

CLOUD EXECUTIVE PERSPECTIVE

January 2014

A photograph of a man and a woman in business attire. The man is on the left, slightly out of focus, wearing a dark suit and tie. The woman is on the right, in sharp focus, with long dark hair, wearing a dark top and a necklace. The background is a textured wall.

Cloud Computing:

Changing the Role and Relevance of IT Teams



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\$14.4 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, between 2013 and 2022, US\$14.4 trillion of value (net profit) will be "up for grabs"—propelled by IoE and enabled by the cloud.

For more information, visit:
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In many ways, the cloud has been a disruptive force for IT leaders and their teams, opening the door for business groups and individuals to take technology matters into their own hands. But forward-thinking IT departments are using the cloud as a transformative engine, helping them transition from tactical systems administrators to strategic service brokers. In doing so, they have an opportunity to redefine their partnership with business groups and become more influential, effective leaders of revenue and growth.

Cloud: The Disruptor

With flexibility, agility, and cost efficiency being the new foundations of business success, it is not hard to see why cloud solutions have risen to such prominence in such short time. By providing compute, storage, and application resources over the Internet and private networks, cloud technologies open up new possibilities for IT delivery and consumption.

Organizations have far greater access to and choice of IT services, giving them more options for managing capital expenditures (CapEx) and operating expenses (OpEx). And because these services can be deployed or purchased at a moment's notice, cloud computing helps support the increasing speed of business and market change.

For these reasons and more, cloud technologies are being widely adopted by companies of all sizes. But in a surprising turn of events, business groups and individuals are often the ones leading this charge. Under tremendous pressure to respond more quickly to shifting business priorities and market conditions, many are taking IT matters into their own hands. With more choices and the wherewithal to pursue them, business groups and individuals are readily purchasing their own cloud-based services and applications—in many cases, with the touch of a button or the swipe of a credit card—no longer content to wait for internal IT departments.

This presents problems, of course, for IT leaders and businesses in general. With the rise of "rogue applications" and "shadow IT," organizations often find themselves with:

- Security and compliance vulnerabilities
- Inconsistent systems, policies, and administration
- Conflicting service-level agreements (SLAs), procurement contracts, and billing arrangements
- Lack of visibility and control of systems and costs
- Fewer economies of scale

With business groups adopting a variety of cloud-based services and IT personnel losing some degree of visibility and control, cloud technologies are dramatically altering the business computing landscape and placing the relevance of internal IT departments at stake. But the situation is not all risk and disruption. In fact, cloud technologies can be the ticket to success for IT teams that harness—and then unleash—them.



Cloud: The Savior

Although the cloud has been a disruptive force for IT departments, it can also be a savior. When used and governed effectively, cloud computing helps IT teams deliver more value to their organizations in general, and business groups in particular. It also can help enable greater relevance, influence, and impact.

Cloud computing was originally promoted as a cost reducer, but the biggest differences and greatest values it offers are speed and agility. Organizations can quickly deploy cloud-based services and applications, whether built or purchased, in response to:

- New business priorities
- Changing market conditions
- Customer or partner feedback
- Competitive dynamics
- Unforeseen revenue opportunities

Companies can also tap the cloud to extend their business and enhance their interactions with customers and suppliers. Cloud-based applications are increasingly being used to deliver new customer experiences and support, boost supply-chain efficiency, and create additional sales and marketing opportunities.

In addition to overall consolidation and cost reduction, cloud technologies can help rebalance the CapEx-OpEx equation. Flexible sourcing options mean more ways to control and adjust costs. Organizations can use external cloud services, for example, to free up capital and IT resources and pursue additional business innovation.

As IT departments more fully adopt cloud technologies, they gain an opportunity to enable these benefits, redefine their role, and transform their relationship with business groups.

Cloud Models Defined

According to the National Institute of Standards and Technology (NIST)¹, 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).

