

# 2011 Cloud Computing Outlook | Survey Results

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## 2011 Cloud Computing Outlook

The results of this survey were collected during the 2<sup>nd</sup> quarter of 2011 from the open source and systems management communities of BitNami, Cloud.com and Zenoss. The purpose of the survey was to discern trends in cloud computing usage and preferences for deploying virtual infrastructure.

The results are published at:

<http://cloud.com/cloud-computing-outlook>

The cloud Computing Outlook Survey was sponsored by sponsored by:



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# Executive Summary

Cloud.com conducted this survey in the second quarter of 2011 to determine cloud computing usage trends among IT professionals who participate in the BitNami, Cloud.com and Zenoss open source software and user communities. The results are collated from responses of 521 individuals as to their usage and preferences for virtualization and cloud computing technologies.

- **Most IT professionals prefer to deploy their infrastructure using virtualization (77%)**
- *61% of organizations are in the information gathering or planning stages or have an approved cloud computing strategy (but no implementation), 20% have cloud implementations and 20% have no cloud computing plans at this point*
- **70% of data center managers choose to deploy infrastructure on dedicated resources** (e.g. dedicated servers and data center resources) while only 12% prefer to deploy their infrastructure in the public cloud.
- The **overwhelming use case specified by survey participants was for development/test labs (61%)**, followed by the desire to build a private cloud that mimics the capabilities of public cloud service providers (33%)
- **Hardware savings** was cited as the most popular reason for using cloud-based storage and platform-as-a-service.
- *12% of IT professionals indicated their preference was to run their infrastructure in public clouds*
- 36% of respondents indicated that their preference was to run their infrastructure virtually but hosted on dedicated hardware at a managed data center
- The *open source Linux operating system is the dominant guest operating system in the cloud with 83% of IT professionals planning to deploy Linux as a guest operating system, 66% will be deploying Windows OSes in the cloud*
- **Open source usage is pervasive among cloud computing users with 69% using open source software whenever possible** while only 3% claim not to use open source software at all. All government users indicated some degree of open source usage.
- Of those users who **don't use open source** software 58% have no cloud computing strategy
- Among cloud computing users **59% will use compute clouds**, 51% will use cloud storage and 47% will be using Platform-as-a-Service (PaaS) offerings
- Of all participants surveyed the **prevalent use for cloud computing was to host websites (57%)**, followed by document management (39%)
- The **top factor influencing the use of cloud computing is scalability (61%)**, followed by *overall cost savings (54%) and easier management (53%)*
- Among public companies **faster deployment of infrastructure was the most popular benefit(72%)** of cloud computing
- **Hardware savings was the number one reason cited for adopting cloud computing (68%)**, *faster deployment of infrastructure (66%) and to reduce systems management burden (57%)* were also top reasons for cloud adoption.
- The number one overall reason inhibiting cloud computing adoption is **lack of cloud computing training (43%)**, followed by *security concerns (36%)*.
- Of the surveyed **Chief Technical Officers, scalability (71%) was the most popular reason for adopting cloud computing** followed by *elasticity (61%), or the need to adjust to fluctuations in resource demands (61%)*
- **43% of users prefer VMware for server virtualization** while 13% indicated a preference for Xen Cloud Platform (XCP) or Xenserver
- *53% of organizations surveyed indicated a gap between their current tools and the systems management tools they need to manage their cloud computing environments.*
- **The biggest management challenge for cloud computing users was security (36%)** followed by *monitoring (30%)*
- **Regulatory compliance** was an inhibitor for 20% of potential cloud computing users

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# Introduction

Cloud computing is one of the most discussed IT trends of this decade, and rightly so. The potential for improved efficiency, reliability and overall impact to business productivity is significant. As the ecosystem around cloud computing develops, it is important to understand what factors influence cloud computing adoption, so that the members of that ecosystem can adapt to the needs of cloud computing users.

The 2011 Cloud Computing Outlook survey was designed to collect information on the use of virtualization and the cloud computing technologies among enterprise users to help inform the evolution of cloud computing technologies and services. The survey was conducted by BitNami, Cloud.com and Zenoss (hereon known as ‘the sponsors’).

The goals of the survey were to ask questions with regards to:

- Virtualization technology usage
- On-premise and hosted deployment usage
- Establish and define trends in cloud computing
- Motivations for using virtualization and cloud computing
- Identify barriers for the adoption of cloud computing

## Methodology

The sponsors provide content free to their respective community, including software, documentation, newsletters, forums and videos. Users within the community were asked to volunteer their preferences with regards to their use of virtualization and cloud computing technologies. This information helps the sponsors to prioritize features for the benefit of their respective communities.

This survey was conducted during the second quarter of 2011 and users were asked to volunteer information about their virtual infrastructure and cloud computing usage patterns.

The survey was conducted using SurveyMonkey ([www.surveymonkey.com](http://www.surveymonkey.com)), a survey tool that gathers data over the internet.

## Sample

The survey sample includes 521 members of the sponsors’ communities who are users of enterprise IT software. Open participation was solicited from the sponsors’ user communities via blogs, social media venues and newsletters. To incent participation, each sponsor supplied an iPad 2 that was randomly awarded to three of the survey participants.

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## Survey Sponsors

The following organizations sponsored the 2011 Cloud Computing Outlook Survey by promoting participation in their user bases as well as supplying prizes as part of a random drawing among participants.

### About BitNami

BitNami simplifies the process of deploying web applications natively, virtually and in the cloud for hundreds of thousands of users around the world. BitNami Cloud Hosting provides one-click deployment and management for a growing library of the most popular open source applications on the cloud. With BitNami Cloud Hosting, solution providers and businesses of all sizes can deploy and manage business applications such as Jasperserver, SugarCRM, Alfresco, Drupal and many more on Amazon EC2, with support for other public and private clouds coming soon. For more information visit: <http://www.bitnami.org/cloud>.

### About Cloud.com

Open source software provider Cloud.com simplifies and accelerates the deployment, management and configuration of multi-tier and multi-tenant private and public cloud services. Cloud.com's CloudStack software is being used to provide infrastructure-as-a-service in production environments at leading enterprises and service providers, providing them with exceptional stability and is unrivaled in both feature breadth and scalability. Founded in 2008 by leaders in open source, virtualization and infrastructure development, Cloud.com is backed by leading Silicon Valley venture capital firms. For more information, go to: [www.cloud.com](http://www.cloud.com).

### About Zenoss

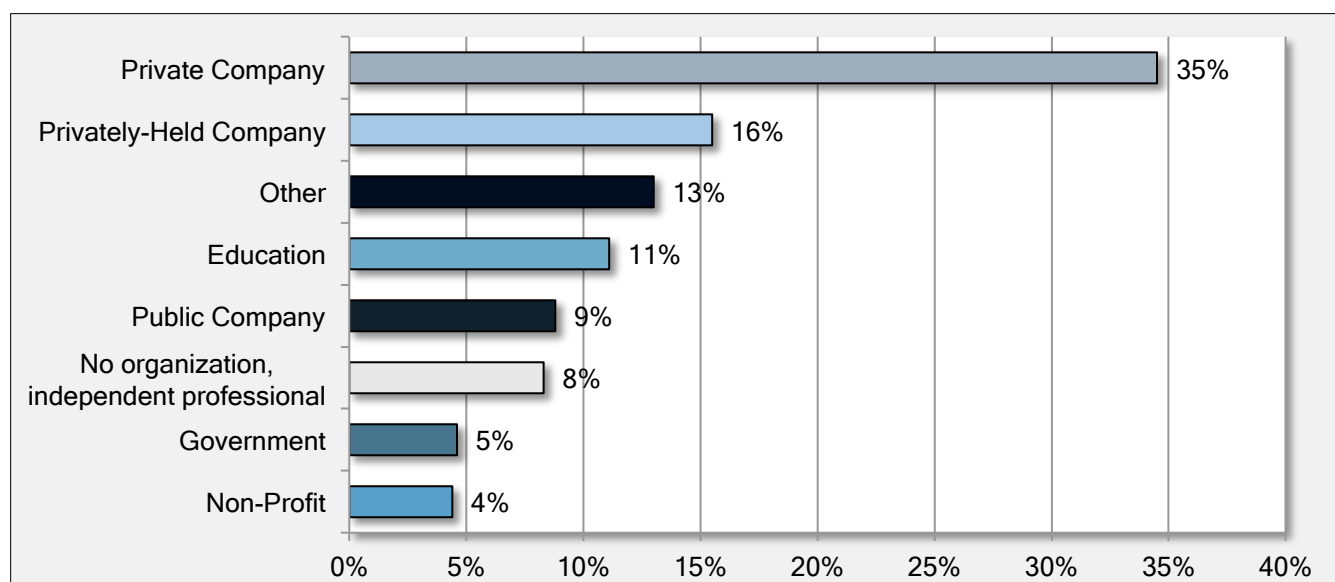
Zenoss is the leading provider of Dynamic Service Assurance to the next generation datacenter. Zenoss Enterprise is a purpose-built Dynamic Service Assurance product that assures IT service delivery to applications, business services and real-time physical, virtual and cloud-based infrastructures. With a community of over 85,000 users, Zenoss products monitor over one million network and server devices daily and have been used in over 25,000 organizations in 180 countries around the world. Commercial customers include leading companies such as Rackspace, VMware, LinkedIn, Carlson, Motorola and Deutsche Bank. To learn more about Zenoss' award-winning IT operations management software, visit: <http://www.zenoss.com>.

