



Cloud Going Mainstream: All Are Trying, Some Are Benefiting; Few Are Maximizing Value

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Robert Mahowald, Randy Perry, Brad Casemore, Ben McGrath | September 2016



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Authors:

Robert Mahowald
Randy Perry
Brad Casemore
Ben McGrath

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Highlights

68%

of organizations have adopted cloud for enterprise apps, a 61% increase over last year

31%

have "mature" cloud strategies

22%

have no strategy

85%

have implemented or plan to implement private cloud, and organizations plan to increase private cloud spending by 40% over the next two years

Cloud Going Mainstream: All Are Trying, Some Are Benefiting; Few Are Maximizing Value

EXECUTIVE SUMMARY

Cloud adoption is an expanding part of IT organizations' strategies, and IT architects are growing more sophisticated in how they think about cloud. As of 2016, enterprise adoption of cloud has truly moved into the mainstream, with 68% currently using public or private cloud for more than one to two small applications, a 61% increase over last year's figure. On-premises and hybrid cloud are a critical part of the mix, with 73% pursuing a hybrid cloud strategy and on-premises private cloud spending projected to grow by 40% over the next two years.

Cloud maturity is also increasing. 30.7% of organizations have reached the level that IDC would call "mature"—that is, building repeatable, managed, or optimized cloud strategies. While this represents 24.8% increase from 2014, there still remains room for improvement, with obstacles to greater cloud maturity including skill gaps, legacy siloed organization structures, and IT/line-of-business (LOB) misalignment.

This study shows that as companies achieve greater levels of cloud maturity, business benefits increased. The more mature organizations have greater revenue and are able to more strategically allocate their IT budgets to keep more focus on innovation and less on activities necessary to "keep the lights on." IDC has identified five stages of cloud maturity: Ad Hoc, Opportunistic, Repeatable, Managed, and Optimized (in increasing maturity), and while there are immediate benefits even from moving one step up from Ad Hoc to Opportunistic, the benefits accrue and grow as you move further up the adoption curve. Organizations with mature cloud strategies are realizing \$3.0 million in additional revenue and \$1.0 million in reduced costs per cloud application.

Private clouds are a growing and critical part of the mix. Private clouds are an evolution of conventional datacenter operations, and whether built/consumed in a customer datacenter or at a service provider's site, private clouds offer cloud infrastructure dedicated to a single enterprise or an extended enterprise. With elastic pools of storage, networking capacity, and analytical horsepower, private clouds are abstracted from specific infrastructure environments to support workload mobility and customer choice. 66% of organizations are using or planning to use private cloud, compared with 63% for public cloud.

Mature cloud organizations are more likely to practice DevOps, use microservices architectures and containers (Docker) in their cloud architecture, and deploy cloud-based Internet of Things (IoT) applications. They are more likely to consume services from multiple cloud providers and consume security over the cloud. They are more likely to support highly portable workloads and burst across public/private cloud infrastructures and have implemented collaborative governance policies between lines of business and IT.

OpenStack continues to experience significant adoption levels, with 59% of cloud adopters saying that either open source OpenStack or OpenStack commercial distributions is important to their cloud strategy. According to this survey, private cloud and OpenStack users are more likely to believe their use of cloud improves revenue growth, strategic allocation of IT budget, and ability to meet SLAs.

About This Study

This study is based on IDC's annual *CloudView Survey* of 6,159 executives at organizations that have currently adopted cloud, supplemented by a Cisco-sponsored business value extension to the *CloudView Survey* covering 1,506 respondents. The survey profiled companies' overall use of cloud, deployment strategies, adoption drivers and benefits, and cloud requirements. Respondents came from 31 countries, the complete list of which can be found in the Appendix. This survey was supplemented by 470 responses from 25 IDC Business Value Research studies from 2012 to 2016 covering cloud maturity levels, adoption of private cloud, implementation of private cloud, and converged infrastructure in support of cloud, as well as 35 responses from a specialized study of Optimized/Managed cloud maturity organizations for Cisco in December 2014 and April 2016.

Additional details behind the IDC methodology for the survey, identification of cloud adoption levels, and business value analysis can be found in the Appendix.

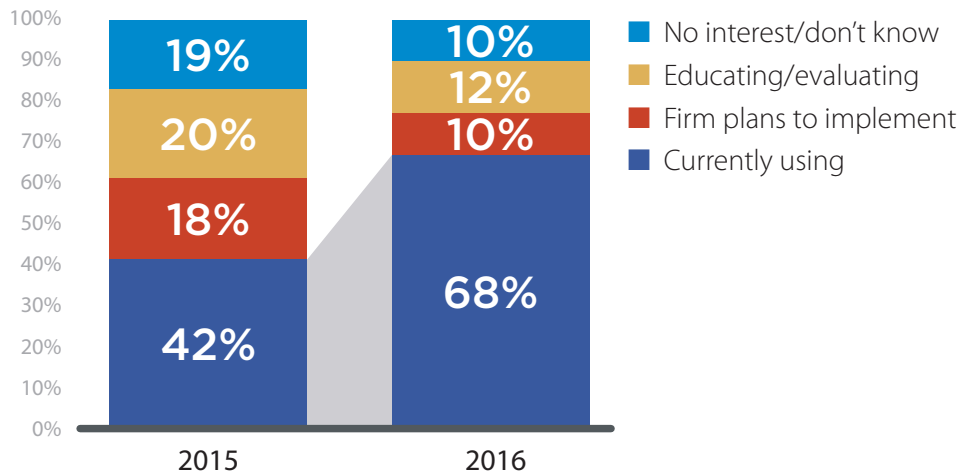
Cloud Adoption Is Accelerating

Cloud Is Growing But Maturity Is Still Lacking

Cloud adoption is growing dramatically. This year's survey revealed enterprise adoption of cloud has moved into the mainstream, with 68% currently using public or private cloud for more than one to two small applications, a 61% increase over last year's survey (see Figure 1).

FIGURE 1

Cloud Adoption Is Accelerating



n = 11,350
Source: IDC's CloudView Survey, 2016

A very broad range of workloads are migrating to the cloud — 30% or more of organizations have already migrated or have plans to migrate literally every workload we asked about to the cloud. The most common workloads in each deployment category include:

- » **Public cloud.** Application workloads include email, enterprise social networks, and personal productivity (word processing, spreadsheets); data-oriented workloads include web content management, data backup/archiving, and test/development environments; and IT workloads include mobile device management and storage overflow capacity.
- » **Private cloud (at a customer's site).** Application workloads include email, enterprise resource planning (ERP), supply chain logistics, and project and portfolio management (PPM); data-oriented workloads include database services (DBMS), enterprise search, and data integration; and IT workloads include mobile device management, network or application performance management, and security services.

- » **Private cloud (at a provider's site).** Application workloads include product life-cycle management, customer resource management (CRM), and human resource applications; data-oriented workloads include enterprise content management (ECM), cloud testing/development, and IT operations analytics; and IT workloads include storage capacity and business continuity/disaster recovery.
- » **Conventional deployment (onsite).** Application workloads include human resource applications and PPM; data-oriented workloads include ECM and data integration; and IT workloads include IT help desk, server capacity, network or application performance management (APM), and security.

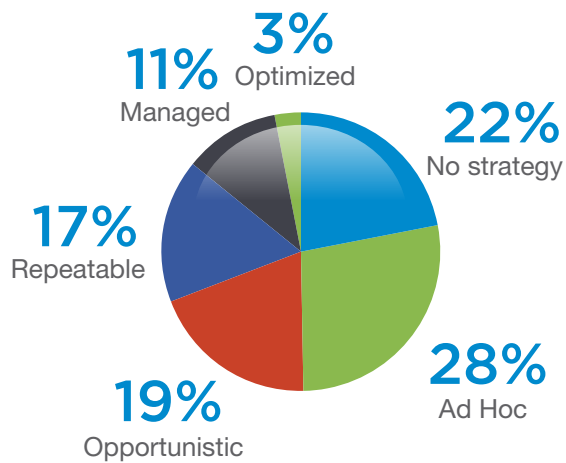
But despite this level of adoption, most organizations are still working to improve their cloud strategies. IDC defines five levels of cloud maturity:

- » **Ad Hoc.** These organizations are beginning the process of increasing awareness of cloud technology options and are turning to cloud because of the immediacy of their need, often in an unauthorized manner.
- » **Opportunistic.** These organizations are experimenting with short-term improvements in access to IT resources through the cloud. They usually consider cloud for new solutions or isolated computing environments.
- » **Repeatable.** At this level, organizations are enabling more agile access to IT resources through standardization and implementation of best practices. They rely on self-service portals to access cloud services.
- » **Managed.** These organizations are implementing a consistent, enterprisewide best practices approach to cloud and are orchestrating service delivery across an integrated set of resources.
- » **Optimized.** Optimized organizations are delivering innovative IT-enabled products and services from internal and external cloud providers and are driving business innovation through transparent access to IT capacity, based on the value to the business and transparent cost measures.

