Multicloud is the New Normal

Cloud enables Digital Transformation (DX), but more clouds bring more challenges

An IDC InfoBrief, Sponsored by Cisco | March 2018
EXECUTIVE SUMMARY

Cloud is a key enabler of digital transformation

However, with multicloud deployments now the norm, the ensuing complexity limit the business benefits of cloud and the realization of DX.

• Cloud is a key enabler of innovation and digital transformation, delivering cost reduction and revenue improvements.

• Multicloud is here to stay; the number of clouds used is expected to increase, as is the level of complexity that must be managed across people, process, and technologies.

• While cloud adoption continues to grow (78% in 2017) and 54% of C-level executives are pushing a cloud-first strategy, cloud maturity remains below its potential—only 44% have optimized, managed, or repeatable cloud strategies. Obstacles to greater cloud maturity include cost-prohibitive changes to network services and a lack of a consistent security model across all deployment types.

MULTICLOUD AS % OF CLOUD ADOPTERS

85% TODAY

93% WITHIN 12 MONTHS

Source: IDC CloudView, April 2017, n=6,084 & IDC Cloud Research, Customer Interviews 2017
EXECUTIVE SUMMARY (CONTINUED)

• More mature adopters enjoy better business outcomes, including increased revenue and more strategic allocation of IT budget. The greater the level of cloud maturity the more likely organizations are to support advanced technologies including microservices architectures, containers, and Internet of Things (IoT).

• The proliferation and integration of traditional and modern applications (i.e. containers, microservices) in a multicloud world require sophisticated management and orchestration capabilities.

• Effective management of containers and microservices enables infrastructure and operations teams and cloud architects to adjust and scale to the increase in software deployment frequency that development teams deliver through multicloud channels.
The cloud landscape – study methodology

To measure and describe the current cloud landscape, IDC’s 2017 CloudView Survey interviewed director-level and above respondents from a global sample of 8,188 executives knowledgeable about IT decisions. Of this sample the full survey was conducted on the 6,084 respondents actively using cloud for multiple workloads.

Survey Participant Profile

- **Job Title**
  - 28% LOB VP/Director/Manager
  - 36% IT C-Level Executive
  - 15% LOB C-Level Executive
  - 21% IT non-C-Level

- **Geography**
  - 7% Latin America
  - 15% North America
  - 32% EMEA
  - 46% Asia/Pacific

- **Employee Size**
  - 8% 10,000+
  - 32% 1–99
  - 33% 1,000–9,999
  - 35% 100–999

Source: IDC CloudView, April 2017, n=6,084. Geographic breakdown determined by sampling strategy. Figures may not add to 100% due to rounding.
Organizations recognize Digital Transformation (DX) is mandatory to remain competitive

Cloud is a key enabler of digital transformation

- 56% of cloud adopters are using cloud to enable innovation
- 50% of cloud adopters expect cloud to improve business agility
- 37% expect to improve their time to market

Source: IDC CloudView, April 2017, n=6,084
So it’s no wonder C-Level executives are pushing a cloud-first strategy

54% of cloud adopters’ C-level executives pursue a cloud-first strategy for new workloads and 55% have a cloud-first strategy to replace existing workloads.

Source: IDC CloudView, April 2017, n=6,084
Cloud adoption continues to increase

Q: How would you best describe your organization’s current or near-term plans to use public cloud or private cloud solutions to support production workloads and services?

Source: IDC CloudView, April 2017, n=6,084
Multicloud deployments are now the norm

- 85% of cloud adopters have multiple types of cloud deployment options
- with 58% working with at least 4 vendors
- The most cloud-mature organizations expect to be able to choose from multiple cloud providers based on location, policies, and governance principles and have implemented collaborative business and IT governance to do so.
- 15% of cloud adopters work with at least 10 cloud vendors

Source: IDC CloudView, April 2017, n=6,084
### What are the drivers of multicloud deployments?