By 2020, cloud will represent nearly 30% of all IT spending.²

By 2015, 35% of enterprise IT expenditures for most organizations will be managed outside the IT department's budget.³



Changing Roles and Relationships

IT departments have traditionally had a well-defined set of responsibilities, including systems administration and maintenance, policy and regulatory compliance, and cost reduction and control. Many have handled these responsibilities in a largely reactive fashion, waiting for a trouble ticket and then working toward a solution; waiting for a business group to choose a computing service or application and then figuring out how to configure, secure, and manage it; and waiting for a new patch or system update and then implementing it.

Today, IT leaders are being asked to do more. They are tasked with supporting growth, increasing revenue, advancing innovation, and delivering new customer experiences. They are being told to take advantage of the bring-your-own device (BYOD) trend, social media, and big data. They are being relied on to transform business processes and drive new business outcomes.

To accomplish these tasks they must be more strategic and proactive. IT leaders must understand the goals of the business, show that they have a strategy for accomplishing them, and demonstrate that they are overcoming challenges and pursuing opportunities—quickly and cost effectively—in support of business priorities.

For many organizations, cloud computing is the answer. It helps redefine not only the roles and effectiveness of IT personnel, but also the partnership IT departments have with their business counterparts.

By tapping the cloud, IT groups can transition from systems administrators to value-added service brokers. Instead of doing everything for everyone, they can establish a flexible infrastructure and menu of cloud offerings from which others can choose. They can orchestrate and recommend partners, solutions, models, and policies. And they can help with technology decisions—not in a reactive, service-by-service manner, but as part of a more holistic, purposeful framework and governance model.

In doing so, IT teams become less reactive and more proactive; less tactical and more strategic. They become vital consultants and influential business leaders instead of order takers and problem fixers. They are able to anticipate business needs, make proactive recommendations, and support new requests and opportunities with speed and efficiency. And they can transform their partnership with—and value to—business groups.

The most important cloud characteristic is the ability to migrate workloads between public and private clouds.⁴

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.⁵



The Evolution of Cloud Models

IT roles, responsibilities, and relationships aren't the only things changing. Cloud models are evolving as well.

Concerns and decisions about whether to build or buy and whether to use private or public clouds are giving way to hybrid cloud models. Because there is no "one size fits all" cloud model or solution, organizations are learning the best approach is typically a mixture of physical, virtual, and cloud environments, including multitenant and multicloud deployments. Conclusive discussions asking "which cloud is right for us?" are being replaced with open-ended discussions asking "which service or application best fits our business priorities?" on a case-by-case basis.

This change underscores the need for a flexible infrastructure and sound governance model that can support a variety of cloud environments and services. It also presents an auspicious occasion for IT leaders to regain control, proactively redefine their partnership with business teams, and deliver greater value to the organization.

IT leaders have an opportunity to orchestrate and guide their company's transition to a service-brokerage model that is supported by hybrid cloud environments. Instead of reactively building and maintaining IT systems, they can advise at a higher, more strategic level, helping:

- Rationalize new services and investments
- Facilitate build-or-buy decisions
- Customize applications and services
- Integrate cloud environments
- Manage overall policies and underlying infrastructure systems

With a more holistic cloud strategy and governance model, IT personnel no longer engage in new activities for every new service, application, and request. They can plan and implement solutions based on how each service, application, or request fits into the overall model. They can help their business counterparts 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

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%.⁶

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.⁷

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.⁸

Cloud will be a \$100 billion market by 2015.⁹

The Impact of Cloud on IT Consumption Models

In a wide-ranging study¹⁰, Cisco® Consulting Services, in partnership with Intel®, sought to identify the ways in which the cloud is propelling change in IT. Here are the insights derived from 4226 IT leaders across 18 industries:

To IT decision makers, the cloud is good. Despite its challenges and disruptions, the cloud is viewed generally as a positive development for IT departments. (For example, security may be an inhibitor to cloud deployments, but the cloud is also viewed as a solution to security challenges.) Globally, more than four out of five respondents believe that the cloud will positively affect their organizations.

Cloud computing is here and growing. The cloud—whether public, private, or hybrid—is already here. Today, cloud solutions occupy a significant share of IT spending, 23 percent, and respondents see this share rising to 27 percent by 2016. Private cloud is the most common cloud deployment method, at 45 percent.