Our study revealed that 31% of organizations have Repeatable, Managed, or Optimized cloud strategies — the three highest maturity levels (see Figure 2). While this is up from 25% of organizations in 2014 (a nearly 25% increase), more than two-thirds of organizations have non-mature or no cloud strategies, meaning they still have significant work to do.

FIGURE 2

Cloud Maturity Is Increasing



n = 11,350
Source: IDC's *CloudView Survey*, 2016

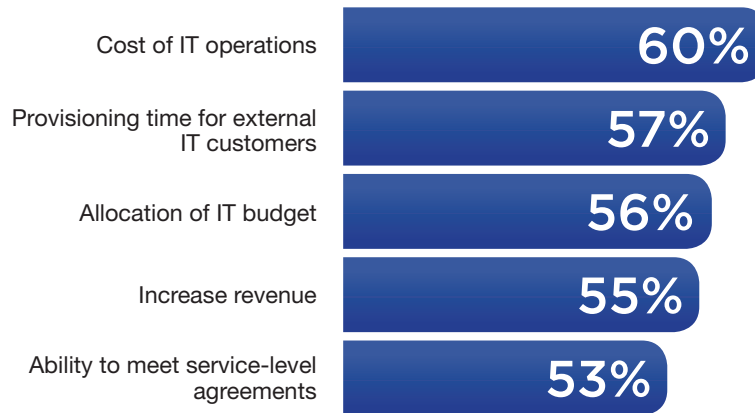
Cloud Is Driving Significant Business Benefits

Increasing Cloud Adoption Drives Significant KPI Improvement

This study also shows that greater use of cloud is associated with improved business outcomes. As shown in Figure 3, more than half of all respondents expect their use of cloud to improve business KPIs across each area studied, from increased revenue to cost of IT operations.

FIGURE 3

Companies Expect Cloud to Drive Key Business Outcomes



Q. Do you expect an improvement in the following key performance indicators (KPIs) over the next two years based on your organization's use of public, private, or hybrid cloud services?

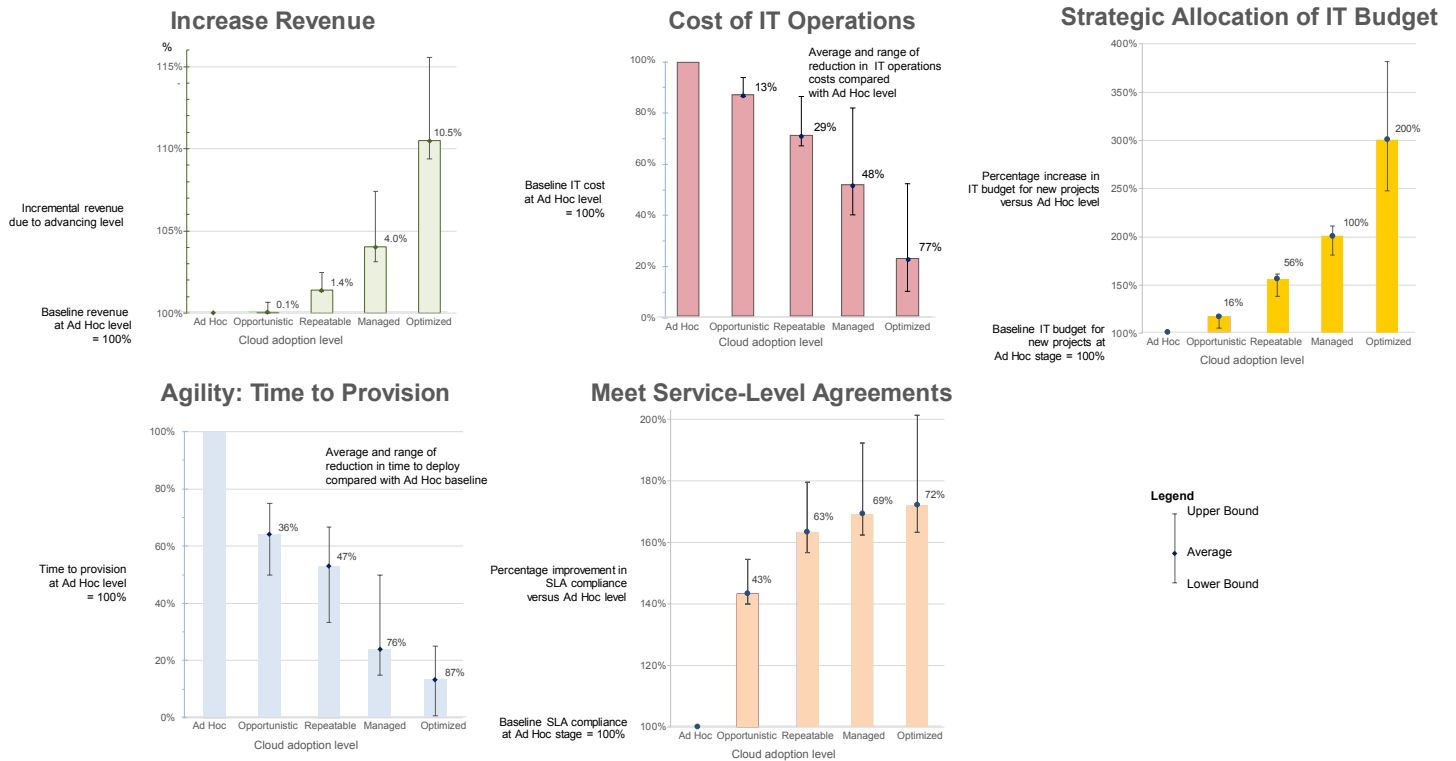
n = 6,159

Source: IDC's CloudView Survey, 2016

Further, the greater the level of cloud adoption, the higher the level of business benefits achieved. Figure 4 shows the benefits of moving along the adoption scale. IDC determined that organizations can achieve double-digit improvements in IT costs, IT staff allocation, time to provision, and ability to meet SLAs by moving from an Ad Hoc cloud maturity level to Opportunistic and similar or greater gains from moving from Opportunistic to Repeatable. They can even achieve single-digit increases in topline revenue. Importantly, the benefits accrue to any company that improves its cloud maturity, regardless of the level it starts at. Even companies at the Ad Hoc level achieve benefits from taking the first step, but of course, the benefits increase the further the company goes up the maturity curve, and the further up the adoption curve, the greater the gain in potential benefits. It's also worth noting that even Ad Hoc cloud adoption, which serves as a gateway to more sophisticated cloud adoption, confers benefits. For additional data behind this figure, see Appendix.

