OPEN DATA CENTER ALLIANCE[SM]

CLOUD ADOPTION SURVEY

2014

v1.1

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LEGAL NOTICE

the Alliance will in the future develop any certification or compliance or testing programs to verify any future implementation or compliance with any of the Criteria.

EXECUTIVE SUMMARY

The Open Data Center Alliance, Inc (ODCA) members represent companies who are committed to accelerating the deployment of cloud solutions and services. This includes interest in both the provisioning and consumption of public, internal and hybrid cloud solutions for enterprise services. In an annual survey, the ODCA asks its members what they are currently implementing and what they plan for the future. The survey, conducted at the end of 2014, revealed a current preference among members for internal cloud solutions. However, their growing interest in software defined networking (SDN) and hybrid cloud suggests future movement towards solutions that blend public and internal resources.

ODCA MEMBERS RESPOND TO SURVEY ON DATA CENTER PRACTICES AND PLANS

Every year, the ODCA surveys its members on their current and future data center implementations. Individuals and companies become members of ODCA because they are committed to improving business cloud implementation. ODCA members include Fortune 500 companies and other global or regional enterprises, both consumers and providers of cloud services. They work together to promote interoperable solutions and drive the market toward the cloud services that enterprise IT can use to innovate.

The ODCA member feedback and responses suggests the direction and needs for enterprise-class cloud implementations.

The objectives of the ODCA's annual survey are to track adoption of cloud services, track integration of ODCA requirements into deployment plans, and identify shared outlooks on technical obstacles facing enterprise use of cloud services and data analytics. It reveals what these companies are doing with the cloud: What type of cloud architecture they are creating, what features they are implementing, and what obstacles they are encountering. The ODCA member feedback and responses[1] suggests the direction and needs for enterprise-class cloud implementations.

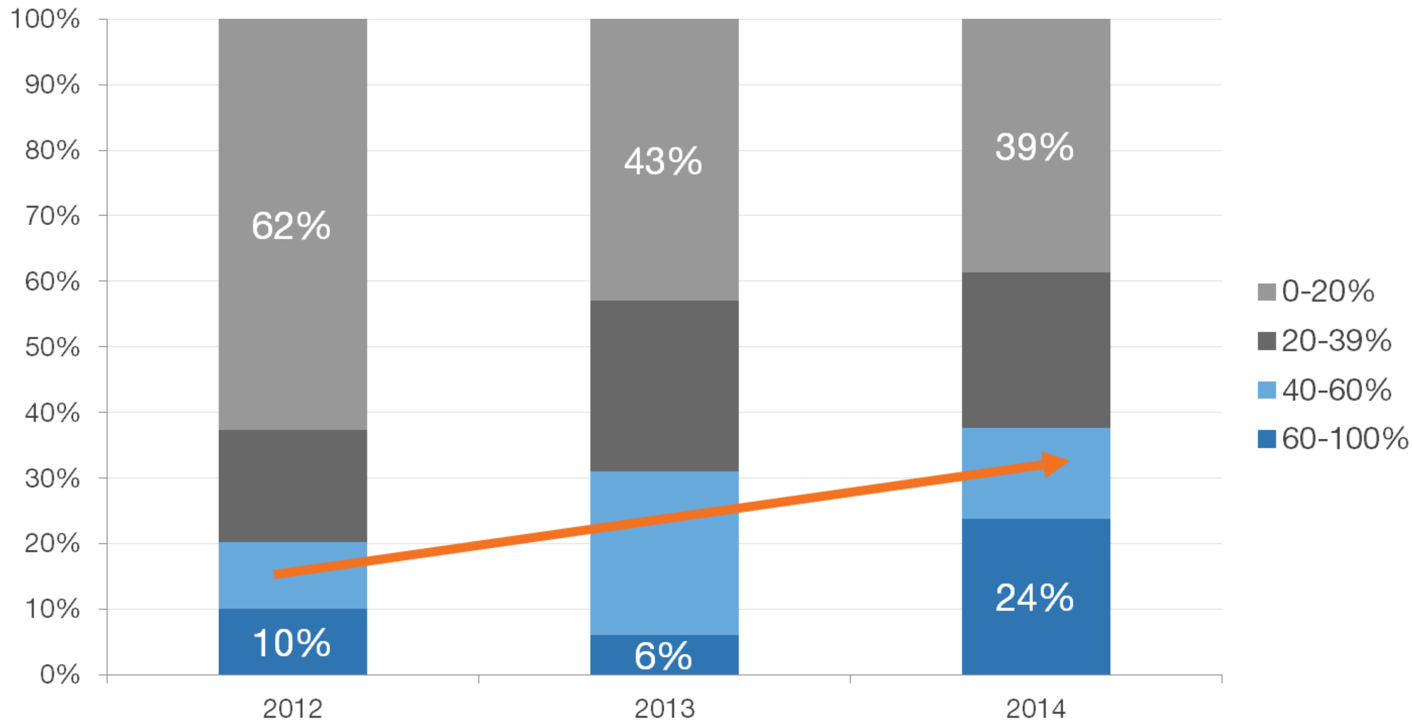
[1]All participating ODCA members consented to the analysis and use of their feedback and responses in this document.