Emerging and developed markets have different views of the cloud. Despite the overall positive attitude toward cloud solutions, important distinctions arise between emerging and developed markets. IT leaders in emerging nations are more positive about the cloud, focusing on its transformational and innovative potential; in developed markets, it is seen as a tool for cost cutting.

IT has high expectations for cloud providers. In a competitive marketplace, cloud providers need to offer end-to-end solutions while orchestrating an ecosystem of partners. Accordingly, high ratings for cloud providers in the survey come with high demands: for security capabilities, custom solutions, and guarantees on service levels.

IT wants to feel safe in the cloud. No matter which industry or global region was surveyed, security and privacy issues are topmost and seen as potential inhibitors to cloud growth. Robust security and data protection capabilities are also seen as the most critical factors for cloud service providers.

One size does not fit all. In a world of many clouds—public, private, and hybrid—companies need to formulate approaches that enable them to meet the overall goals of their organization. IT leaders need to consider how best to partner with important stakeholders, such as business groups and third-party providers, using an approach that is tailored to their unique needs.

IT seen as maintaining a central role. Despite the rise of line-of-business influence, survey respondents—especially those in emerging markets—believe that IT will maintain a centralized and well-funded role, managing cloud solutions with consistent policy and security solutions. (Respondents in the Asia-Pacific and Latin America theaters are nearly twice as likely to project an increase in the size of their IT departments as their counterparts in Europe and North America.)

Business groups are gaining influence. The influence of business groups will extend across all IT lifecycle stages and create extraordinary complexity for IT departments as they grapple with security and technical support. As IT transforms to an “as-a-service” model, the interlocks and relationships between IT and business groups will need to change.

Advice for IT Leaders

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 environments.

A phased approach is often recommended, starting with programs and services that are not mission critical. In all circumstances, it is essential to:

1. Accurately assess current systems and services

2. Work toward standardization and integration

3. Develop a hybrid 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

5. Bring business leaders into 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 achieve greater agility, value, and impact.

Conclusion

With greater access to cloud-based services and applications and the wherewithal to adopt them, business groups and individuals are increasingly taking IT matters into their own hands. This change has created disruption and uncertainty for IT leaders and their teams, who often find themselves with less visibility into and control of their company's technology systems and costs. The rise of rogue applications and shadow IT also threatens the security, integration, and economies of scale that most IT groups have worked so hard to establish.

But cloud technologies can also be a savior for IT leaders and departments. With the right infrastructure and governance model, the cloud can help IT teams transition from tactical systems administrators to strategic service brokers. In doing so, they can redefine their role, transform their relationship with business groups, and help drive organizational priorities forward.

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

How Can Cisco Help?

Cisco acts as a trusted advisor for organizations wanting to increase the flexibility, value, and impact of their IT services. These goals are often achieved by moving toward hybrid-cloud and service-brokerage models, aligning business and IT priorities and activities. With a full and proven portfolio of infrastructure solutions, cloud-based services, partners, and expertise, Cisco helps organizations:

- Address critical challenges and opportunities
- Transform the partnership between IT and business groups
- Pursue innovation and revenue growth
- Support ongoing change

For more information, contact your Cisco representative.

To gain additional perspective on cloud solutions, visit:

cisco.com/go/cloudperspectives.

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¹ Source: *The NIST Definition of Cloud Computing*, NIST, 2011

² Source: *IDC Black Book 2013*, IDC, 2013

³ Source: *Gartner Predicts*, Gartner, 2011

⁴ Source: *North American CloudTrac Survey*, IDC, 2012

⁵ Source: *Impact of Cloud on IT Consumption Models*, Cisco Consulting Services, 2013

⁶ Source: *Impact of Cloud on IT Consumption Models*, Cisco Consulting Services, 2013

⁷ Source: *IDC Predictions 2014*, IDC, 2013

⁸ Source: *Impact of Cloud on IT Consumption Models*, Cisco Consulting Services, 2013

⁹ Source: *Sizing the Cloud*, Forrester Research, 2011

¹⁰ Source: *Impact of Cloud on IT Consumption Models*, Cisco Consulting Services, 2013