FIGURE 4

Moving Up the Cloud Adoption Scale Can Yield Significant Business KPI Benefits



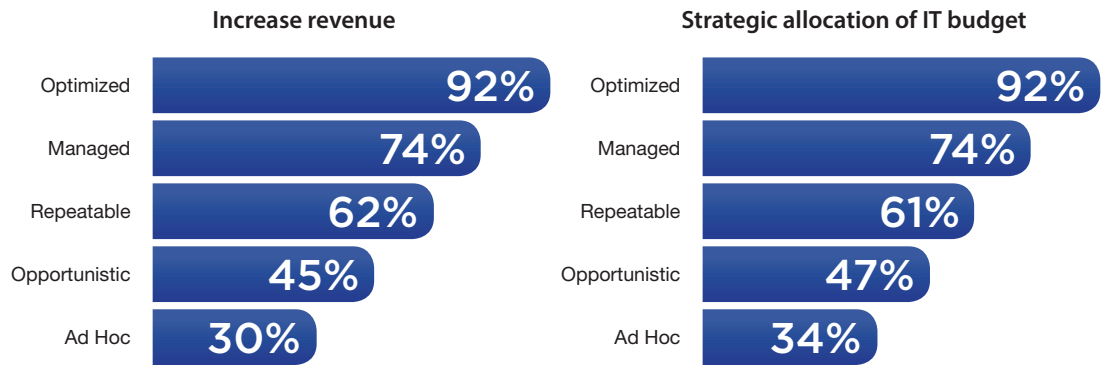
Source: 470 responses from 25 IDC Business Value Research studies from 2012 to 2016 covering cloud maturity levels, adoption of private cloud, implementation of private cloud, and converged infrastructures in support of cloud and 35 respondents from a specialized study of Optimized/Managed cloud maturity organizations for Cisco in December 2014 and April 2016

Cloud Adoption Is Driving Strategic Business Outcomes

The most mature cloud organizations, those that are leading the way with respect to cloud adoption, are more likely to expect cloud to have an impact on KPIs that drive the broader, more strategic measures of the business' success: its strategic allocation of IT budget and ability to increase revenue (see Figure 5). This continues to signal the strength of the second wave of cloud adoption that IDC identified in our 2015 study and continues to position cloud as a platform to drive revenue and innovation.

FIGURE 5

Mature Cloud Organizations Expect Cloud to Drive Strategic Outcomes



Q. Do you expect to see improvement over next two years based on the use of public, private, or hybrid cloud?

n = 6,159

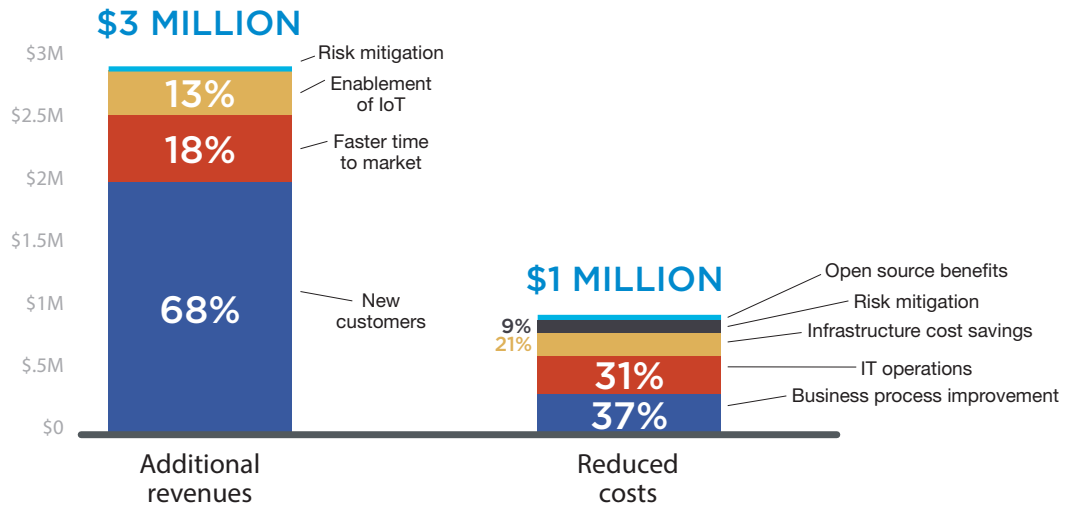
Source: IDC's CloudView Survey, 2016

Mature Cloud Adopters Are Achieving Millions of Dollars in Benefits

This study also quantifies the economic benefits the most mature cloud organizations are realizing and breaks it down by category (see Figure 6). On average, per application deployed on cloud, organizations studied are achieving \$3.0 million in additional revenue, most of which is due to the ability to gain new customers, but some also contributed by their ability to speed time to market and support “Internet of Things” (connected devices with IP addresses that are not traditional computers or mobile devices) and applications and risk mitigation (reduced business disruptions because of application downtime and security attacks). They also achieved \$1.0 million in cost reduction, which was split across a variety of areas including business process improvements, the ability to improve IT organizational agility (i.e., reduce IT head count costs), infrastructure cost savings, risk mitigation, and open source benefits.

FIGURE 6

Mature Cloud Organizations Are Achieving Millions of Dollars in Benefits per Application



Source: 470 responses from 25 IDC Business Value Research studies from 2012 to 2016 covering cloud maturity levels, adoption of private cloud, implementation of private cloud, and converged infrastructures in support of cloud and 35 respondents from a specialized study of Optimized/Managed cloud maturity organizations for Cisco in December 2014 and April 2016

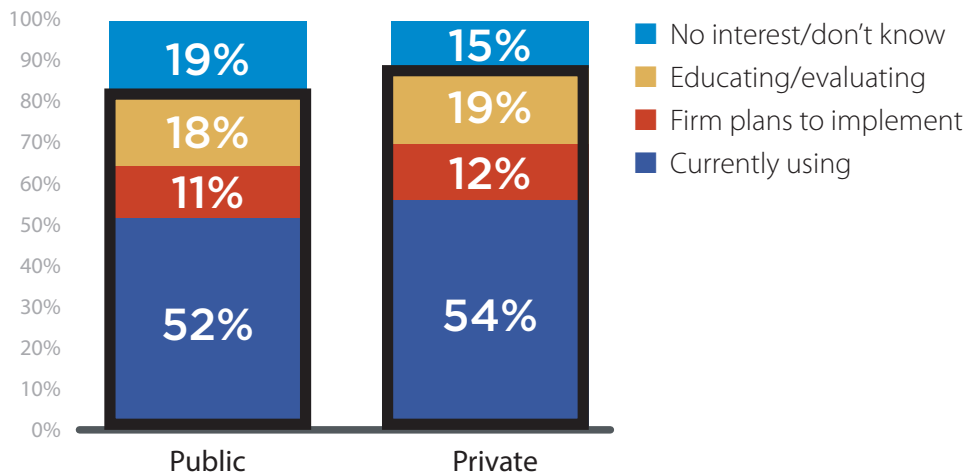
Private and Hybrid Cloud are a Critical Part of the Mix

Private cloud allows an IT organization to act like a large-scale public cloud supplier—with better resource use, greater scale, and faster time to respond to requests—but with the added control and security resources.

Another hallmark of this second wave of cloud is the degree of private cloud adoption. Private cloud essentially represents the desire of an IT organization to act like a large-scale public cloud supplier — with better resource use, greater scale, and faster time to respond to requests — but with the added control, visibility, and security of having resources dedicated to the sole use of a single company. As Figure 7 shows, 66% of organizations are using or planning to use private cloud, compared with 63% for public cloud, up from 44% in last year’s study. Further, organizations are expecting to increase their on-premises private cloud spending by 40% over the next two years.

