cloud of clouds”. The Cisco Intercloud Fabric is the enabler for this cloud of clouds, and our partners provide a multitude of services.

The Intercloud Fabric and Cisco’s cloud ecosystem give IT leaders choice over where to put their workloads, together with the flexibility to adapt, move, and modify them as business needs evolve.

Instead of focusing on compatibility, security, and other technical concerns, they can make their choices based on their business requirements. Organizations can enjoy the same level of control over their workloads as they do in the private cloud, utilizing the policies, consumption models, and environments they choose. With Cisco Intercloud Fabric, workloads can reside anywhere it makes sense, because moving them between clouds becomes easy and fast.

Defining a New Role for IT

By tapping the potential of the Intercloud, IT groups can evolve from systems administrators to value-added service brokers. Instead of reacting to business requests on a case-by-case basis, they can establish a flexible infrastructure and menu of cloud offerings from which others can choose. They can recommend partners and services and orchestrate solutions, models, and policies.

Cloud Models Defined

According to the National Institute of Standards and Technology (NIST)\(^2\), three of the most common cloud deployment models are:

• Private cloud: The cloud infrastructure is provisioned for exclusive use by a single organization consisting of multiple consumers (for example, business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.

• Public cloud: The cloud infrastructure is provisioned for open use by the general public. It may be owned, managed, and operated by a business, academic, or government organization, or some combination of these. It exists on the premises of the cloud provider.

• Hybrid cloud: The cloud infrastructure is a combination of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardized or proprietary technology that enables data and application portability (for example, cloud bursting for load balancing between clouds).

\(^2\) The NIST Definition of Cloud Computing, NIST, 2011
And they can provide guidance to help line of business organizations choose the best technology to meet their goals. Instead of deploying technology in a reactive, service-by-service manner, IT can offer a comprehensive service catalog, confident that the underlying solutions are part of a holistic, purposeful framework that includes security and governance models.

As service brokers, IT leaders have an opportunity to fuel their company’s success and innovation by advising business leaders at a more strategic level and helping:

- Innovate to changing business requirements
- Recommend new services and investments
- Facilitate build-or-buy decisions
- Customize applications and services
- Integrate multi-cloud environments
- Manage overall policies and underlying infrastructure systems

With an Intercloud strategy for brokering services, there’s no need for a request for new capabilities to always require a complex, lengthy technology initiative. IT will have more flexibility to add capabilities on an as-needed basis while maintaining their policies and control. They can work with their business counterparts to make more strategic decisions about which services and applications are deployed, where they are sourced, and how they are consumed, while also considering:

- Business criticality
- Speed of deployment
- Performance requirements
- Security and control
- Administration and support
- Cost

**Bringing the Power of Choice and Control to Cloud**

Cisco Intercloud Fabric provides the foundation that organizations need to build hybrid-ready private clouds – and smoothly extend their private cloud into the Intercloud partner ecosystem.

---

4. **Source Cloud Global Cloud Index: Forecast & Methodology**, 2013-2018
Cisco Intercloud Fabric is a software solution that enables organizations to manage and access their workloads across multiple public clouds in heterogeneous environments. Because it provides the choice and control, organizations have the flexibility to place their workloads where they will benefit them most.

With Cisco Intercloud Fabric, organizations can choose what workloads can be securely extended to the public cloud. It lets them enforce complete security within and between clouds, while complying with data sovereignty and compliance regulations.

With a single pane for viewing workloads across these clouds and support for a variety of hypervisor and cloud provider resources, Cisco Intercloud Fabric lets organizations bring consistency to their policies and security across a multi-cloud environment.

The solution also provides deep network visibility that helps organizations identify unsanctioned cloud services being consumed by employees. This knowledge can foster better collaboration between IT and the lines of business. IT can introduce sanctioned services that meet security and policy standards, while ensuring that employee needs are being met.