METHODOLOGY

During the time period of December 2014 to January 2015, the survey was sent electronically to all registered contacts from current and former member companies. For some, the questionnaire went to multiple individuals, including executives, IT architects and engineers, and marketing staff. Response was voluntary, and was incentivized by a small gift or charitable donation. The survey solicited response from all levels of ODCA membership: Steering Group, Contributors, Solution Providers, and Adopters. In order to track changes over time, most of the questions were identical to past annual ODCA member surveys.

GROWTH IN INTERNAL CLOUD IMPLEMENTATIONS CONTINUES

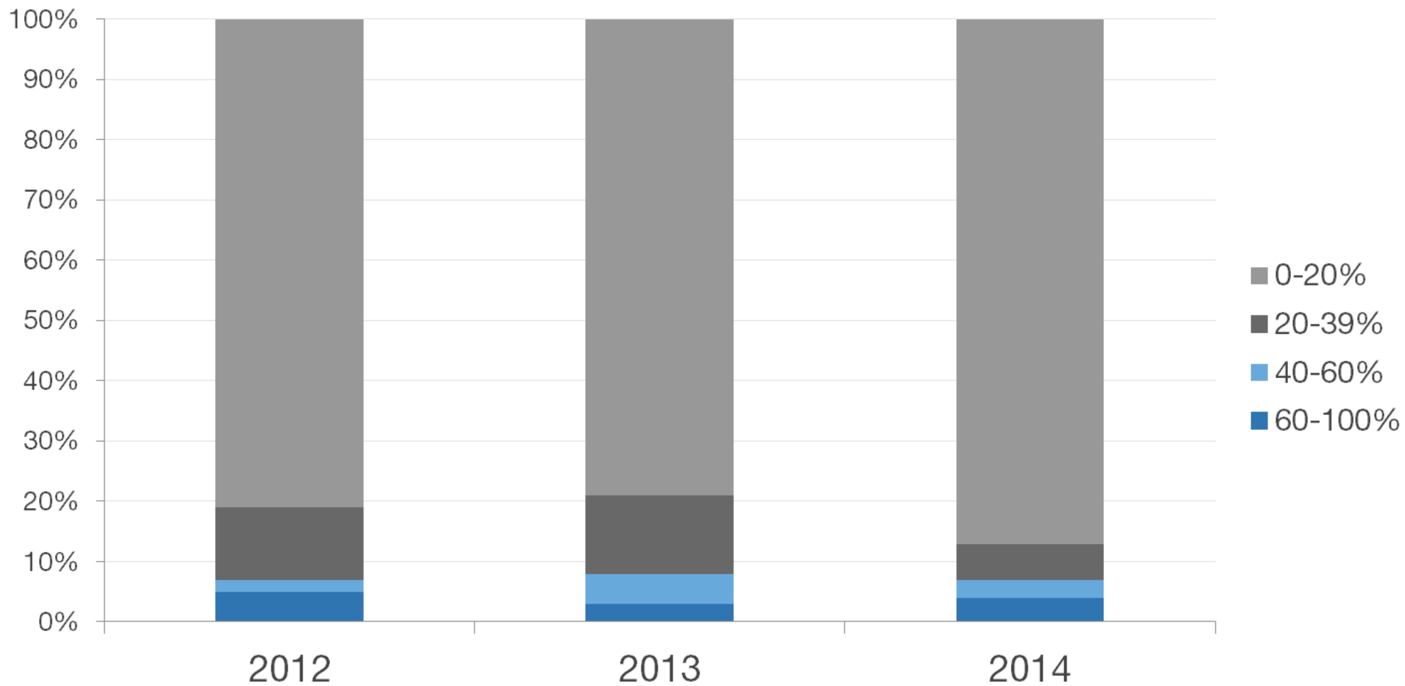
What percentage of your operations run in an internal cloud today?