FIGURE 7

Current/Near Term Adoption Plans

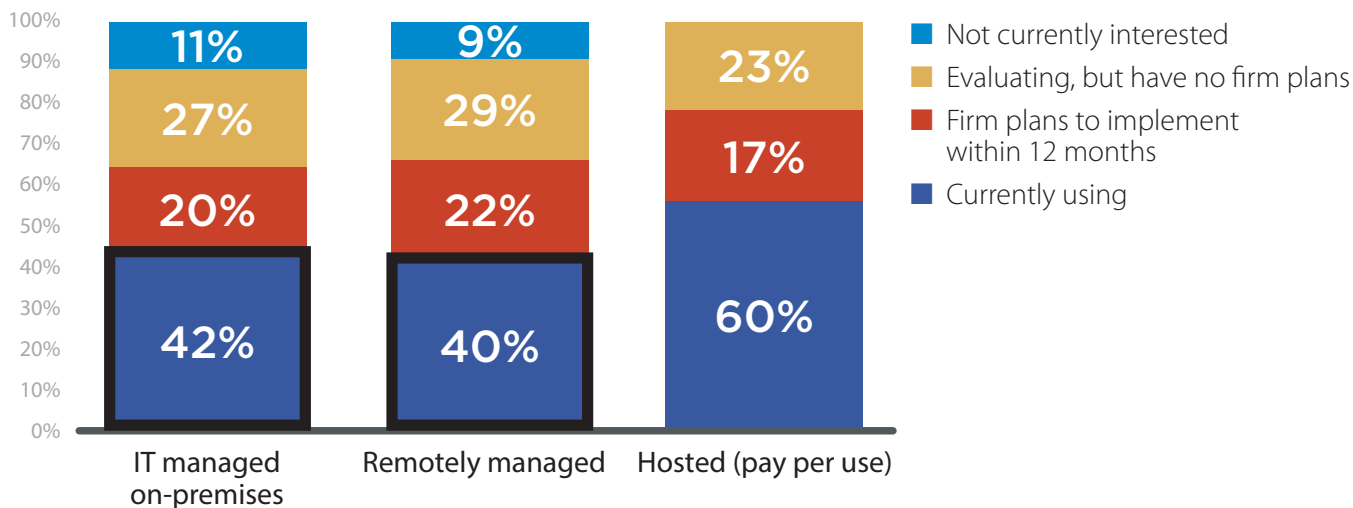


n = 11,350
 Source: IDC's CloudView Survey, 2016

Organizations are implementing many different types of private cloud deployment options. 50% of organizations are running more than one type of cloud deployment, with over 40% running on-premises managed private cloud and remotely managed private cloud (see Figure 8).

FIGURE 8

Private Cloud Spans a Range of Deployment Options



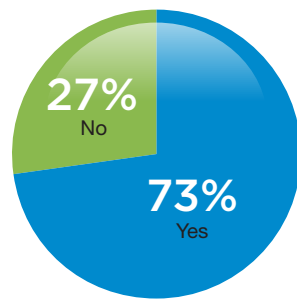
n = 1,281 (organizations that currently use/are planning to use hosted private cloud architectures)
 Source: IDC's CloudView Survey, 2016

Among cloud adopters, an even larger number of respondents — 73% — are pursuing some form of hybrid cloud strategy. This could include several elements including subscribing to multiple cloud services, using a mix of public cloud and dedicated assets, and pursuing an IT architecture that unites configuration, provisioning, and management (see Figure 9).

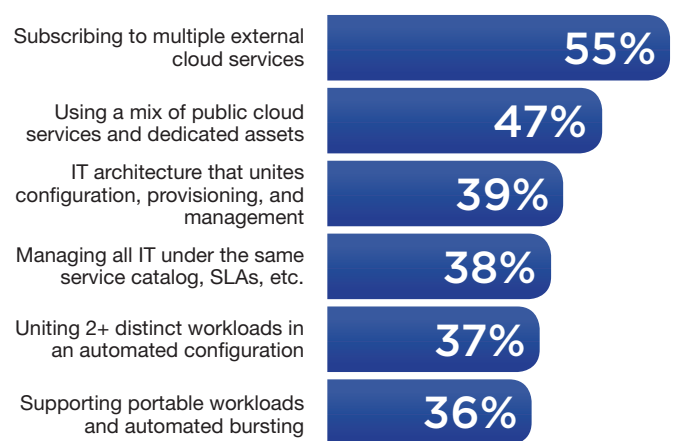
FIGURE 9

Most Cloud Adopters Are Using Some Form of Hybrid Cloud

Have a Hybrid Cloud Strategy



Characteristics of Hybrid Cloud Adopted



Q. Do you think your organization has a hybrid cloud strategy today?

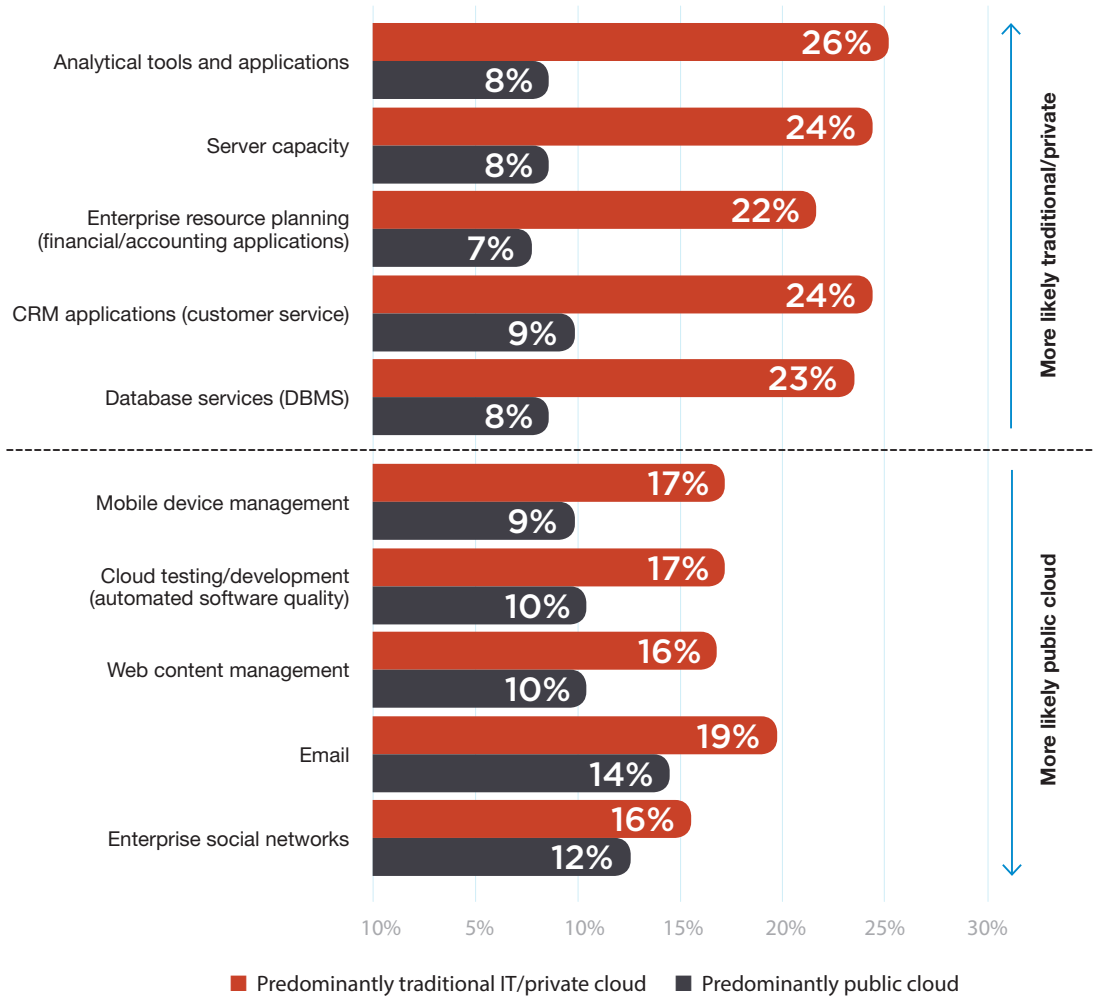
n = 6,159

Source: IDC's CloudView Survey, 2016

IDC asked about the applications most likely to be adopted via public cloud versus traditional IT/private cloud. The applications most likely to be adopted by public cloud include enterprise social networks, email, web content management, cloud testing/dev, and mobile device management. Those most likely to be deployed on traditional IT and private cloud are analytical tools and applications, server capacity, ERP, CRM applications, and database services (DBMS) (see Figure 10). See the Appendix for this analysis across all applications asked about in the survey.