The following information indicates technology and service usage patterns of IT organizations with regards to virtual infrastructure both within their data centers and hosted in the cloud.

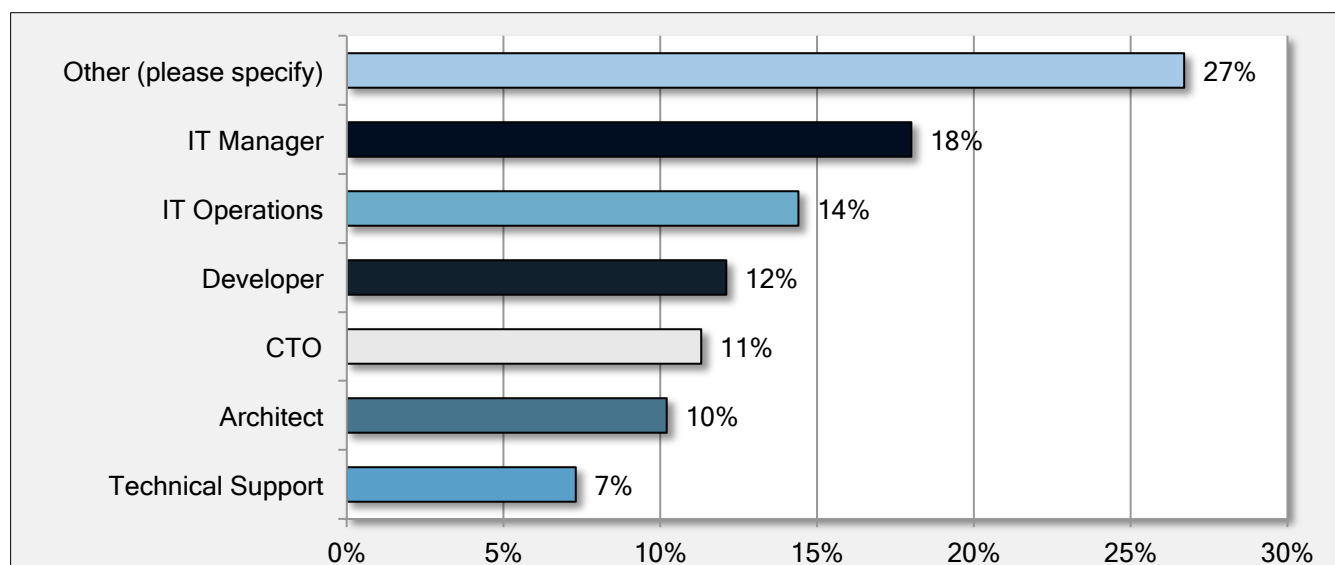
## I. Participant Background

The following questions were used to establish the background of survey participants and their organizations.

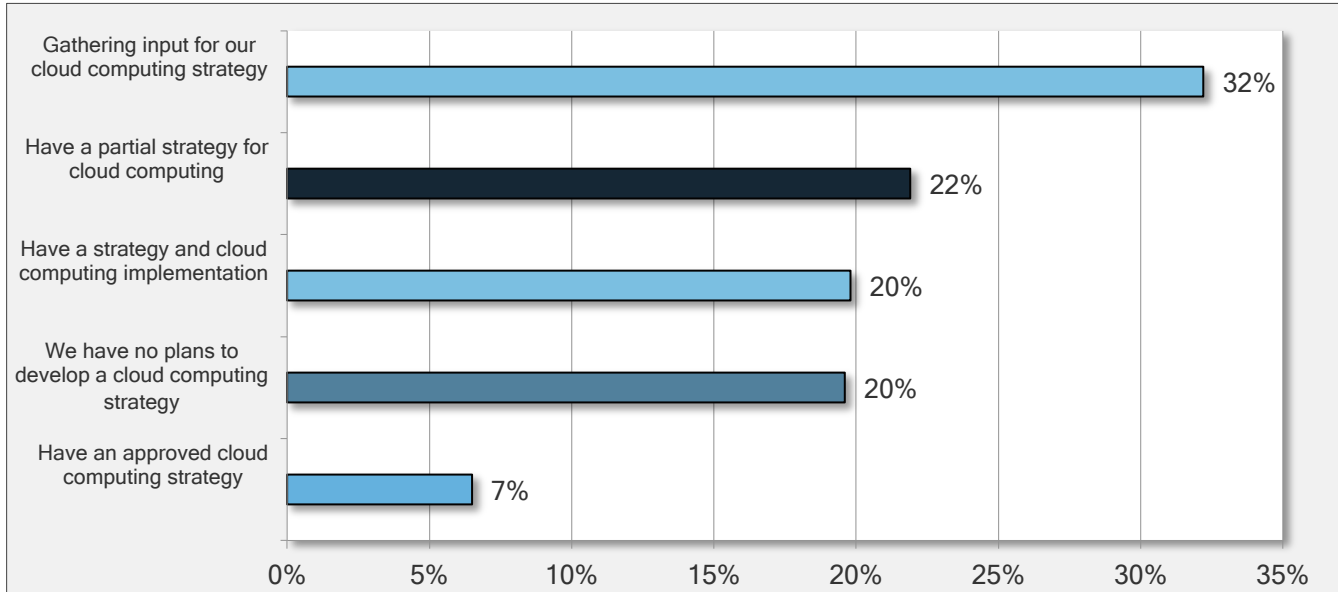
*Figure 1.1 – Results derived from the request, “What type of industry does your organization belong to?”*



*Figure 1.2 Results derived from the request, “What is your role in the organization?”*



