ESG Research

Abstract:
The Cloud Computing Spectrum, from Private to Hybrid

By Colm Keegan, Senior Analyst and Bill Lundell, Director of Research
With Jennifer Gahm, Senior Project Manager

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Introduction

Research Objectives

In order to assess organizations’ use of server virtualization, cloud computing technology, and converged infrastructure platforms, ESG recently surveyed 308 IT professionals representing midmarket (100 to 999 employees) and enterprise-class (1,000 employees or more) organizations in North America. All respondents were personally responsible for or familiar with their organizations’ server virtualization and cloud computing environments and strategies.

The survey was designed to answer the following questions:

- How do organizations assess their progress in terms of transitioning from a highly virtualized data center to a private cloud infrastructure deployment?
- Approximately what percentage of organizations’ total production business applications run on virtualized infrastructure (i.e., virtual machines)?
- Which of the essential characteristics of cloud computing do organizations believe is the most important attribute of a private cloud infrastructure?
- Do organizations currently use any type of converged and/or hyper-converged infrastructure technology solutions?
- Why would an organization choose converged infrastructure over hyper-converged infrastructure? Conversely, why would an organization choose hyper-converged infrastructure over converged infrastructure?
- How do organizations believe they will provision the majority of their on-premises infrastructure in five years’ time?
- Are organization’s software strategies for deploying private cloud infrastructure more likely to be based on proprietary or open source solutions?
- Among organizations that rely on commercial private cloud software solutions, how many currently use open source cloud infrastructure software in any capacity as part of their private cloud deployments? Which specific open source cloud frameworks are in use or being considered?
- What are the usage trends for public cloud infrastructure services (i.e., infrastructure-as-a-service or IaaS)?
- How important is it that current or potential cloud service provider(s) use the same cloud infrastructure technologies as those used in internal private cloud/virtualized data centers?
- Which types of cloud providers do organizations use or are they most likely to use for cloud-based infrastructure?
- What is motivating organizations to perform online virtual server, application, and/or data migrations between different public cloud services and/or on-premises (virtualized) infrastructure resources? What challenges have they experienced to date and what concerns remain for future hybrid cloud undertakings?
- How do organizations define hybrid cloud?
- What plans do organizations have for implementing container management framework technology?

Survey participants represented a wide range of industries including financial services, manufacturing, business services, communications and media, and government. For more details, please see the Research Methodology and Respondent Demographics sections of this report.
Research Methodology

To gather data for this report, ESG conducted a comprehensive online survey of IT professionals from private- and public-sector organizations in North America (United States and Canada) between October 29, 2015 and November 16, 2015. To qualify for this survey, respondents were required to be IT professionals responsible for their organizations’ virtualization/cloud computing strategies. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on a number of criteria) for data integrity, we were left with a final total sample of 308 IT professionals.

Please see the Respondent Demographics section of this report for more information on these respondents.

Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.
Respondent Demographics

The data presented in this report is based on a survey of 308 qualified respondents. Figures 23-27 detail the demographics of the respondent base, including individual respondents’ current role, as well as respondent organizations’ total number of employees and primary industry, among others.

Respondents by Current Role

Respondents’ current role is shown in Figure 1.

![Figure 1. Respondents’ Current Role](source: Enterprise Strategy Group, 2016.)

Which of the following best describes your current responsibility within your organization? (Percent of respondents, N=308)

- IT staff, 3%
- IT management, 28%
- Senior IT management (e.g., CIO, VP of IT, Director of IT, etc.), 69%

Respondents by Number of Employees

The number of employees in respondents’ organizations is shown in Figure 2.

![Figure 2. Respondents by Number of Employees](source: Enterprise Strategy Group, 2016.)

How many total employees does your organization have worldwide? (Percent of respondents, N=308)

- 20,000 or more, 6%
- 10,000 to 19,999, 6%
- 2,500 to 4,999, 15%
- 1,000 to 2,499, 19%
- 500 to 999, 26%
- 251 to 499, 10%
- 100 to 250, 8%
- 5,000 to 9,999, 10%

Respondents by Industry

Respondents were asked to identify their organization’s primary industry. In total, ESG received completed, qualified respondents from individuals in 20 distinct vertical industries, plus an “Other” category. Respondents were then grouped into the broader categories shown in Figure 3.

**Figure 3. Respondents by Industry**

![Pie chart showing the distribution of respondents by industry.](source)

**What is your organization’s primary industry? (Percent of respondents, N=308)**

- Business Services (accounting, consulting, legal, etc.), 18%
- Manufacturing, 16%
- Health Care, 11%
- Information Technology, 10%
- Financial (banking, financial, insurance), 10%
- Retail/Wholesale, 10%
- Communications & Media, 6%
- Government (Federal/National, State/Province/Local), 3%
- Other, 17%

**Source: Enterprise Strategy Group, 2016.**

Respondents by Annual Revenue

Respondent organizations’ annual revenue is shown in Figure 4.

**Figure 4. Respondents by Annual Revenue**

![Bar chart showing the distribution of respondents by annual revenue.](source)

**What is your organization’s total annual revenue ($US)? (Percent of respondents, N=308)**

- Less than $50 million, 4%
- $50 million to $74.999 million, 8%
- $75 million to $99.999 million, 8%
- $100 million to $149.999 million, 13%
- $150 million to $199.999 million, 14%
- $200 million to $499.999 million, 8%
- $500 million to $749.999 million, 8%
- $750 million to $999.999 million, 15%
- $1 billion to $4.999 billion, 7%
- $5 billion to $9.999 billion, 4%
- $10 billion to $19.999 billion, 4%
- $20 billion or more, 1%
- Not applicable (e.g., public sector, non-profit), 1%

**Source: Enterprise Strategy Group, 2016.**
Respondents by Number of Servers

The number of physical production and physical test/dev servers supported worldwide by respondent organizations is shown in Figure 5.

**Figure 5. Respondents by Number of Servers**

Approximately how many total physical production and test/development servers are supported worldwide by your IT organization? (Percent of respondents, N=308)

![Bar chart](image)

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