Over the past three years, we see that use of internal cloud implementations within member organizations is growing significantly. The greatest growth has been in organizations with a large percentage of their services in private clouds. Since 2012, the number of respondents who have greater than 60% of their operations in an internal cloud has increased from 10% to 24%. Respondents with one-fifth or less of their operations on internal cloud services has dropped 23%, implying a push of operations further up the stack. ODCA members confirm the conventional wisdom that companies are continuing to push more and more operations into the cloud.

PUBLIC CLOUD ADOPTION AMONG ODCA MEMBERS REMAINS LOW

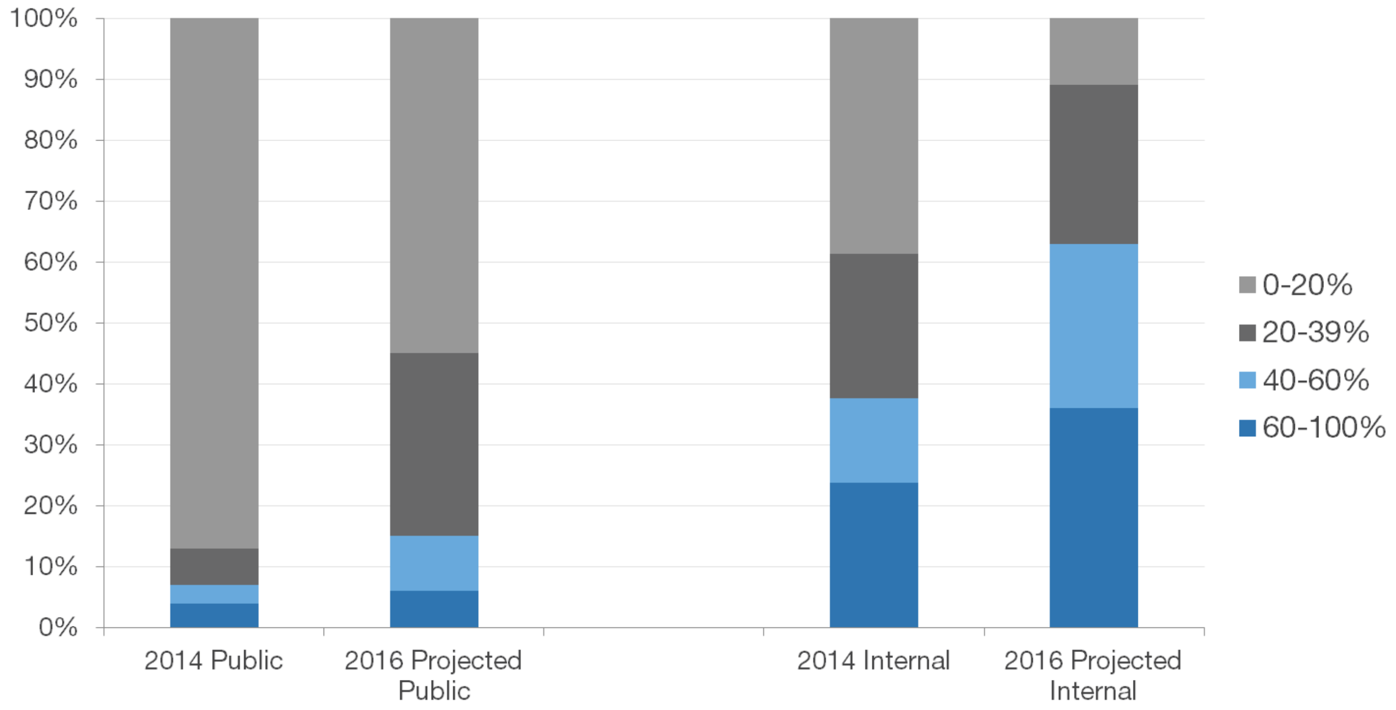
What percentage of your operations run in a public cloud today?



While internal cloud has an upward trend line, survey respondents indicate they have yet to move significant operations into the public cloud space. For the past three years, the amount of organizations with less than 20% of their operations in a public cloud has ranged from 79–88%. The share of organizations with more than 20% of their operations in a public cloud actually decreased over that time period.