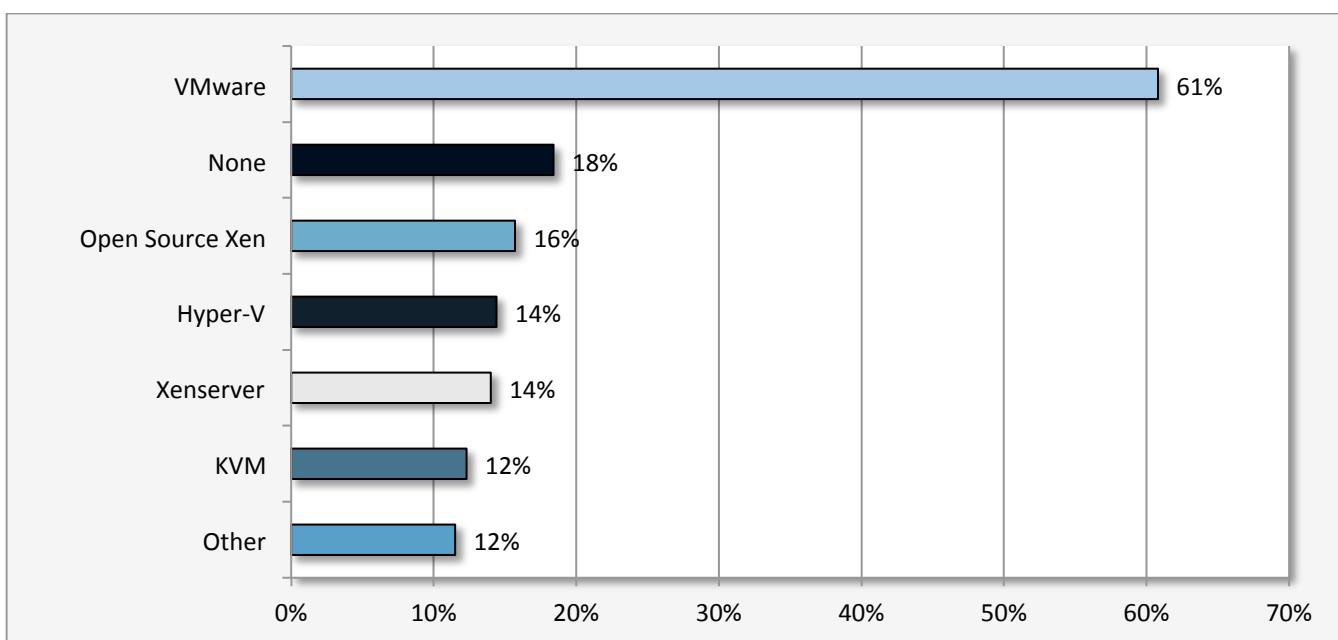
*Figure 1.3 Results derived from the request, “At what stage are your plans for cloud computing in 2011?”*



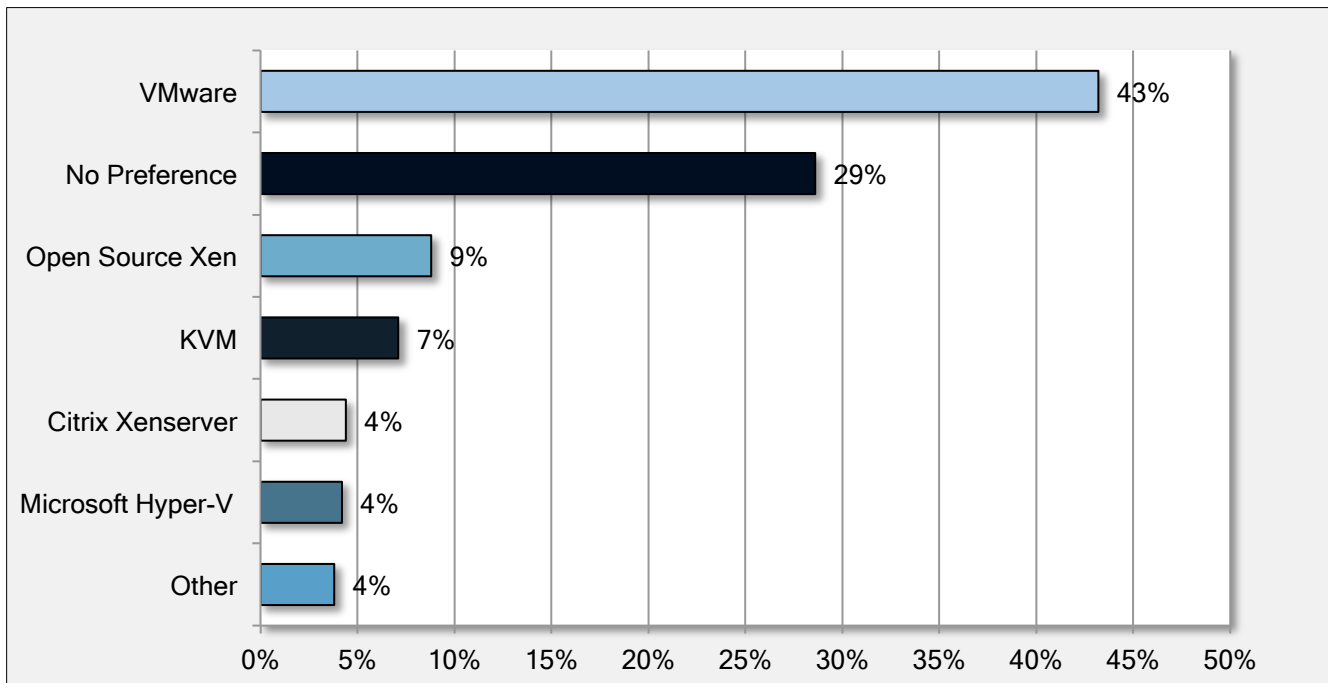
## II. IT Infrastructure Background

The following series of questions were used to establish participant's stance on preference for technologies (virtualization and operating systems) as well as deployment models.

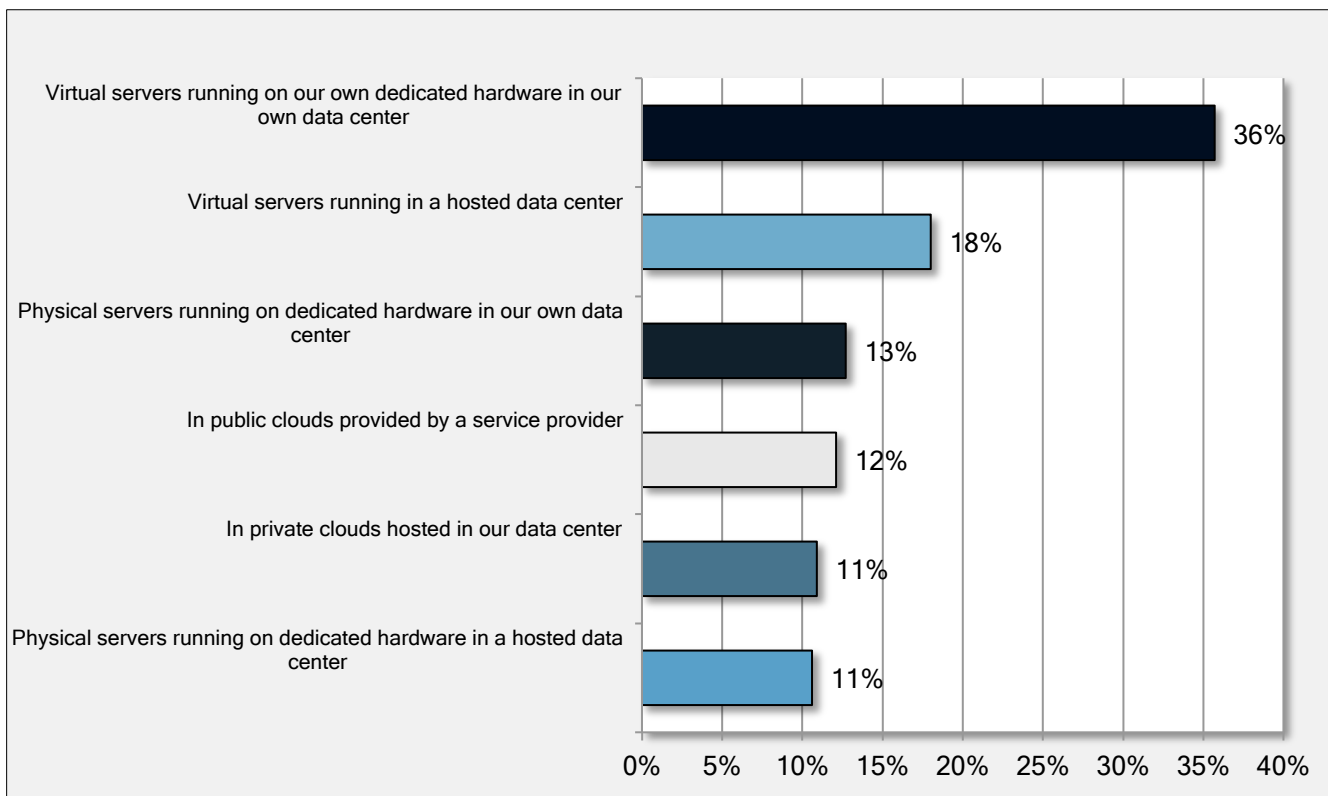
*Figure 2.1 Results derived from the request, “Which hypervisors does your organization use for server virtualization?”*