**IDC interviews with cloud customers reveal:**

- **LOB, Non IT/CXO, developers and DevOps driven proliferation**
- **Immediately beneficial client virtualization and client SaaS (e.g. Office365, desktop virtualization, etc.)**
- **Best in class, market dominant SaaS (e.g. Salesforce.com, Workday, etc.)**
- **Different stacks for different tasks... AWS for net new cloud native; Azure and others for lift and shift**
- **Legacy and private continue on a variety of multicloud hosting options**
- **New tech (e.g. cognitive/machine learning, IOT, etc) run from specialized stacks and clouds**
- **Industry and community clouds such as GE Predix, Athenahealth, or AWS GovCloud**
**Multicloud drivers by use case and outcomes**

IDC research reveals the following:

**Lift and Shift**
- Disaster recovery
- Reduced hardware costs

**Redevelop**
- Developer productivity and deployment frequency increase
- DevOps and agile adoption increases

**Re-platforming**
- Move custom-developed applications
- Improved process efficiency from cloud native tools
- Take advantage of new technologies (IoT, BI, analytics, automation, etc.) from specialized services

**Hosted Applications**
- LOB/Non IT/CXO driven decisions to increase time to market
- Industry clouds and SaaS adoption
- Different stacks for different tasks/capabilities

Source: IDC Cloud Research, Customer Interviews 2017
Multicloud deployments continue to grow

94% of organizations intend to be using multiple types of clouds within the next 12 months

15% of cloud adopters work with at least ten cloud vendors

58% of cloud adopters work with at least four cloud vendors

Q: Please describe your organization’s current or near-term plans for each of the following cloud deployment options?

Q: Which of the following companies are you using to support your overall adoption of cloud services?

Source: IDC CloudView, April 2017, n=6,084
IDC categorizes organizations using five levels of cloud adoption

**Ad Hoc**
Individual development and line-of-business teams experiment with cloud. Shadow IT reigns supreme with inconsistent approaches to security, information management, and governance.

**Business Outcome**
Early-stage technical insight but inconsistent business value.

**Opportunistic**
Cloud leaders begin to collaborate to learn from one another, formalize best practices, and develop frameworks for implementing enterprise-scale hybrid multicloud architectures.

**Business Outcome**
Reduced risk from ad hoc clouds and more robust cloud availability and control.

**Repeatable**
More consistent and standardized availability of automated cloud resources and services enables developers and LOB teams to execute more rapidly and cost effectively.

**Business Outcome**
Repeatable cloud processes drive improved speed and quality of business processes.

**Managed**
Mission-critical workloads and applications are increasingly implemented using cloud platforms and services. Workload portability increases while end users enjoy consistent experiences across applications.

**Business Outcome**
Infrastructure and development resources are more scalable, available, and cost effective.

**Optimized**
Organization-wide cloud strategies and policies are consistently defined and implemented, resulting in more robust and flexible IT availability and lower costs and risks.

**Business Outcome**
Business innovation and transformation through organization and partners, with clear understanding of true cost and value.

Source: IDC CloudView 2017
More mature organizations recognize benefits across the board

The benefit per cloud-based application across organizations studied by IDC averaged $3 million in additional revenues and $1 million in reduced costs.

### Annual Benefit per Cloud-Based Application

<table>
<thead>
<tr>
<th>Benefit Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional revenues</td>
<td>13%</td>
</tr>
<tr>
<td>Reduced costs</td>
<td>18%</td>
</tr>
<tr>
<td>Risk mitigation</td>
<td>68%</td>
</tr>
</tbody>
</table>

**Source:** IDC, 2017. 470 responses from 15 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. Figures may not add to 100% due to rounding.
Cloud-mature organizations make greater use of containers and microservices architectures

97% of Optimized Organizations and 15% of Ad Hoc Organizations develop applications on containers

- 100% of Optimized organizations today use microservices architectures to develop cloud native apps (cloud native development)
- Compared to only 18% of Ad Hoc organizations

- 79% of Optimized/2016 vs. 9% of Ad Hoc/2016
- This is up from 79% of Optimized and 9% of Ad Hoc organizations in 2016

Source: IDC CloudView, April 2017, n=6,084

Sponsored by Cisco
Cloud-mature organizations also take more advantage of the Internet of Things (IoT)

THE MOST MATURE CLOUD ADOPTERS
are nearly twice as likely to support IoT and other real-time initiatives through an event-driven architecture.*

97%
Most mature (Levels 4+5)
Managed

53%
Overall cloud adopters
Optimized

* Architectures geared toward detecting, consuming, and acting on events as detected by sensors or other agents. Typical cloud-based IoT use cases include instances where large and/or unpredictable amounts of data are involved, or in which the sensors and agents are widely dispersed and accessible through public cloud.