A Unique Approach to Cloud

Cisco’s strategy is to collaborate with its ecosystem of partners to build the world’s largest Intercloud, a globally distributed, highly secure cloud platform that’s capable of meeting the robust demands of the Internet of Everything.

Cisco Intercloud Fabric uniquely enables organizations to seamlessly move workloads between clouds, while maintaining complete control and security. Cisco will also offer its own public cloud services, Cisco Cloud Services, as part of the Intercloud ecosystem. The result is complete choice and powerful flexibility for cloud consumers.

With Cisco, the Intercloud is suited for high-value application workloads, with real-time analytics and "near infinite" scalability. Organizations can unleash the full potential of cloud to deliver better business outcomes and increased business agility, with lower TCO and reduced risk.

Moving Forward on the Cloud Journey

Change is difficult, especially when dealing with entrenched systems, operating models, and behaviors. Fortunately, there is no need to abandon current investments or completely overhaul existing infrastructure systems. IT departments can gradually transition to a service-brokerage model supported by hybrid cloud and multi-cloud environments.

46% of North American IT leaders are seeing an increase in rogue purchasing by business teams. This number increases to 73% in the Asia-Pacific region.  

Line-of-business executives are driving more IT spending than ever before. In 2014, and continuing through 2017, IT spending by groups outside of IT departments will grow more than 6% per year – almost 2.5 times the rate of the IT department - led by marketing, customer service, and sales groups.

---

6 Impact of Cloud on IT Consumption Models, Cisco Consulting Services, 2013
7 IDC Predictions 2014, IDC, 2013
A phased approach to a cloud migration is key:

1. **Accurately assess current systems and services**

2. **Work toward standardization and integration**

3. **Develop a cloud strategy that considers:**
   - A. Policies and governance
   - B. Architecture
   - C. Security
   - D. Integration
   - E. Administration
   - F. Support

4. **Develop a decision-making framework that identifies:**
   - A. How to choose the right services
   - B. Criteria to help determine whether to build or to buy solutions
   - C. How to integrate, secure, and manage new services efficiently and cost effectively while maintaining choice and control of your environment

5. **Bring line of business leaders in as partners to the discussion**

The last point is perhaps the most important. IT leaders must have a deeper understanding of and dialogue about business priorities and needs. By bringing business leaders into the discussion and giving them a stake in the overall strategy and decision-making framework, IT and business teams can work in partnership to align IT and business objectives and achieve greater agility, value, and impact.

**Conclusion**

In a dynamic, increasingly connected world, the organizations that thrive will be those that can respond to new changes fastest, and deploy the services and applications they need to stay competitive. IT is taking a leading role in driving business growth. But to be successful, IT organizations need new models that give them the flexibility they need to source and deploy network services and the agility to move quickly.

**57% of IT leaders**
saw the size of their IT organization and its headcount increasing as a result of cloud deployments. In Asia Pacific, this was 80%; in Latin America, 69%.

**75% of IT leaders** in North America believe IT will act increasingly as a “broker of services” to the business. This number increases to 92% in the Asia-Pacific region.

Cloud will be a $100 billion market by 2015.

---

8 *Impact of Cloud on IT Consumption Models, Cisco Consulting*

9 *Impact of Cloud on IT Consumption Models, Cisco Consulting Services, 2013*

10 *Sizing the Cloud, Forrester Research, 2011*
The Intercloud seamlessly connects private, public, and hybrid clouds into an interconnected global “cloud of clouds.” Cisco’s unique approach to the Intercloud provides the flexibility organizations need to choose the best sourcing strategy while maintaining control of their cloud environment. It enables organizations to support any workload and any virtual machine on any cloud. So they can focus on increasing value to the business instead of worrying about compatibility.

For more information, contact your Cisco representative. To gain additional perspective on cloud solutions, visit: cisco.com/go/cloudperspectives.

Follow us on Social Media:

For more information, visit: www.cisco.com/go/cloudperspectives.