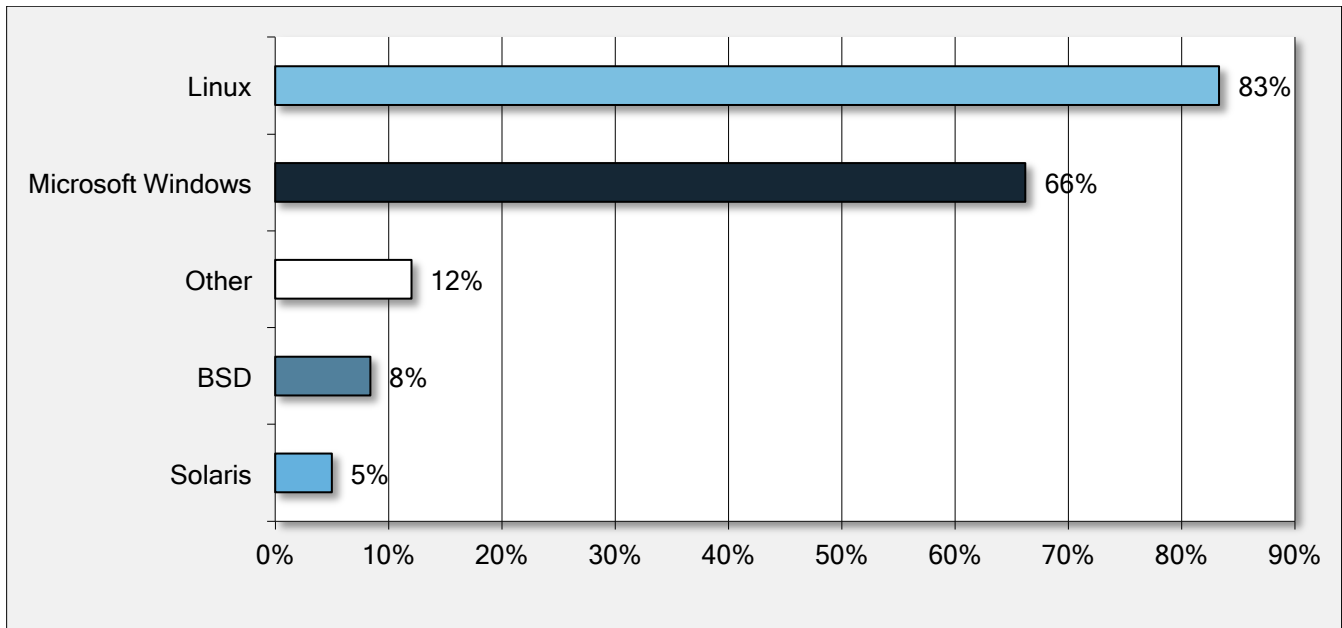
*Figure 2.2 Results derived from the request, “Do you have a preference in what hypervisor you use to virtualize servers?”*



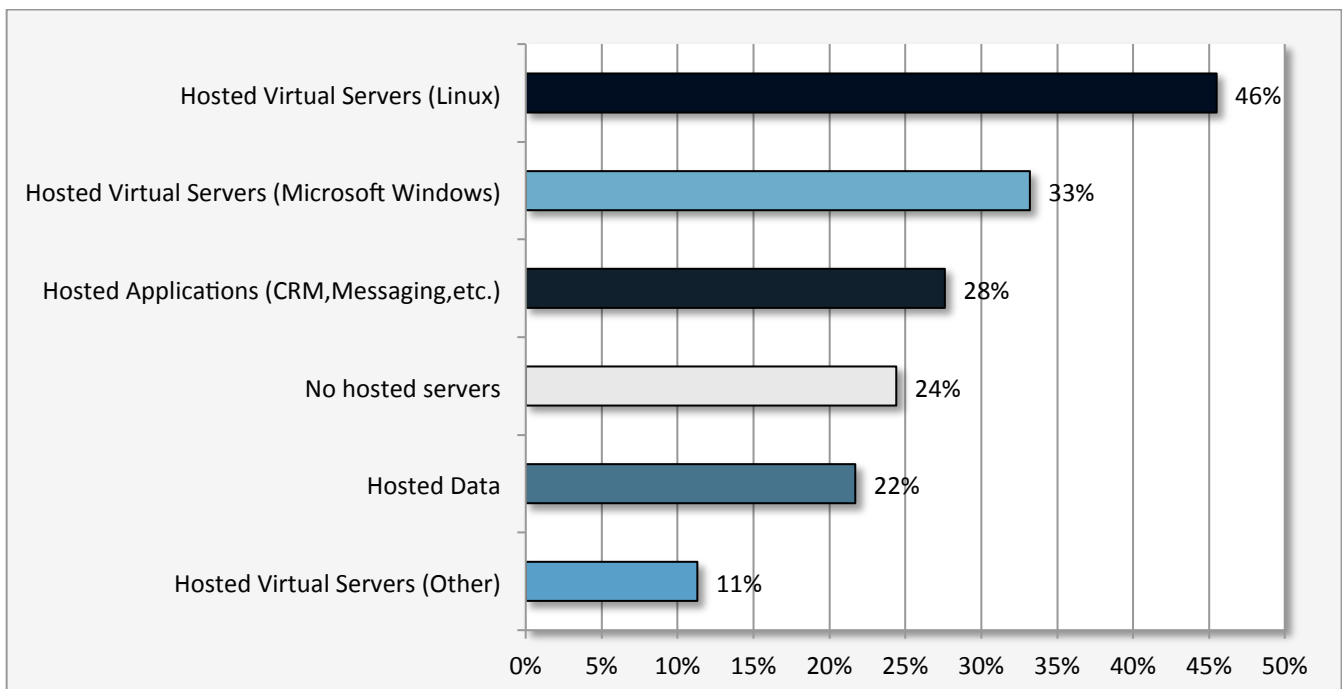
*Figure 2.3 Results derived from the request, “Do you have a preference in the way you deploy servers?”*



*Figure 2.4 Results derived from the request, “What guest operating systems do you intend to run in a cloud computing environment?”*

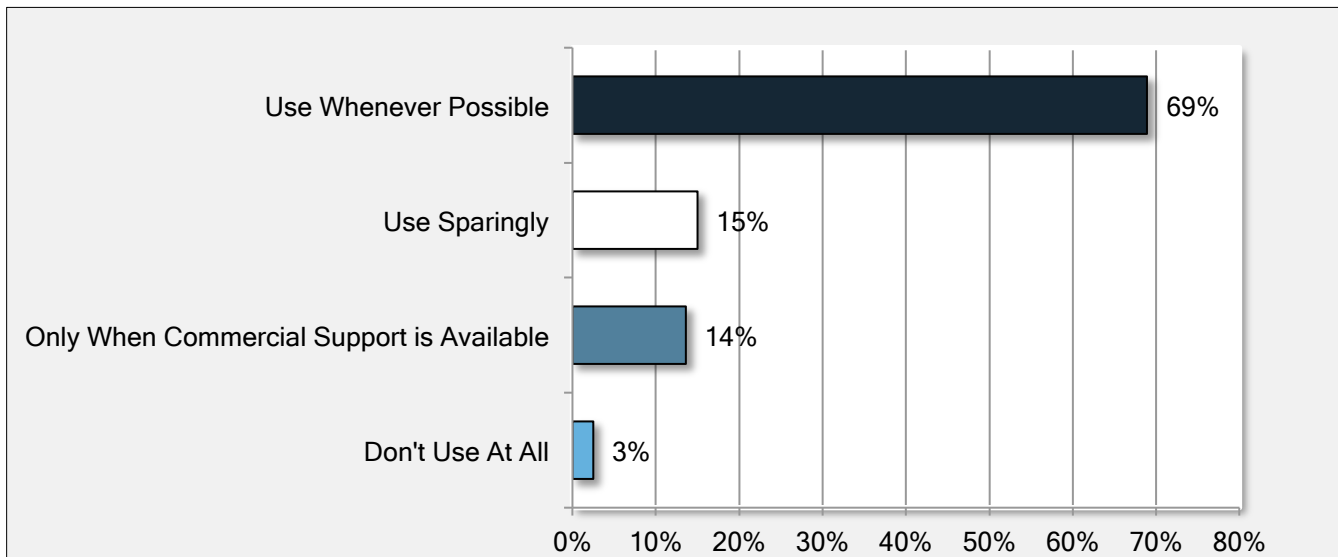


*Figure 2.5 Results derived from the request, “What are your non-cloud computing server hosting plans for 2011?”*