As can be seen in later responses such as usage model application, the ODCA mission likely attracts members who are interested in enterprise cloud deployments. ODCA membership tends to focus on IaaS and service models that leverage current internal cloud technologies, which can correlate to a greater growth in internal over public cloud services. External surveys show that public cloud adoption is still heavily weighted toward the SaaS service model, which may not be as pressing of a focus area for many ODCA survey respondents.

INTERNAL CLOUD PROJECTED TO CONTINUE TO OUTPACE PUBLIC OPTIONS AMONG ODCA MEMBERSHIP



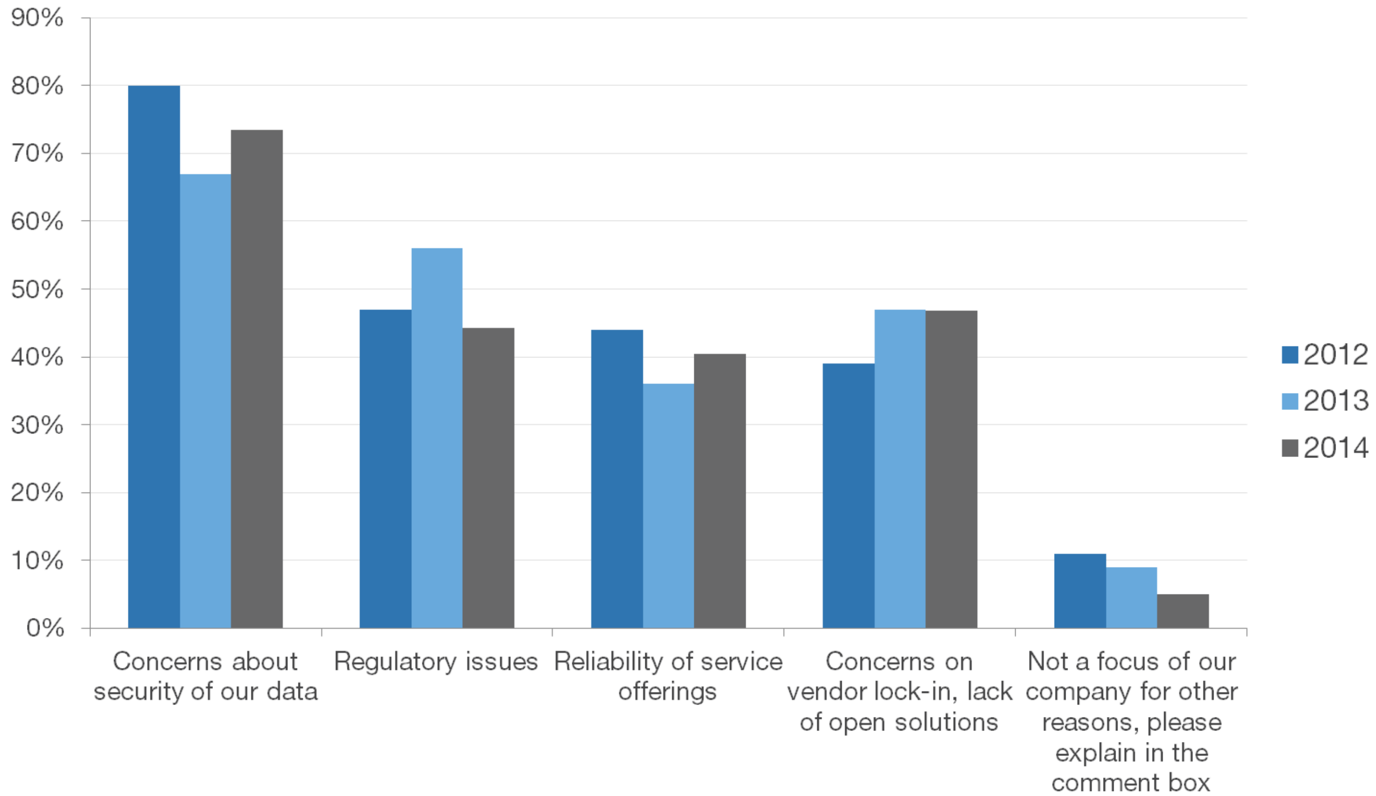
The expectation for 40% or more operations on internal clouds increased from 38% to 63%.