FIGURE 10

Applications Most Likely to Be Adopted on Public Cloud and Traditional IT/Private Cloud (Select Applications)



n = 3,641

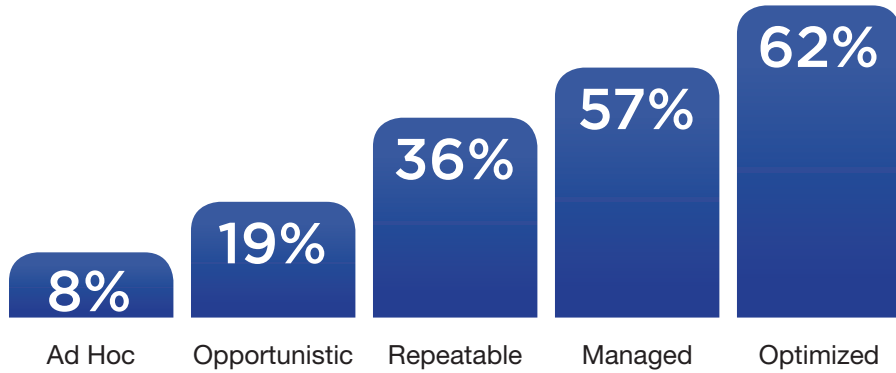
Source: IDC's *CloudView Survey*, 2016

Cloud Is Enabling the Internet of Things

This study shows that cloud is emerging as a platform of choice for Internet of Things applications, with 29% of organizations having deployed one or more cloud-based IoT applications. This is particularly true among the most mature organizations as 62% of Optimized organizations use cloud to support IoT applications as opposed to 8% of organizations in the Ad Hoc stage of cloud adoption (see Figure 11).

FIGURE 11

Deployed Cloud-Based IoT Applications

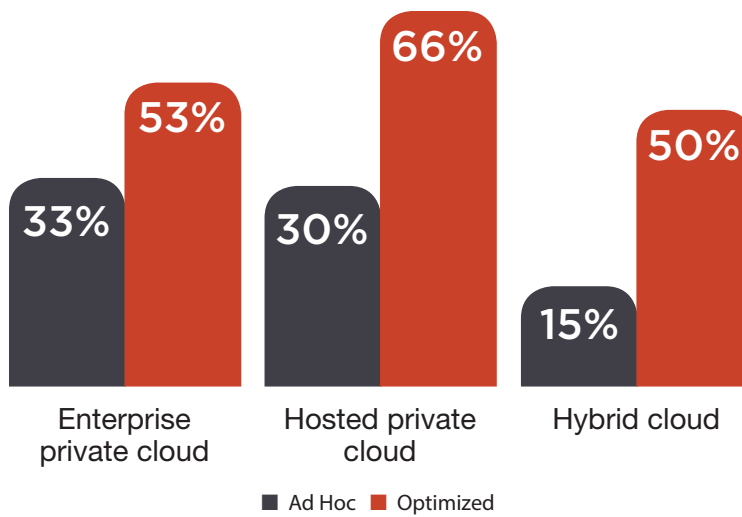


Q. Has your organization deployed any cloud-based IoT (Internet of Things) applications?
 n = 1,506 (organizations that are using/planning to use hosted private cloud architectures)
 Source: Cisco-sponsored Business Value Extension to IDC's CloudView Survey, 2016

The greater the level of cloud maturity, the more organizations are looking to private cloud to support these applications, with 53% of Optimized organizations having deployed IoT on enterprise private cloud, 66% on hosted private cloud, and 50% on hybrid cloud (see Figure 12).

FIGURE 12

IoT Application Deployment Platforms



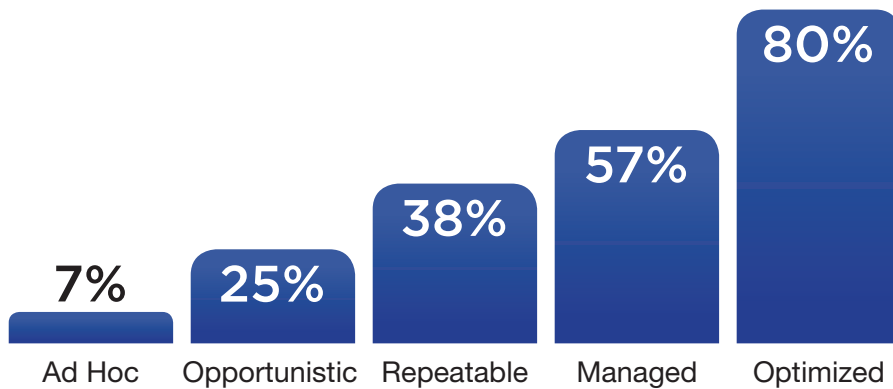
Q. Across which of the following has your organization deployed IoT applications?
 n = 505 (organizations that have deployed cloud-based IoT applications)
 Source: Cisco-sponsored Business Value Extension to IDC's CloudView Survey, 2016

DevOps, Docker Containers, and Microservices Architectures

Mature cloud organizations are more likely to practice DevOps, with 80% of Optimized organizations practicing it for their cloud environments, compared with 7% for Ad Hoc (see Figure 13). DevOps approaches span the entire delivery pipeline and can increase deployment ease and frequency, providing a faster cadence to get applications out the door. For many organizations, DevOps allows for lower failure rates of new releases, shortened lead time between fixes, and potentially faster mean time to recovery.

FIGURE 13

Practice DevOps for Cloud Environments



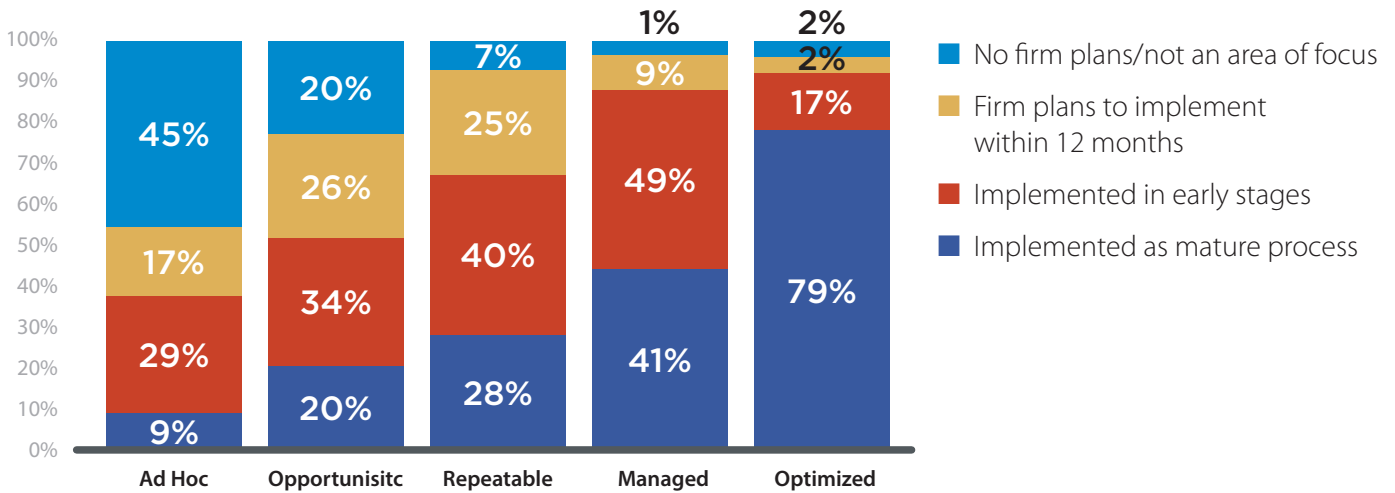
n = 1,506

Source: Cisco-sponsored Business Value Extension to IDC's *CloudView Survey*, 2016

Microservices architectures are in much greater use in mature cloud organizations, with 79% of Optimized companies performing custom cloud application development using microservices architectures, compared with 9% of Ad Hoc organizations (see Figure 14). Microservices are essentially a design pattern supporting the DevOps principle of agile, lightweight, and iterative development, changing how organizations build their application architectures and how they release new applications as well.