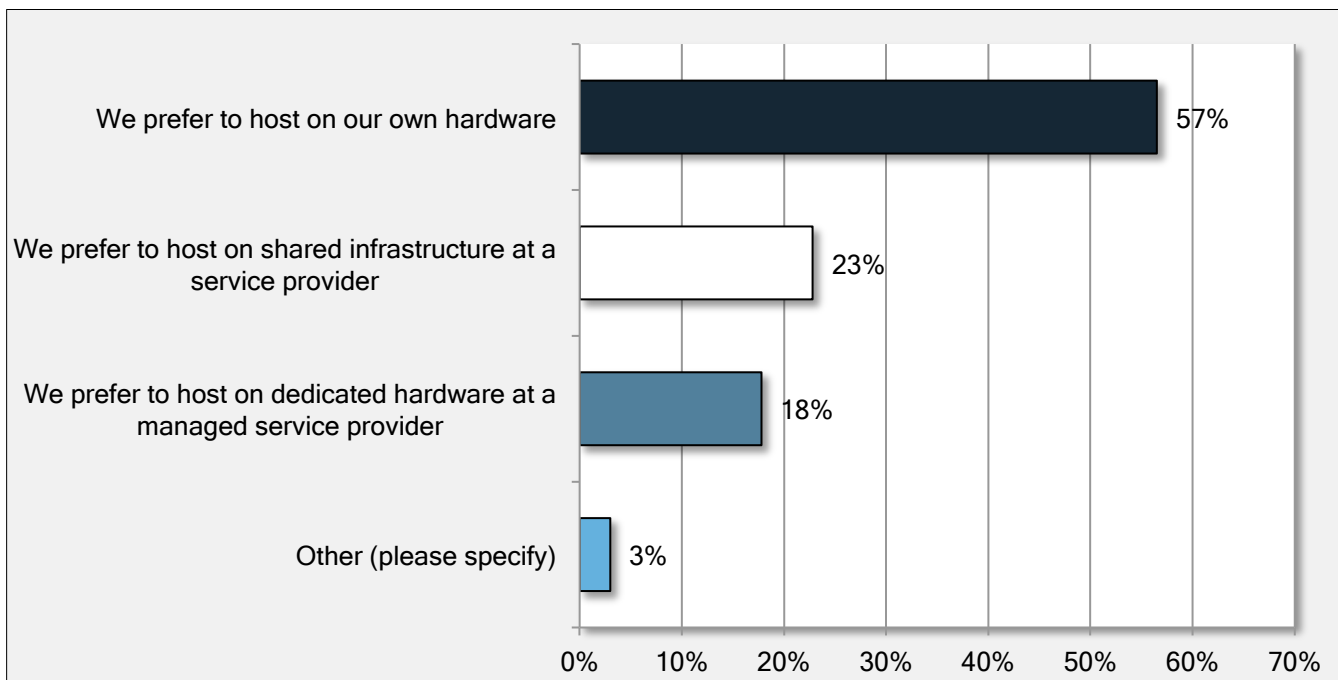
*Figure 2.6 Results derived from the request, “What is your organization's stance on using open source software?”*



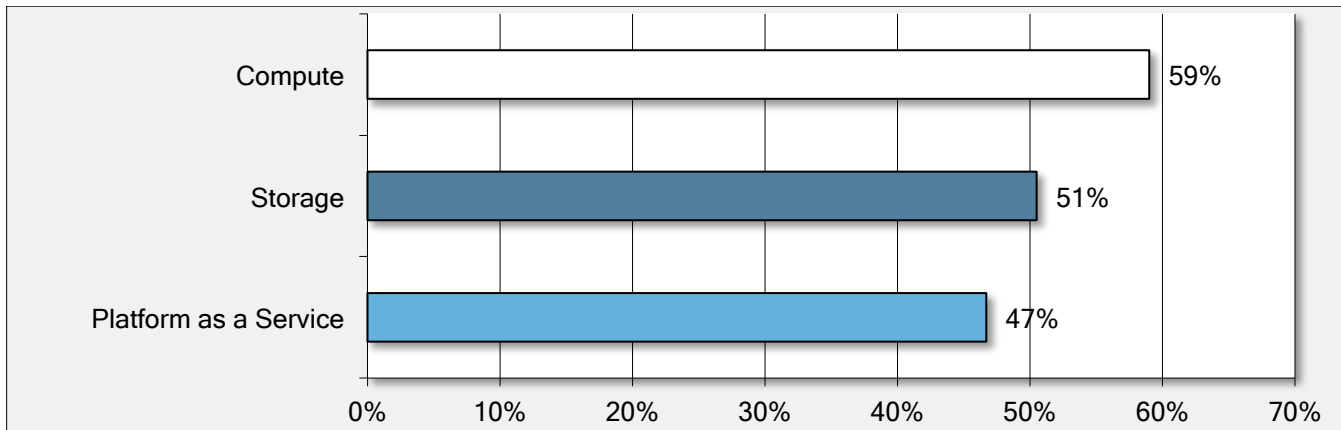
### III. Cloud Computing Preferences

The following section deals with cloud computing preferences in 2011.

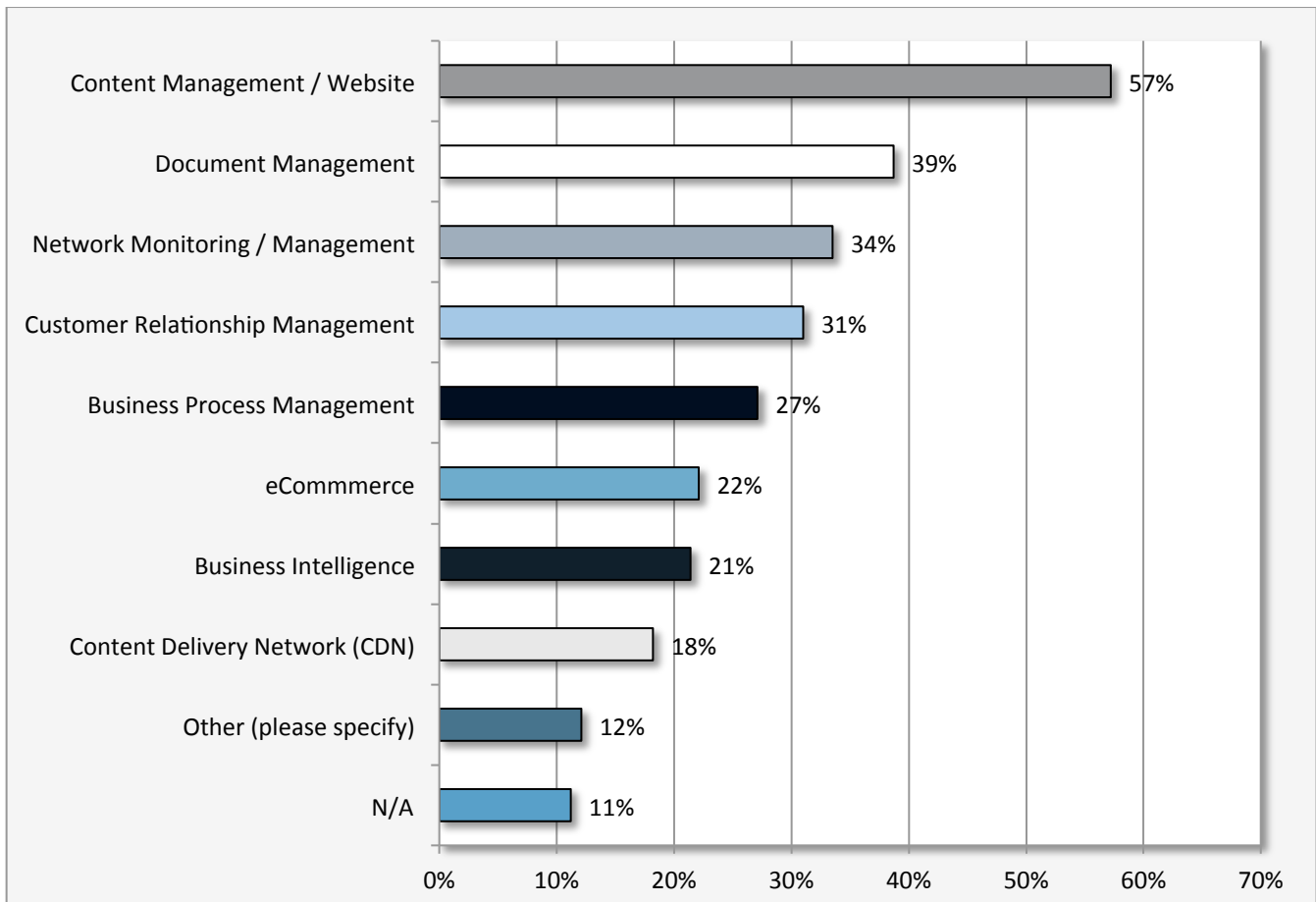
*Figure 3.1 Results derived from the request, “Do you have a preference as to where you host your infrastructure?”*