While expected adoption of the public cloud is still forecasted to double by 2016, ODCA members expect to continue to put a greater emphasis on internal clouds in the next two years. When asked what percentage of their services would be in public or internal clouds by 2016, respondents again showed a preference for internal clouds. While answers for greater than 40% of their operations on public clouds increased from 7% to 14%, the expectation for 40% or more operations on internal clouds increased from 38% to 63%.

As members look to the future, they predict even more growth in internal cloud operations. In 2012, 18% of members surveyed believed their organizations would house 60% of their operations in internal clouds by 2016. Since then, that number has doubled. Again, the preference of internal over public connects to ODCA members' interest in IaaS solutions that more readily meet the current demands of the enterprise.

LIMITING FACTORS AND CONCERNS REMAIN CONSISTENT

What factors are limiting your adoption of virtual/private, community and public clouds today?



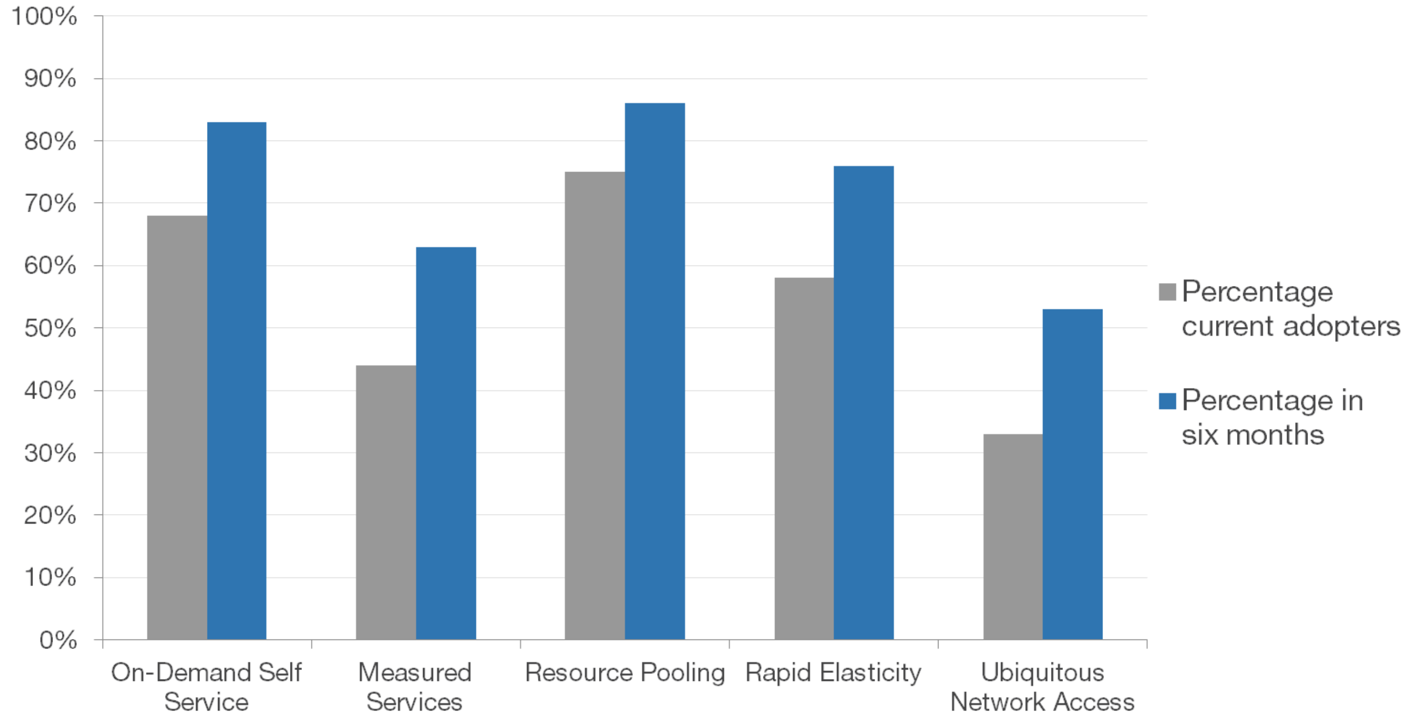
The primary concern that slows cloud adoption remains security.

Although there is an uptick in respondents who are concerned about vendor lock-in since 2012, the rank of the major concerns remains largely consistent over the past three years. The primary concern that slows cloud adoption remains security. In 2014, regulatory issues decreased while vendor lock-in remained steady from 2013.

STEADY ADOPTION OF BROAD CLOUD FEATURE SET

Which of the following criteria are features of your existing internal cloud deployments?