FIGURE 14

Perform Custom Cloud Application Development Using Microservices Architecture



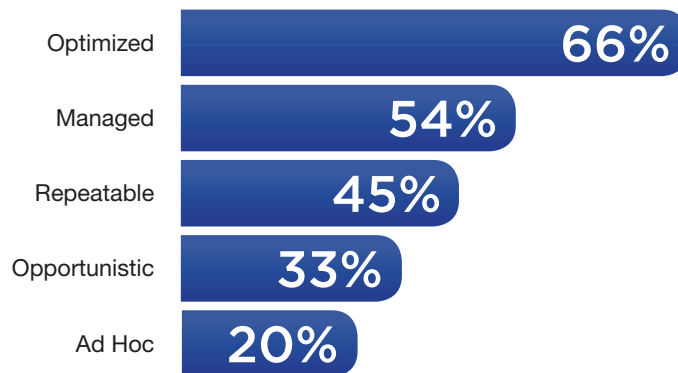
n = 6,159

Source: IDC's CloudView Survey, 2016

Containers are also an important part of mature organizations' cloud strategies, with 66% of Optimized organizations saying Docker is important to their cloud strategy compared with 20% for Ad Hoc (see Figure 15). A benefit of containers is that they support full-stack deployments, so developer teams can work on the loosely coupled applications and then choose the technology stack best suited for their deployment requirements, rather than the reverse. The added flexibility means developers need to spend less time and money, quickly and easily setting up development and test environments for burden, load, and function testing across deployment targets.

FIGURE 15

Cloud Adopters Saying Docker Containers Are Important to Their Cloud Strategy



n = 6,159

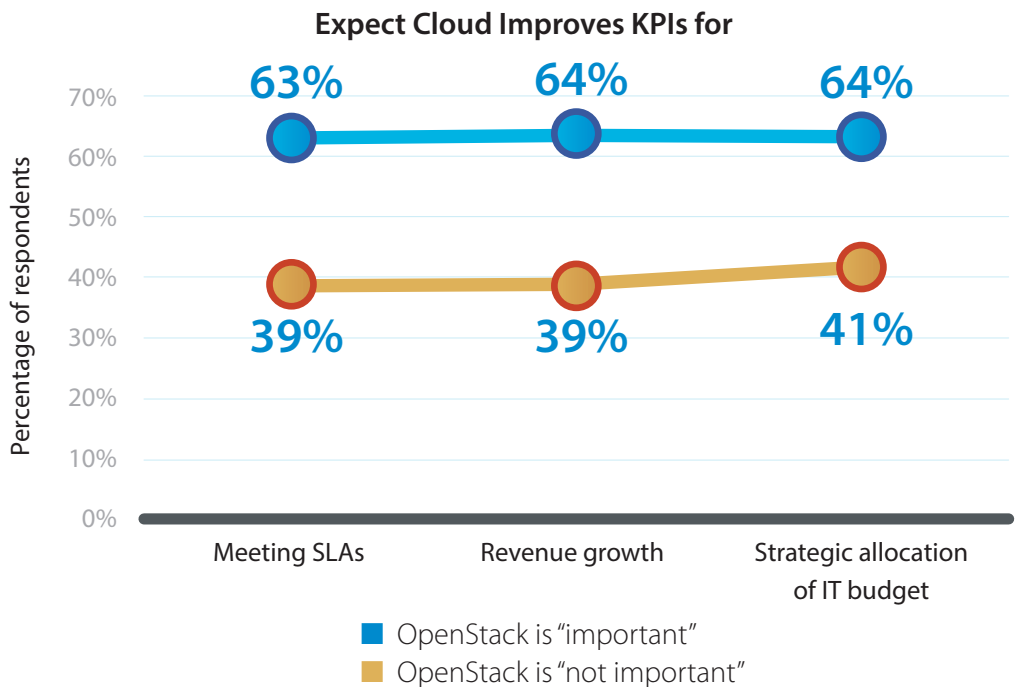
Source: IDC's CloudView Survey, 2016

OpenStack Is Driving Even Greater Business Benefits

Use of OpenStack also correlates with better business outcomes (see Figure 16). 59% say OpenStack is important to their cloud strategy, whether through open source and/or commercial distributions, and those tended to have much greater expectations to how their cloud deployments will improve their ability to optimize their IT budget allocation, improve revenue, and increase their SLAs. For example, 64% of those who rate open source OpenStack as important expect to see greater revenue growth over the next two years, compared with 39% of those who see open source OpenStack as not important.

FIGURE 16

Use of OpenStack Correlates with Better Expected Business Outcomes



n = 6,096
 Source: IDC's *CloudView Survey*, 2016

Mature Organizations Looking to Consume Security over the Cloud

Security is an important concern, with 48% of respondents characterizing security as an important inhibitor to cloud deployments. One approach favored by mature cloud organizations is to consume security over the cloud, through methods such as managed services, cloud-delivered management of security services, and hosted security services (see Figure 17).

FIGURE 17

Methods of Consuming Security in Cloud Environments



n = 1,506

Source: Cisco-sponsored Business Value Extension to IDC's *CloudView Survey*, 2016

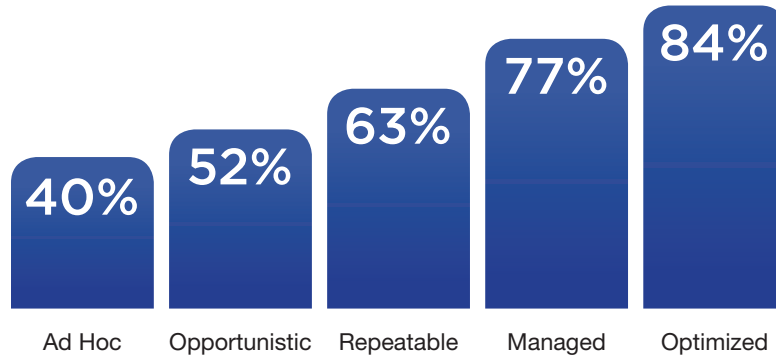
Mature Organizations Use Multiple Cloud Providers

The use of multiple cloud providers is another hallmark of mature cloud organizations.

The most mature organizations expect to be able to choose from multiple cloud providers based on location, policies, and governance principles (see Figure 18). Similarly, more mature organizations are more likely to have implemented collaborative business and IT governance to define cloud management policies and SLAs.

FIGURE 18

Expect to Choose from Multiple Cloud Providers Based on Locations, Policies, and Governance Principles



n = 4,590

Source: IDC's *CloudView Survey*, 2016

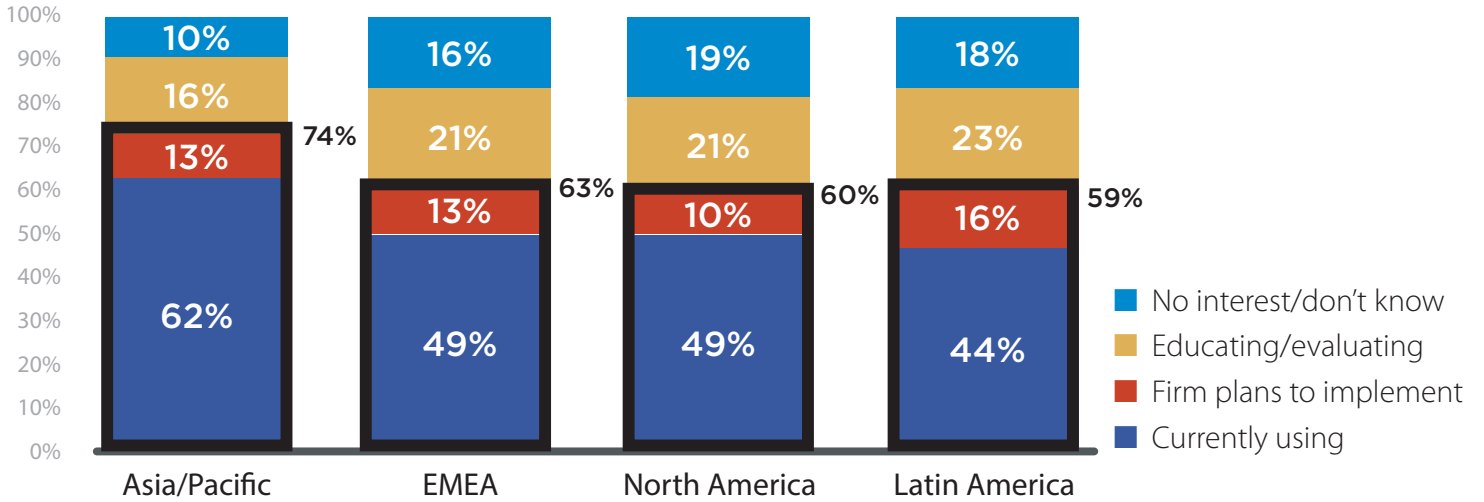
Geographic and Industry Perspectives

Enterprises of different sizes spanning various vertical markets often will prefer that certain workloads—for business, compliance, or technological reasons—remain within a private cloud rather than in the public cloud. Still, they want to realize the business agility and IT service delivery efficiencies that cloud can confer. There are many workloads, traditional and otherwise, that will never leave the enterprise datacenter, and the private cloud is well suited to meet their requirements.