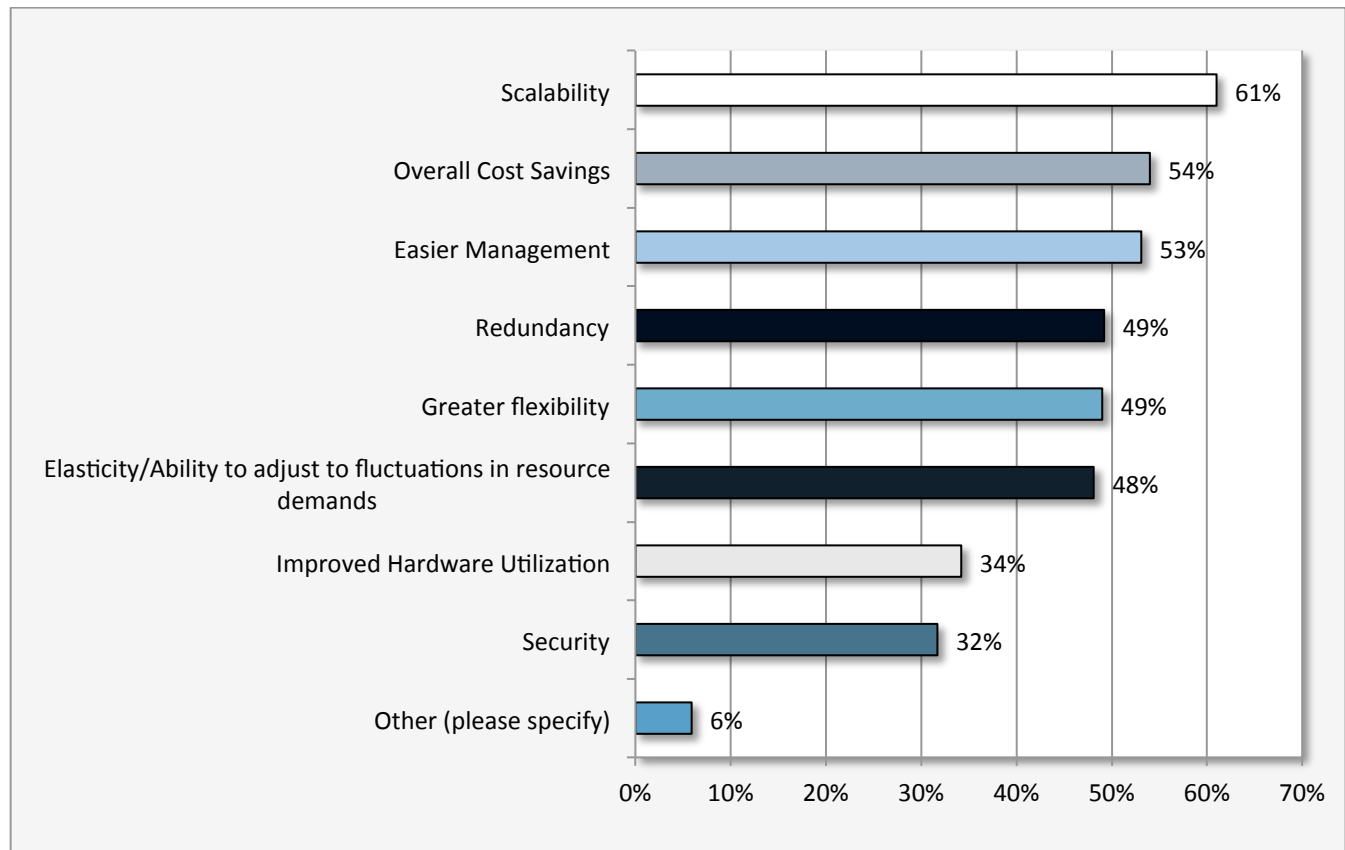
*Figure 3.2 Results derived from the request, “What kind of cloud computing environments do you plan to use in 2011? (Either in a public or a private environment)”*



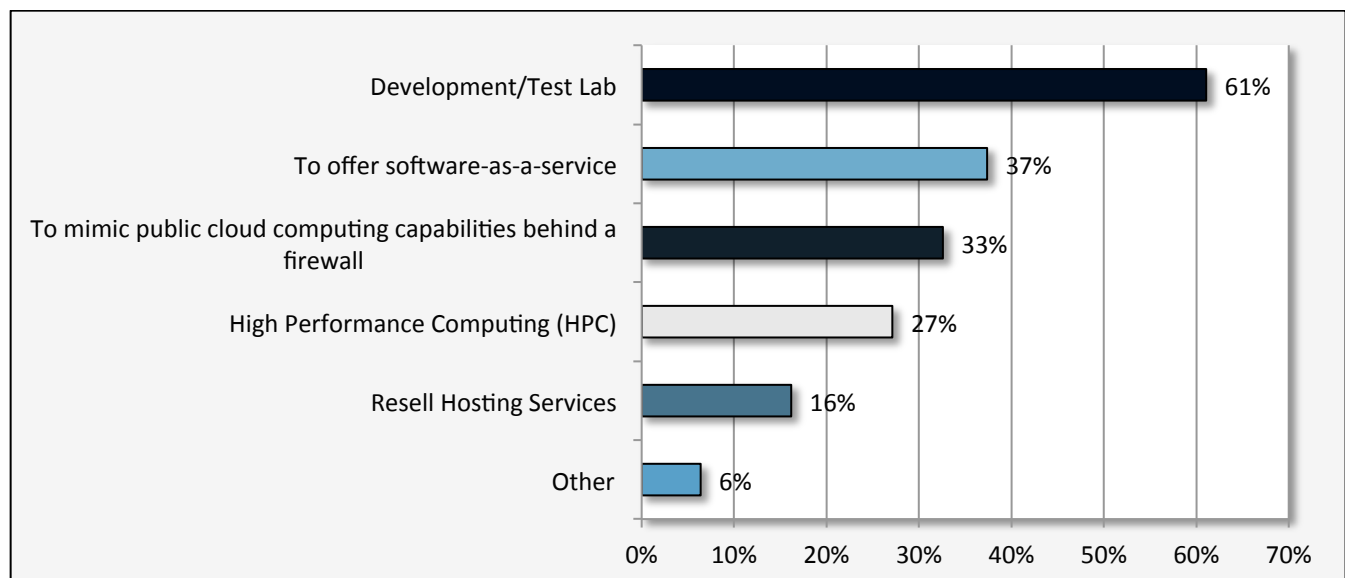
*Figure 3.3 Results derived from the request, “Which types of applications do you run or plan on running on public or private cloud infrastructure?”*