Which of the following criteria do you plan on integrating to your solutions in the next six months?



It seems that organizations are filling in the gaps in these features; the three least-implemented features are the ones that are most expected to grow.

A majority of respondents have implemented the core cloud attributes of **on-demand self-service, measured services, resource pooling** and **rapid elasticity**. **Ubiquitous network access** has a slightly lower penetration to date with 33% of respondents. However, in the next six months members expect to continue to add to these features.

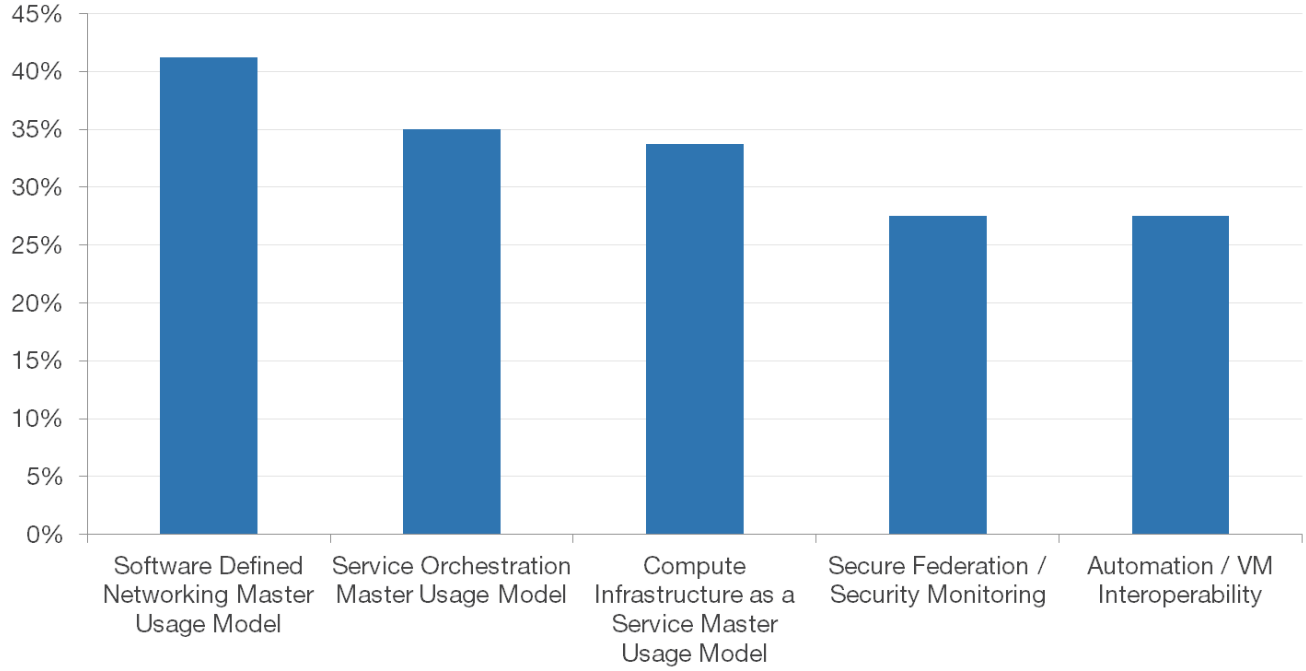
It seems that organizations are filling in the gaps in these features; the three least-implemented features are the ones that are most expected to grow. Ubiquitous network access at 33% is expected to grow 20%, measured services at 44% is expected to grow 19%, and rapid elasticity at 58% is expected to grow 18%. This further illustrates that all five cloud attributes are recognized as necessary for a maturing cloud solution.

INCREASED INTEREST IN SOFTWARE DEFINED NETWORKING

If your organization is planning on using ODCA Usage Models to guide its purchasing decisions, please let us know which Master Usage Models and Usage Models you are targeting for RFP integration.

