ESG Research: The Hybrid Cloud Tipping Point

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SNIA-At-A-Glance

185 industry leading organizations

2,000 active contributing members

50,000 IT end users & storage pros worldwide
What We Do

Educate vendors and users on cloud storage, data services and orchestration

Support & promote business models and architectures: OpenStack, Software Defined Storage, Kubernetes, Object Storage

Understand Hyperscaler requirements Incorporate them into standards and programs

Collaborate with other industry associations
Enterprise Strategy Group is an IT analyst, research, validation, and strategy firm that provides market intelligence and actionable insight to the global IT community.

ESG helps clients achieve business results through a comprehensive portfolio of research and advisory services, consulting, and custom content solutions.
Research Objectives

**Determine** IT budget outlook for 2019, overall and for specific technologies

**Establish** key business and technology priorities driving 2019 plans

**Identify** technology challenges and shortcomings impeding business objectives

**Monitor** YoY trends with respect to technology adoption and changing preferences

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Survey Details

**QUANTITATIVE WEB-BASED SURVEY**

- **N=600 qualified completes**
- **North America (US & Canada) and Western Europe (UK, France, and Germany)**
- **Field dates: 11/1/18 – 11/30/18**

**RESPONDENTS**

- **600 Senior IT professionals personally responsible for or familiar with their organizations’ overall 2019 IT budget and spending plans**
  - Employed at organizations with 100 or more employees
    - 30% midmarket (100 to 999 employees)
    - 70% enterprise (1,000 or more employees)
  - Multiple industry verticals including manufacturing, financial, communications & media, business services, among others
Two-thirds (66%) say IT is more complex compared to two years ago.
## Scale & Innovation Driving IT Complexity

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in the number and type of endpoint devices</td>
<td>31%</td>
</tr>
<tr>
<td>Higher data volumes</td>
<td>30%</td>
</tr>
<tr>
<td>Increase in the number and type of applications used by employees</td>
<td>29%</td>
</tr>
<tr>
<td>The need to incorporate emerging technologies like AI/ML, advanced analytics, blockchain, etc.</td>
<td>29%</td>
</tr>
<tr>
<td>We have a major Digital Transformation initiative to use technology to change the way we operate</td>
<td>26%</td>
</tr>
<tr>
<td>The need to use both on-premises data centers and public cloud providers</td>
<td>24%</td>
</tr>
<tr>
<td>Increase in remote/mobile workers</td>
<td>19%</td>
</tr>
<tr>
<td>Shadow IT</td>
<td>18%</td>
</tr>
<tr>
<td>More users</td>
<td>18%</td>
</tr>
<tr>
<td>More technology-savvy employees</td>
<td>17%</td>
</tr>
<tr>
<td>Need to provide access to suppliers and business partners</td>
<td>14%</td>
</tr>
<tr>
<td>Too many different vendors</td>
<td>10%</td>
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</tbody>
</table>

**Question text:**
What do you believe are the **biggest reasons** your organization’s **IT environment has become more complex**? (Percent of respondents, N=400, three responses accepted)

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Can’t Hire Your Way Out Of Complexity

Cybersecurity, IT Architecture, and Data Science Top Skills Shortages

Question text: In which of the following areas do you believe your IT organization currently has a problematic shortage of existing skills? (Percent of respondents, N=586, multiple responses accepted)
2019 Public Cloud Trends
Public Cloud Services by the Numbers

- **85%**: Use public cloud services today
- **67%**: SaaS accounts for more than 20% of all apps, 38% in 2013
- **56%**: Of digital-native* companies have a cloud-first policy
- **49%**: Of IaaS users run production apps

*Defined as organizations that have been in operation for 10 years or less*
2018 Brought a Significant Increase in Public Cloud Infrastructure Adoption


Question text:
Please indicate your organization’s usage of or plans for infrastructure-as-a-service (IaaS). (Percent of respondents)
IaaS Users Continue to Move Production Applications to Cloud

<table>
<thead>
<tr>
<th>Purpose</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running production applications</td>
<td>27%</td>
<td>31%</td>
<td>41%</td>
<td>46%</td>
<td>49%</td>
</tr>
<tr>
<td>Running business intelligence queries</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Testing and development</td>
<td></td>
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<tr>
<td>Serving as a repository for backup and/or archive data</td>
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<tr>
<td>Accommodating workload spikes</td>
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<tr>
<td>Serving as a disaster recovery target</td>
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<tr>
<td>Using as temporary compute resources for time-limited projects</td>
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</table>

Percentage of IaaS users running production apps on cloud infrastructure, 2015-2019

**Question text:**

*For which of the following purposes does your organization use cloud infrastructure services (IaaS and/or PaaS)? (Percent of respondents, N=438, multiple responses accepted)*
Most IaaS Users are Multi-cloud, but Spending Typically Favors One Service Provider

Number of unique CSPs used by organization, 2017-2019

- 23% use 1 CSP
- 25% use 2 CSPs
- 18% use 3 CSPs
- 12% use 4 CSPs
- 9% use 5 CSPs
- 12% use 6 or more CSPs

76% multi-cloud in 2019

**Question text:**
Approximately how many unique public cloud infrastructure service providers (IaaS and/or PaaS) does your organization currently use? (Percent of respondents, N=438)
Tipping Point: Finding the Hybrid Cloud Balance
Research Overview

Background:
In ESG’s 2018 IT Spending Intentions study, 41% of IT organizations identified that they had pulled at least one workload back from public cloud infrastructure services.