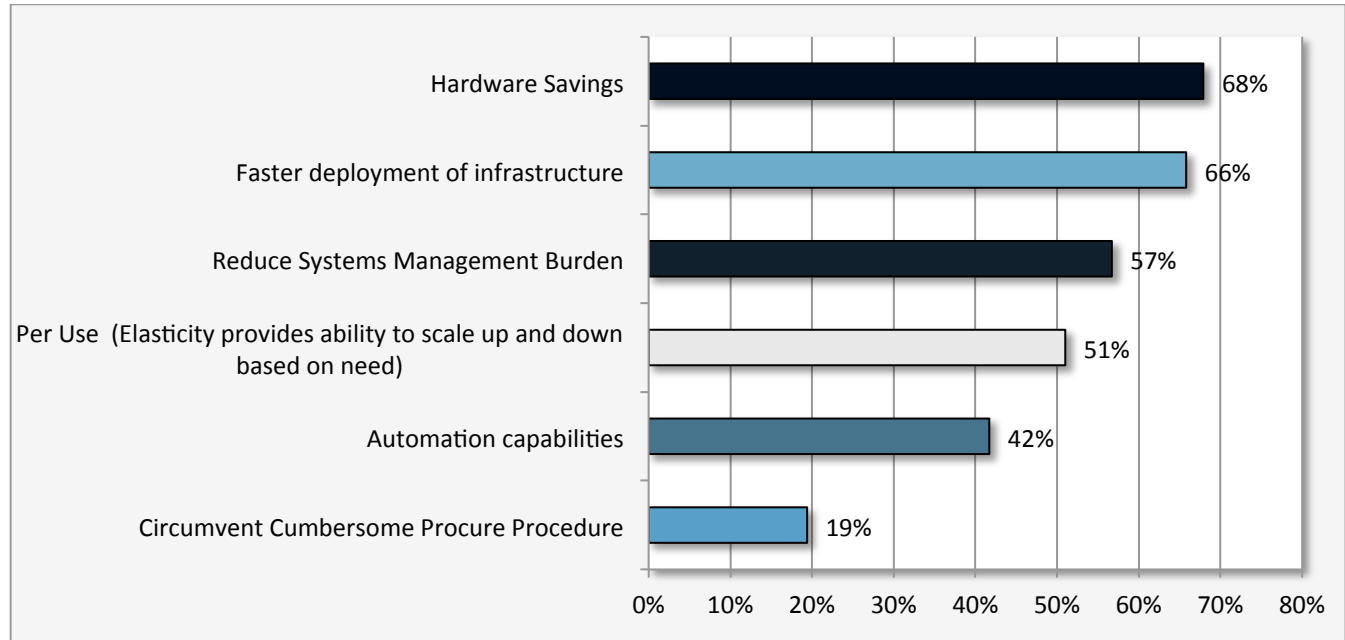
**Figure 3.4 Results derived from the request, “What factors are influencing your choice to use cloud computing?”**



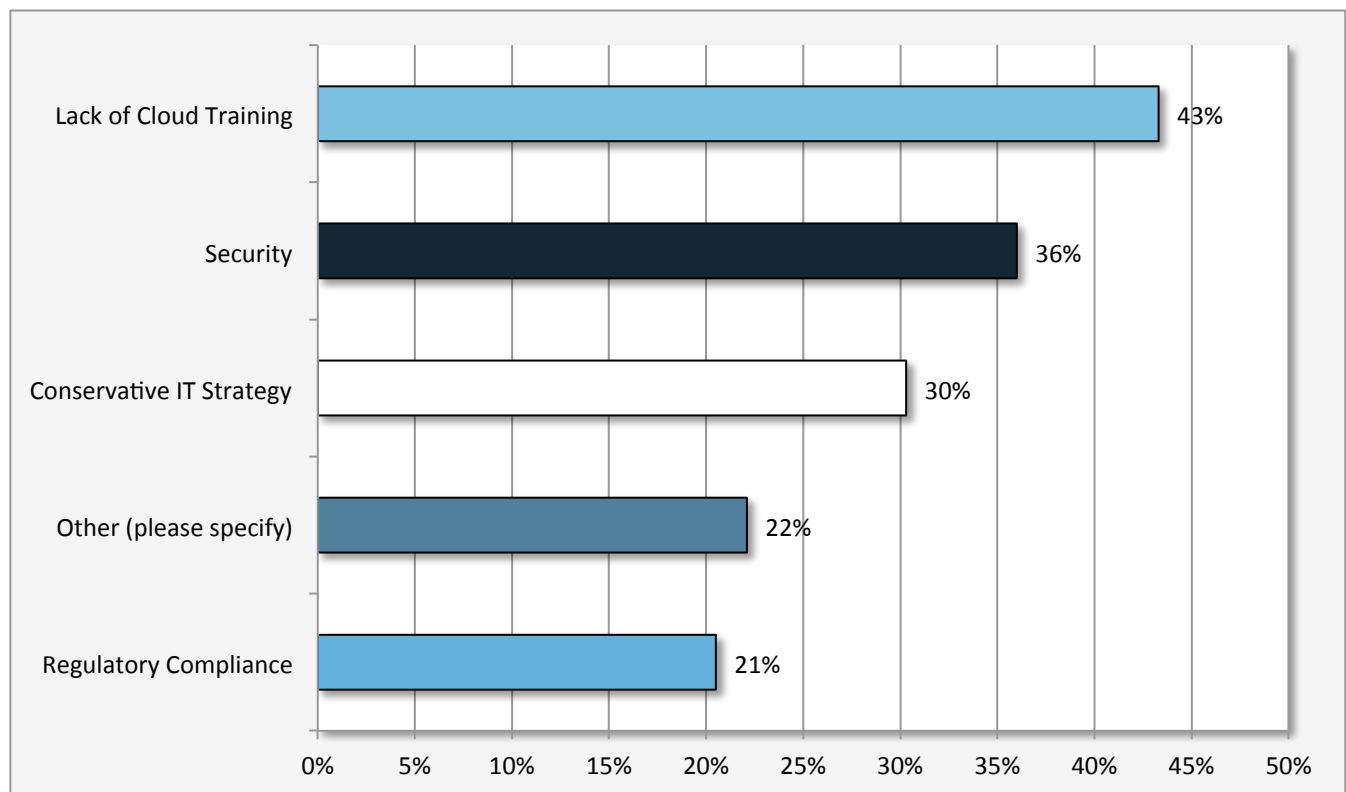
**Figure 3.5 Results derived from the request, “How do you plan to use your private cloud? (Choose all that apply)”**



**Figure 3.6 Results derived from the request, “What benefits do you believe cloud computing provides to your organization?”**