This year's study shows that private cloud adoption is the highest in Asia/Pacific, with 74% saying they are currently using private cloud or have firm plans to implement it. This was followed by EMEA, North America, and Latin America, in which 63%, 60%, and 59% of respondents, respectively, said they are currently using private cloud or have firm plans to adopt it (see Figure 19). A similar story was found for public cloud adoption, in which 72% of Asia/Pacific, 60% of EMEA, 56% of North American, and 54% of Latin American respondents said they are currently using or have firm plans to implement public cloud. 85% of Asia/Pacific, 75% of EMEA, 73% of Latin American, and 72% of North American respondents said they had implemented or have firm plans to implement cloud services of any type.

FIGURE 19

Private Cloud Adoption by Region

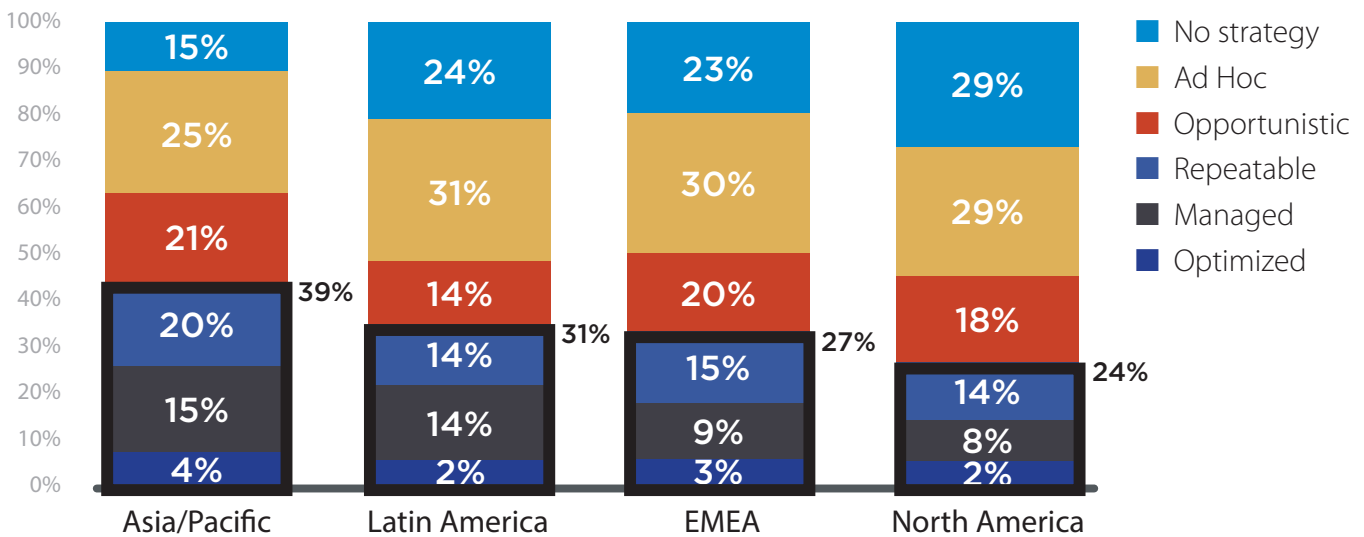


n = 11,350
Source: IDC's CloudView Survey, 2016

Similarly, Asia/Pacific was the region this year's study showed to be the furthest along in terms of cloud maturity, with 39% being in one of the top 3 cloud adoption categories (Optimized, Managed, or Repeatable) (see Figure 20). Latin America was next, with 31% of companies falling into this camp. EMEA was next at 27% and North America has 24%.

FIGURE 20

Cloud Maturity Level by Geographic Region



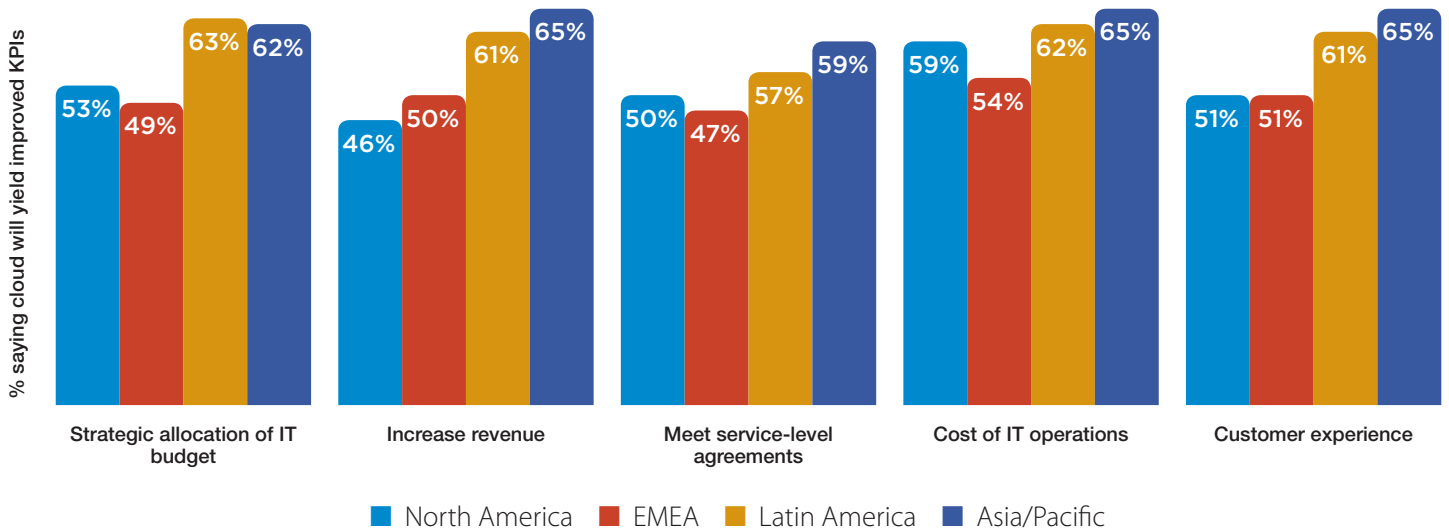
n = 11,350
Source: IDC's CloudView Survey, 2016

By industry, IT has the largest percentage of companies in one of the top 3 adoption categories at 42%, followed by manufacturing (38%), communications and media (37%), and finance (32%). The lowest adoption levels by industry were found to be government/education (20%) and retail/wholesale (at 23%).

A look at expected key performance indicator benefits by region shows that Asia/Pacific and Latin America had the largest percentages of respondents who believe that cloud will have a positive impact on their KPIs (see Figure 21). North America and EMEA had fewer respondents who believe cloud will positively impact KPIs. Note of course that as multiple responses are allowed in this question, a large number of respondents in all regions indicated at least one, and often, several KPI benefits associated with cloud.

FIGURE 21

Expected Cloud KPI Benefits by Region



n = 6,159

Source: IDC's CloudView Survey, 2016

The manufacturing, technology, and TCU (Transportation, Communications/Media, and Utilities) industries expected the greatest impact on KPIs across the board, while retail/wholesale expected the least (see Table 1). And as multiple responses are allowed, an even larger number than indicated in the table found KPI benefits across multiple areas.