	Usage Model	2014	Percent Change
1	Compute Infrastructure as a Service	56%	5.36%
2	Software Defined Networking	55%	32.11%
3	Service Orchestration	44%	-11.62%
4	Security Monitoring	39%	21.12%
5	Scale Out Storage	36%	-7.44%
6	VM Interoperability	33%	-47.15%
7	Service Catalog	32%	-22.64%
8	Information as a Service	30%	4.29%
9	Security Provider Assurance	30%	10.89%
10	Single Sign on Authentication	27%	11.76%
11	Cloud Based Identity Governance and Auditing	24%	17.36%
12	Identity Management Interoperability Guide	23%	20.70%
13	Long Distance Workload Migration	20%	-12.24%
14	Cloud Based Identity Provisioning	20%	-2.04%
15	Regulatory Framework	17%	3.61%
16	Standard Units Measurement for IaaS	15%	-105.30%
17	Carbon Footprint	15%	-19.21%
18	IO Control	12%	-65.29%
19	Commercial Framework	12%	-32.23%

Which ODCA requirements do you see holding the most value in the next six months?



This year showed a marked increase in the use of the Software Defined Networking Usage Model.

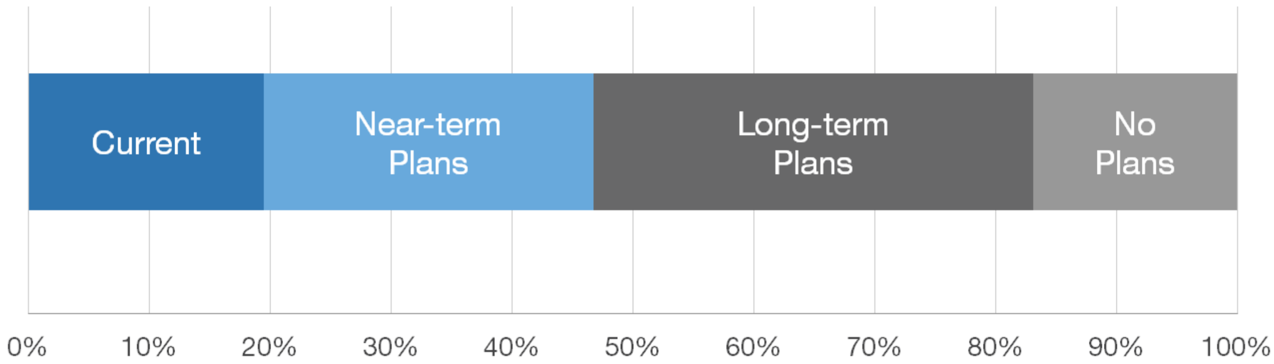
ODCA Usage Models are global requirements for cloud adoption. They can aid businesses building RFPs and requirements for new cloud implementations. In the annual survey, members were asked which Usage Models they valued and which they intended to utilize in the near future.

For the past three years, the foundational Usage Models such as Compute Infrastructure as a Service and Service Orchestration consistently rank high. However, this year showed a marked increase in the use of the Software Defined Networking Usage Model, which was recently enhanced to a 2.0 version that includes Network Functions Virtualization (NFV). Other Usage Models increasing in popularity include Security Monitoring, Security Provider Assurance and Regulatory Framework.

Looking forward to the next six months, the top Usage Model is forecasted to be SDN, topping Compute IaaS and Service Orchestration.

HYBRID CLOUDS INCREASINGLY PROMINENT

Are you considering hybrid application delivery where application and data connectivity is necessary between public and private solutions?



Over 80% of respondents are planning to utilize hybrid solutions.

Hybrid clouds, in which an enterprise distributes services across both public compute and internal resources, is a growing interest area among ODCA members. Over 80% of respondents are planning to utilize hybrid solutions. This confirms trends seen in the larger marketplace, and emphasizes the need for improved interoperability between clouds and cloud vendors, as is addressed in the ODCA's Usage Models covering "Interop Across Clouds," "Long Distance Migration," and "VM Interoperability in a Hybrid Cloud Environment."

SUMMARY

It is no surprise or revelation to say that enterprise use of cloud services is growing. Evident in the ODCA annual survey is a more refined look at that growth within the types of enterprises that value membership in an organization such as the ODCA. While modest increases in public cloud applications are expected in the next few years, respondents are focused primarily on internal cloud solutions. Among members, most have implemented or are soon implementing all of the core features of a cloud deployment. Perhaps most notable is the evidence that members are increasingly interested in topics further up the Capability Maturity Model stack, including Software Defined Networking and hybrid cloud solutions.

ABOUT THE OPEN DATA CENTER ALLIANCE

The Open Data Center Alliance℠ is an independent IT consortium comprised of global IT leaders who have come together to recommend a unified customer vision for long-term data center requirements. The organization is led by a 14-member steering committee. More information about ODCA publications and membership can be found at the organization's website: www.opendatacenteralliance.org.