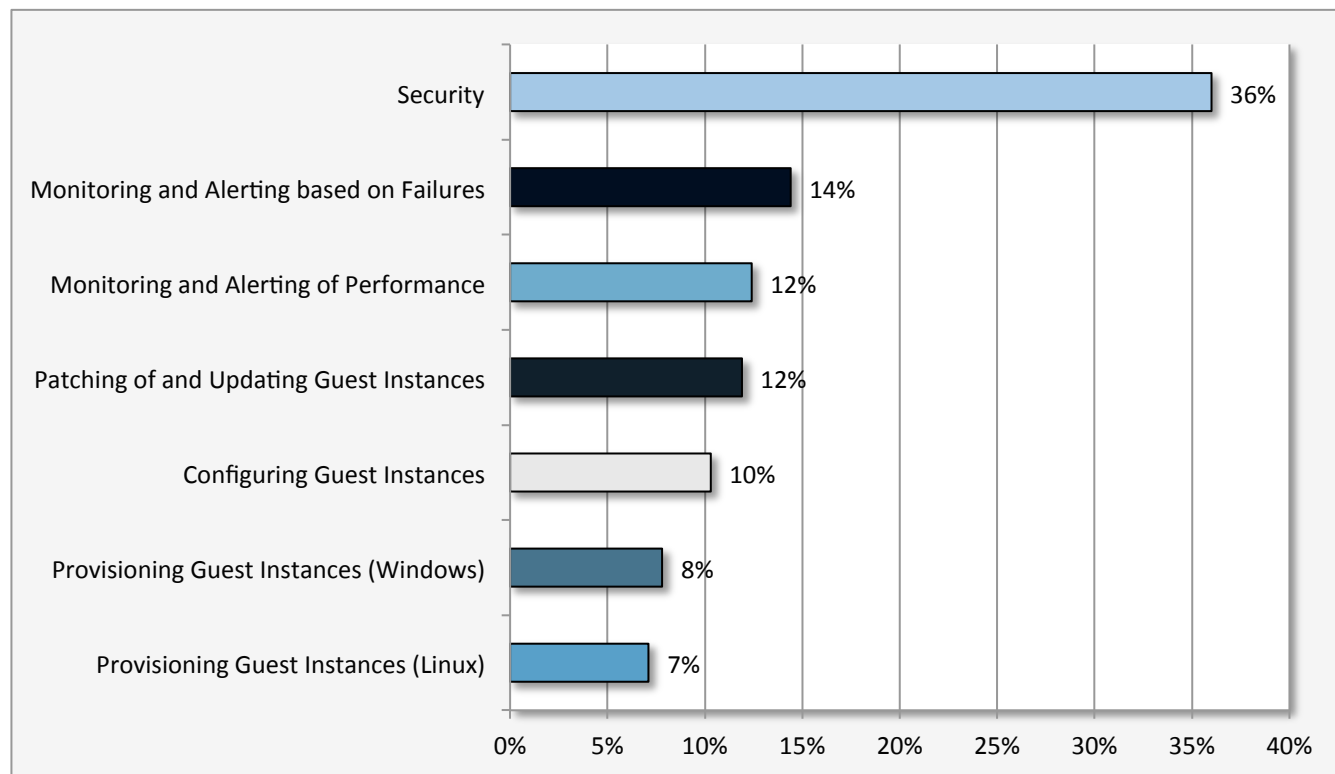


**Figure 3.7 Results derived from the request, “Are there any factors inhibiting your adoption of cloud computing?”**



## IV. Cloud Computing Management

*Figure 4.1 Results derived from the request, “What is your biggest challenge with regards to managing your cloud computing environment?”*



*Figure 4.2 Results derived from the request, “Do your existing systems management tools translate well for managing cloud computing environment?”*

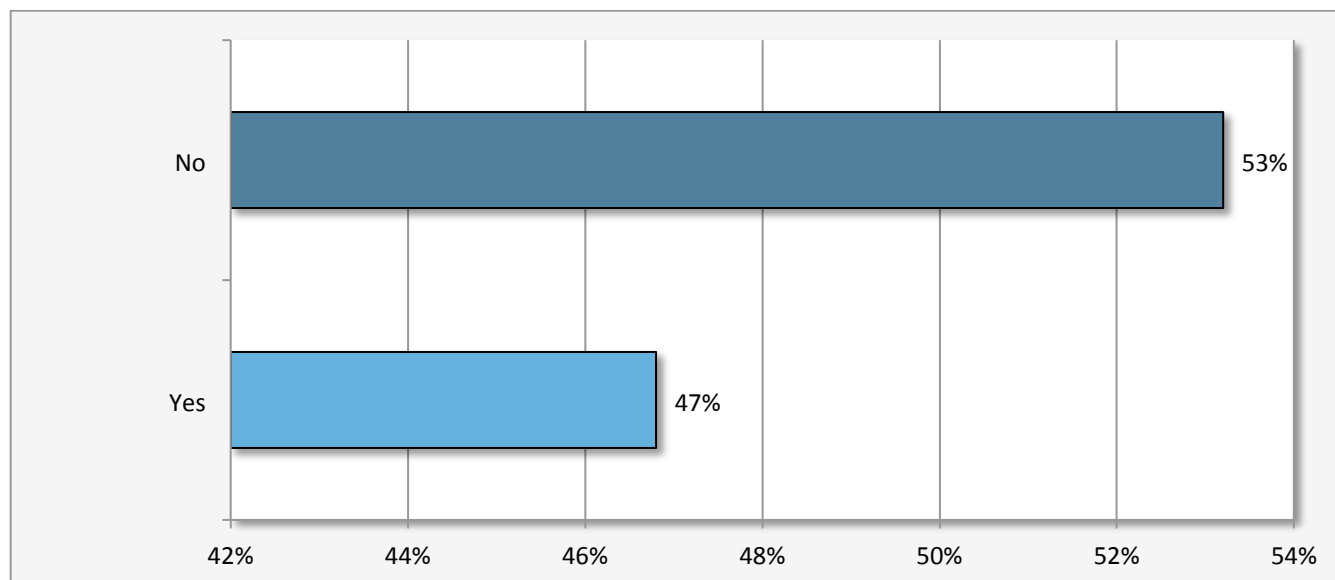
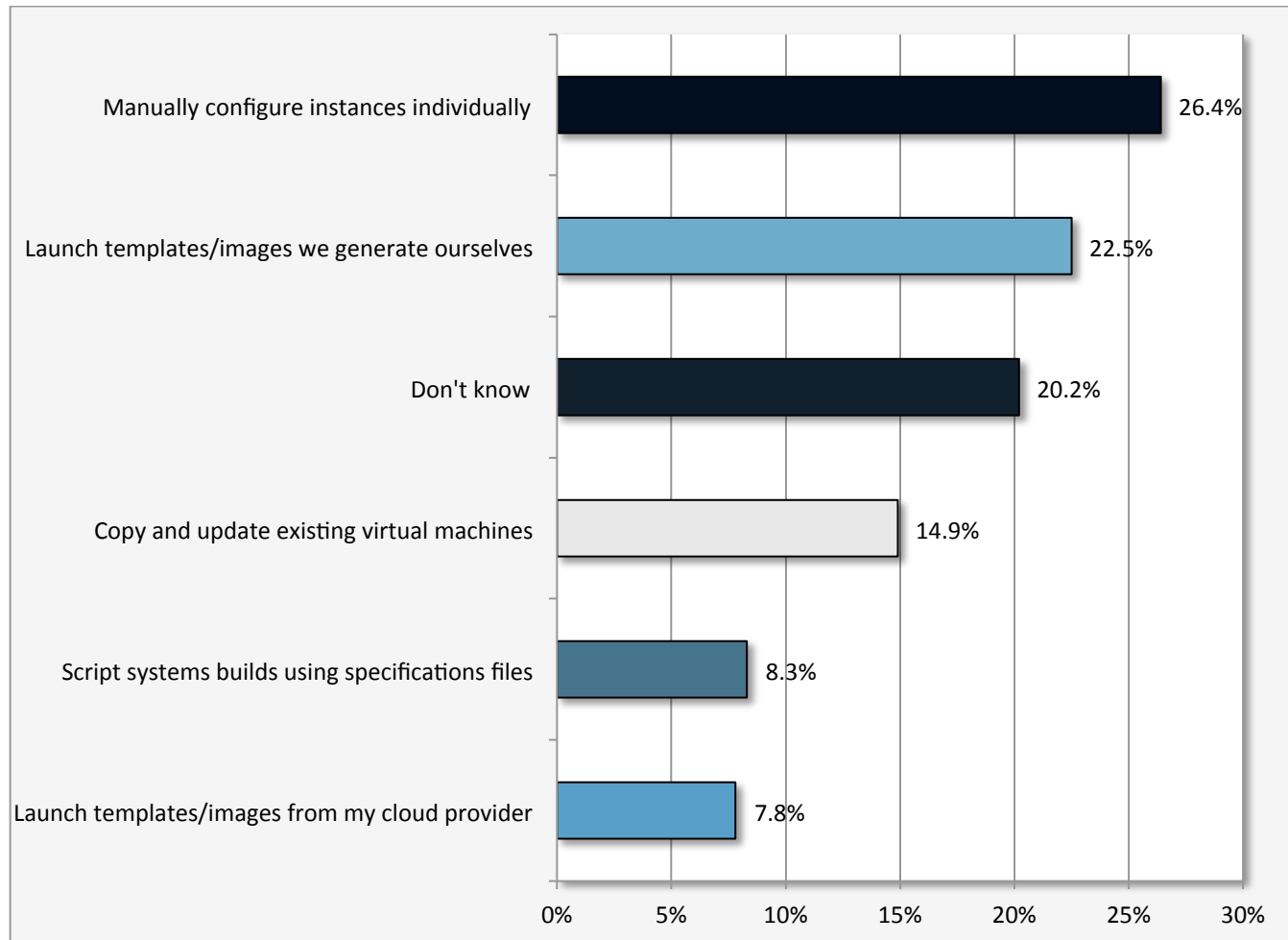


Figure 4.3 Results derived from the request, “How do you provision virtual instances today?”



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