TABLE 1

Expected Cloud KPI Benefit by Industry Heatmap

	Finance	Manufacturing	Retail/ Wholesale	TCU*	Healthcare	Government/ Education	Professional Services	Technology	Other
Strategic allocation of IT budget	54%	61%	54%	57%	55%	51%	55%	56%	53%
Increase revenue	53%	62%	53%	56%	48%	43%	54%	57%	54%
Meet service-level agreements	52%	61%	46%	58%	48%	53%	47%	56%	48%
Cost of IT operations	56%	64%	56%	59%	53%	59%	58%	68%	60%
Customer experience	57%	60%	54%	60%	49%	55%	54%	61%	53%

n = 6,159

*Transportation, Communications/Media, and Utilities

Source: IDC's *CloudView Survey*, 2016

■ Highest ←————→ ■ Lowest

Essential Guidance

- » **Simply adopting cloud is not enough; you should increase your cloud maturity level — now.** The level of overall cloud adoption is continuing to increase dramatically, with 68% of organizations having adopted cloud for more than one to two small applications and increasing levels of maturity among those cloud adopters. IDC's maturity model shows that greater levels of cloud maturity are associated with improved business metrics including top-line revenue improved strategic IT allocation, greater flexibility with reuse of computing assets and IT staff, reduced costs, and increased service performance as key benefits, and the gains increase as cloud use grows. But most organizations are still not as far as they should be on the maturity scale and should focus on the items required to get themselves to the next level.
- » **Leverage the Cisco Business Cloud Advisor tool enabled by IDC to benchmark against your peers.** Knowing how your cloud adoption efforts compare with others in your industry and country and the size of company can yield valuable insights. Understanding where you are on the adoption scale relative to competition can help you understand what you need to do to keep pace and/or gain advantage against competitors by lowering your costs, gaining greater levels of flexibility, reducing your capital footprint, or accelerating new product innovation. The tool can be found at www.ciscobusinesscloudadvisoradoptionreport.com.
- » **To optimize your deployment, consider hybrid cloud with everything it entails.** Organizations need to be able to tailor their resources to the needs of their workloads based on a variety of factors including cost, scalability, security, compliance, and governance. Certain workloads might never leave the private cloud, while others are better suited for public cloud. Sometimes public cloud will be the right deployment choice, and sometimes it can be dedicated/private resources. Putting this in place requires an infrastructure that not only enables workload portability but can do it in a secure, policy-based manner that supports the needs of the enterprise.

» **Containers, DevOps, and microservices architectures lead to successful deployments.**

This study shows that the most mature—and therefore the most successful—cloud organizations make the greatest use of DevOps, Docker containers, and microservices architectures. While most organizations have woken up to the benefits of DevOps and are tinkering with containers for application deployment and microservices for service composition, the real benefit comes with the interconnections and relationships between the three. The design template brought by microservices architectures and turnkey delivery vehicle for agile deployment associated with containers reinforce the DevOps principles of flexibility, iteration, agile delivery, and lightweight code and can help developer teams move faster with greater precision and often lower cost.

» **Go with a provider you trust.** For most businesses, the compute infrastructure is the lifeblood of the enterprise. It enables you to interface with your customers and provides the engine against which key business decisions can be made. As you continue your transition from traditional IT to embrace the cloud, you need someone who understands both where you are today and where you need to go.

Appendix

Business KPI Improvement Detail

Table 2 provides additional detail of the business benefits associated with moving up the cloud maturity scale according to the IDC cloud maturity model. For example, a company moving from the Ad Hoc to the Opportunistic level would expect to see a 36% improvement in time to provision applications, with a maximum expected improvement of 50% and a minimum expected improvement of 25%. Similarly, a company moving from the Ad Hoc to the Managed level would expect to see a 48% reduction in IT costs, with a maximum expected improvement of 60% and a minimum expected improvement of 18%.

TABLE 2

Business Benefits Associated with Improving Cloud Maturity: Detail												
KPI	Ad Hoc to Opportunistic			Ad Hoc to Repeatable			Ad Hoc to Managed			Ad Hoc to Optimized		
	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum
Revenue growth	0.001%	0.05%	0.7%	1%	1.4%	3%	3%	4.0%	7%	9%	10.5%	16%
IT cost reduction	6%	13%	13%	13%	29%	33%	18%	48%	60%	48%	77%	90%
Improved IT staff allocation	4%	16%	18%	37%	56%	61%	80%	100%	111%	147%	200%	281%
Time to provision	25%	36%	50%	58%	47%	67%	50%	76%	85%	75%	87%	99%
Ability to meet SLAs	40%	43%	55%	57%	63%	80%	62%	69%	92%	63%	72%	101%

Source: 470 responses from 25 IDC Business Value Research studies from 2012 to 2016 covering cloud maturity levels, adoption of private cloud, implementation of private cloud, and converged infrastructures in support of cloud and 35 respondents from a specialized study of Optimized/Managed cloud maturity organizations for Cisco in December 2014 and April 2016.

Application Deployment Profile

TABLE 3

Applications Most Likely to Be Adopted on Public Cloud and Traditional IT/Private Cloud (All Applications)			
	Predominantly Traditional IT/Private Cloud*	Predominantly Public Cloud**	Difference
Enterprise social networks	16%	12%	5%
Email	19%	14%	5%
Web content management	16%	10%	6%
Cloud testing/development (automated software quality)	17%	10%	7%
Mobile device management	17%	9%	8%
API management	18%	10%	8%
Security	22%	13%	9%
Enterprise resource planning (manufacturing)	16%	7%	9%
Data backup/archive services	20%	11%	9%
Personal productivity applications (e.g., word processing, spreadsheets)	19%	10%	9%
Data integration	20%	11%	9%
Enterprise search	18%	9%	9%
Storage capacity	19%	10%	9%
Business continuity/disaster recovery	19%	10%	9%
CRM applications (contact center)	18%	9%	10%
IT operation analytics	19%	9%	10%
IT help desk/IT service management	20%	10%	10%
Application integration	19%	9%	10%
Supply chain and logistics	18%	8%	10%
Network or application performance management	20%	9%	10%
Project and portfolio management (PPM)	20%	9%	11%
Custom workflows or business process management	20%	8%	12%
Capture/intelligent data extraction	20%	8%	12%
Custom or bespoke applications developed uniquely for your business	19%	7%	12%
Enterprise content management	21%	9%	13%
Enterprise resource planning (human resource applications)	20%	8%	13%
CRM applications (sales/marketing automation)	22%	9%	13%
Database services (DBMS)	23%	8%	15%
CRM applications (customer service)	24%	9%	15%
Enterprise resource planning (financial/accounting applications)	22%	7%	15%
Server capacity	24%	8%	16%
Analytical tools and applications	26%	8%	18%

n = 3,641

*“We run this traditionally or in a private cloud and do not plan to move to a public cloud.”

**“We currently run 76–100% of this application in a public cloud.”

Source: IDC's CloudView Survey, 2016

Methodology

The information for this white paper came from IDC's most recent *CloudView Survey*, conducted in 2016, plus a Business Value Extension to the *CloudView Survey* sponsored by Cisco covering 1,506 respondents. IDC surveyed 6,159 director-level and above executives from IT and lines of business from organizations actively using cloud services. Respondents were randomly recruited and screened from international panels and came from 31 countries: Australia, Austria, Brazil, Canada, China, Czech Republic, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Kazakhstan, Malaysia, Mexico, the Netherlands, New Zealand, Poland, Russia, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, the United Kingdom, the United States, and Vietnam. The survey was conducted over the internet and administered in local language.

IDC's *CloudView Survey* along with the Cisco-sponsored Business Value Extension provided a comprehensive and broad-based sample that was used to determine respondents' level of cloud adoption as well as cloud needs and drivers. It collected demographics, cloud adoption profiles, expectations of benefits from cloud and drivers for cloud, and opinions on different types of cloud technology and standards.

The core survey was supplemented by additional research including 470 responses from 25 IDC Business Value Research studies from 2012 to 2016 covering cloud maturity levels, adoption of private cloud, implementation of private cloud, and converged infrastructures in support of cloud as well as 35 respondents from a specialized study of Optimized/Managed cloud maturity organizations for Cisco in December 2014 and April 2016.

For this white paper, IDC's Business Value Research team used the data from these studies to ascertain the specific business value improvements associated with advancing to each level of cloud maturity. The team combined the results of these studies to inform a model of quantified business benefits accruing to each stage of cloud maturity. This enabled IDC to provide measures of the business value experienced at each stage.

IDC Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-insights-community.com
www.idc.com

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