Project Details:
• **350 completed online surveys** with IT professionals currently responsible for their organization’s on-premises infrastructure along with knowledge of their organization’s use of public cloud service. All organizations were current users of public cloud services.
• **75% Enterprise, 25% Midmarket**: Enterprise (1,000 or more employees) organizations and Midmarket (100 to 999 employees) in North America
• **Multiple industry verticals** including financial, communications & media, manufacturing, retail/wholesale, among others
• In order to qualify, **ALL organizations moved workload(s) back on-premises from a public cloud service**

How to use this data:
• This is NOT representative of all IT organizations
• This is data is not anti-cloud, 86% of participates indicated they are completely or mostly satisfied with their cloud providers
• This data presents some common challenges with hybrid cloud journeys that can be remedied moving forward
Workload Repatriation Summary

Hybrid Cloud Balancing is SELECTIVE

- 77% of organizations have pulled a workload back a handful of times.
- 23% have pulled a workload back from the cloud many times.
**Workload Repatriation Factors**

**SHADOW IT PLAYS A SIGNIFICANT ROLE**

- 70% of organizations repatriated at least one workload back from a public cloud service originally procured by an individual or line-of-business group outside of IT.

**MORE THAN HALF ARE CLOUD-FIRST**

- 53% of organizations identified having a cloud-first policy for new workload deployments.

**CLOUD-FIRST SAW MORE REPATRIATION**

- Cloud-first companies were 3x more likely to identify that they pulled back many workloads, than companies that identified that they equally consider on and off premises solutions.
### Top Rationale Behind the Move Back On Premises From IaaS

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Data security issues</td>
<td>38%</td>
</tr>
<tr>
<td>Cost</td>
<td>25%</td>
</tr>
<tr>
<td>Regulatory compliance issues</td>
<td>23%</td>
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<tr>
<td>Developer requirement/preference</td>
<td>22%</td>
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<tr>
<td>Limited access to new technologies</td>
<td>21%</td>
</tr>
<tr>
<td>Inability to meet availability expectations</td>
<td>20%</td>
</tr>
<tr>
<td>New management requirement that certain application/workload must operate on-premises</td>
<td>18%</td>
</tr>
<tr>
<td>Encountered a data recovery issue</td>
<td>17%</td>
</tr>
<tr>
<td>The move was planned as part of the evolution cycle of the application/workload</td>
<td>17%</td>
</tr>
<tr>
<td>On-premises infrastructure served as a temporary staging area for an application/workload moving from one public cloud service to another</td>
<td>16%</td>
</tr>
<tr>
<td>Inability to meet elasticity expectations</td>
<td>15%</td>
</tr>
<tr>
<td>Inability to meet functionality or usability expectations</td>
<td>14%</td>
</tr>
<tr>
<td>Poor or unpredictable application performance</td>
<td>13%</td>
</tr>
<tr>
<td>Inability to support scalability requirements</td>
<td>10%</td>
</tr>
</tbody>
</table>

What were the reasons behind your organizations’ decision to move an application(s)/workload(s) back to on-premises infrastructure, by cloud type (IaaS/PaaS ? (Percent of respondents, N=316, multiple responses accepted)
### Top Rationale Behind the Move by Org Type (IaaS & SaaS)

<table>
<thead>
<tr>
<th>MIDMARKET ORGANIZATIONS</th>
<th>ENTERPRISE ORGANIZATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data Security (33%)</td>
<td>1. Data Security (34%)</td>
</tr>
<tr>
<td>2. Cost (31%)</td>
<td>2. Inability to Meet Availability Expectations (25%)</td>
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<td>3. Regulatory Compliance (23%)</td>
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<td>3. Encountered a Data Recovery Issue (23%)</td>
<td>2. Cloud Limited Access to New Technology (25%)</td>
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<tr>
<td>3. Cloud Limited Access to New Technology (23%)</td>
<td>2. Developer Requirement/Preference (25%)</td>
</tr>
<tr>
<td></td>
<td>2. On Premises Serves as a Temporary Staging Area for a Move to Another Cloud Service (25%)</td>
</tr>
</tbody>
</table>
Specific Steps to Avoid Repatriation in the Future

What specific steps do you expect your organization to take to avoid future repatriation efforts applications/workloads back from public cloud services in the future? (Percent of respondents, N=338, multiple responses accepted)

- We will avoid leveraging that cloud service provider(s) again: 20%
- We will be more reluctant to deploy that application/workload type(s) on public cloud services again: 27%
- We will ensure that we have a cloud exit strategy before moving any future workloads to the cloud: 29%
- We will endeavor to better analyze the data sensitivity/regulatory requirements in the future prior to moving workloads to the cloud: 36%
- We will endeavor to determine whether cloud services can meet the specific availability requirements of each application/workload: 30%
- We will endeavor to determine whether cloud services can meet the specific performance requirements of each application/workload: 33%
- We will endeavor to better model infrastructure costs in the future prior to moving applications/workloads to the cloud: 30%
- We will be more likely to leverage consultative cloud assessment services or work with a value-added third-party expert/integrator prior to leveraging cloud resources in the future: 38%
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