Source: IDC CloudView, April 2017, n=1,503
While cloud has reached wide scale adoption (78%+), cloud maturity—and in turn—the level of business benefit organizations derive from cloud, continues to lag.

IDC’s Cloud Maturity Framework

Ad Hoc

Opportunistic

Collaborative

Standardization

Exploratory Clouds

Repeatable

Managed

Optimized

Industrial Clouds

Innovation and Transformation Engine

Only 44% of organizations have repeatable, managed or optimized strategies—enabling them to maximize the business value from cloud adoption.

Overall cloud adoption 37%

19%

20%

13%

11%

Representative industries

- Healthcare/life sciences
- Retail/wholesale
- Professional services
- Government

- Oil & Gas
- Utilities

- Financial Services

- Manufacturing/tech

Source: IDC CloudView, April 2017, n=6,084; Respondents using public and/or private cloud for one or two small applications &/or have interest in using cloud sometime in the future [excludes no interest in cloud]
What are the barriers to increasing cloud maturity?

IDC research reveals the following:

**Organizational structure and skills**
Need for new titles, new development and automation skills that reside in non development teams, such as the networking and infrastructure and operations teams.

**Pace and rate of technology change**
New cloud services from providers outpace IT organizational adoption and absorption rate.

**Security**
While much improved, organizations still require security planning, requirements, and integrations for the cloud.

**Process integrations**
Spanning both technology and business processes are required.

**Data Governance/geo location**
Government regulations, and compliance requirements demand certain geo-centric limitations for data storage and movement.

**Poorly defined business metrics**
While cost avoidance or reduction are often possible, business metrics should be defined in terms of speed and quality.

Source: IDC CloudView, April 2017, n=6,084 & IDC Cloud Research, Customer Interviews 2017
...and what are the challenges of adding more clouds?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased security exposure due to a larger attack surface</td>
<td></td>
</tr>
<tr>
<td>Applications, users and data proliferate from varied constituents in the organization—thus challenging integration</td>
<td></td>
</tr>
<tr>
<td>Multiple clouds with varying terms, schedules, costing and billing leads to confusion</td>
<td></td>
</tr>
<tr>
<td>Reduced visibility into pricing across the myriad of clouds and vendors being used means less leverage</td>
<td></td>
</tr>
<tr>
<td>Augmenting legacy applications with cloud functions remains elusive without rip and replace</td>
<td></td>
</tr>
<tr>
<td>Orgs lack tools to do stress testing with a full network view across the entire multicloud network architecture</td>
<td></td>
</tr>
</tbody>
</table>

Source: IDC CloudView, April 2017, n=6,084 & IDC Cloud Research, Customer Interviews 2017
Inhibitors to deploying applications on containers

Networking and management are primary inhibitors to container use

- Networking: 57%
- Management: 23%
- Security (Policy Enforcement): 22%
- Lack of consistency between traditional and cloud native environments: 17%
- Lack of automation: 12%
- Lack of infrastructure integration: 8%

Q: What are the inhibitors in deploying applications on containers?

Source: IDC CloudView, April 2017, n=1,503
Cost to change and security are primary network inhibitors to public/hosted cloud adoption

Network inhibitors to moving to/consuming public/hosted cloud services

61% Network services are cost prohibitive to change
33% No consistent network security model across branch, datacenter and clouds
20% Network changes are too complex and time consuming
8% of network interoperability between cloud, co-location and on-premises networks
8% Not getting desired SLA from SaaS or cloud applications

Q: What are the network inhibitors for you to move to or consume public/hosted cloud services?

Source: IDC CloudView, April 2017, n=1,503
IDC OPINION:

Cloud maturity requires integrated and automated capabilities that span a multicloud world, and work across traditional and modern IT environments, such as:

- Identifying and containing security threats, meeting compliance regulations and managing security policies across the organization, for all users, data and applications.
- Simplifying global connectivity between data centers and public clouds, reducing maintenance and operations costs.
- Integrated performance management of traditional and cloud native applications can deliver cost optimization using automated processes across multiple clouds.
- Multicloud data collection and analysis for streamlined problem identification and resolution processes that prevent downtime, improve customer understanding and ultimately, a better customer experience.

Find out how your organization scores and get guidance using IDC's maturity model.

Assess your cloud maturity