



Cloud Computing:

Making the Right Choice
for Your Organization

A decade ago,

cloud computing was on the leading edge. Now, 95 percent of businesses use cloud technology, and Gartner says that by 2020, “a corporate ‘no-cloud’ policy will be as rare as a ‘no-internet’ policy is today.”^{1,2} Several factors are driving this remarkably rapid adoption of cloud computing, including a continuous evolution in data center technologies, the often-profound economic benefits of the cloud’s pay-as-you-go utility model, and ever-increasing customer demands for anytime, anywhere mobile connectivity.



Step inside a typical modern business and you will see cloud computing solutions being used in a wide variety of ways to meet the demands of today’s on-demand, highly interconnected digital world. Cloud-native initiatives like DevOps and “as a service” solutions such as software as a service (SaaS) provide the agility and rapid scalability businesses need. Cloud computing also supports everyday business functions like e-commerce and makes many of today’s massive big data and Internet of Things (IoT) projects possible.

Clearly, cloud computing is here to stay. In fact, Gartner says that more than half of global enterprises that already use cloud today will adopt an all-in, or cloud-first, strategy by 2021.³

But knowing that cloud is the present and the future still leaves many businesses with unanswered questions about which type of cloud solution—public, private, hybrid, or some combination—will best meet their needs, both today and in the years ahead.

In this article, we briefly explore each cloud solution type and provide insight into SUSE cloud solutions that can help organizations move more intelligently and efficiently along their cloud journey.



Public Cloud

Public clouds are shared cloud environments operated and managed by cloud service providers, such as Amazon Web Services, Microsoft Azure, the Google Cloud Platform, and numerous Tier 2 cloud service providers.

Gartner predicted that the public cloud services market would increase more than 17 percent in 2016, led by a nearly 43 percent increase in demand for infrastructure as a service (IaaS) solutions.⁴ The continuing growth in public cloud adoption is being driven by the need to modernize IT, to accelerate innovation, and to reduce time to market. By replacing high upfront capital expenses with pay-as-you-go operational expenses, public cloud solutions can reduce costs up to 14 percent compared to non-cloud solutions.⁵ Plus, the public cloud is a great equalizer, giving organizations of all sizes greater business agility, whether they want to deploy SaaS solutions or run machine learning workloads.

When selecting a public cloud provider, it is important to understand the cost structure and pricing options available. These often allow for balancing on-demand pricing with prepaid capacity tailored to specific needs. You will also want to weigh the benefits and risks involved in outsourcing management, security, and compliance for the solutions, and make sure you can run your workloads where, when, and how you want to achieve your desired business outcomes. The need for speed and flexibility is why SUSE has made migrating and standing up new workloads in the public cloud as simple and efficient as deploying them in your own data center.

Running SUSE solutions as on-demand instances with global public cloud providers like AWS, Azure, or Google gives organizations combined benefits. The large providers offer massive capacity, global scale, and the latest innovative features. SUSE Linux Enterprise Server is a proven and versatile platform with a variety of unique features that enhance the provisioning and development experience on public cloud. A robust update infrastructure and enterprise-grade support offerings make it easy for organizations to enjoy on-demand, easily manageable cloud services.

Private Cloud

Private clouds are another popular option for organizations that want their own cloud solution within their own firewall, usually on-premises.



Private clouds provide many of the same benefits as public clouds in terms of accelerating innovation and reducing time to market. In addition, private clouds provide an attractive option when an organization prefers to host its production workloads within its own environment, often due to security, compliance, and data sovereignty concerns. Many organizations also turn to the private cloud to maximize legacy investments in their own data centers, which they can transform to a private cloud environment instead of moving all workloads to the public cloud.

According to the 2016 State of the Cloud Survey by RightScale, private cloud adoption increased from 63 percent to 77 percent from 2015 to 2016, compared to 89 percent adoption of public cloud solutions.⁶ Private cloud growth appears to be especially strong among larger enterprise customers; in fact, 31 percent of enterprises now run more than 1,000 virtual machines in a private cloud environment, up from 22 percent in 2015.⁷

There are two distinct options for the private cloud: proprietary and open source. Proprietary offerings from Microsoft, VMware, and other companies are tempting, especially for organizations that already rely on infrastructure solutions from those companies. However, open source cloud solutions are gaining traction because of their greater flexibility and lower costs.

One critical benefit of open source solutions is that they allow organizations to avoid vendor lock-in. Instead of being forced to purchase equipment and add-ons from a single vendor, open source solutions give organizations the freedom to choose the best available solution at the most affordable price. That flexibility may become especially valuable as cloud technologies continue to evolve and new players emerge that offer innovative solutions to meet evolving business demands.

One of the early concerns with open source solutions was that they were not enterprise-grade, but OpenStack has emerged as the open source cloud platform of choice for organizations of all sizes. Backed by the broadest industry support and most vibrant open source community support, OpenStack makes it possible to create a secure, stable, and highly interoperable private cloud while avoiding the high costs and vendor lock-in of proprietary solutions.

SUSE was the first to release an enterprise-grade OpenStack cloud distribution, and today SUSE OpenStack Cloud 7 provides a feature-rich private cloud with the widest interoperability and hardware certification on the market, as well as the most comprehensive workload support. The production-ready OpenStack platform is built for bare metal, virtualized, or cloud-native applications, as well as hosting or migrating traditional workloads.



Hybrid Cloud

The term “hybrid cloud” is often used to describe the common scenario of an organization using a private cloud to run some workloads and a public cloud for others. However, that practice is more accurately termed “multi-cloud.”

A true hybrid cloud provides common access to mixed cloud resources, ideally controlled through a single management environment. Organizations with hybrid cloud environments can use different or multiple clouds as needed, moving a given workload from one cloud to another. Potentially, organizations could even combine their private and public clouds, thereby taking advantage of the best aspects of each to achieve optimal performance and efficiency.

One of the main benefits of the true hybrid cloud is that it would provide more powerful cloud bursting capabilities, meaning that organizations could immediately expand or shrink cloud usage to meet workload demands. In addition, workloads could be moved dynamically between private and public clouds as needs and requirements change, possibly by using a centralized cloud management layer.

The potential benefits of true hybrid clouds are leading many organizations to prepare now with investments that make the eventual move to the hybrid cloud possible. SUSE is working on a combination of solutions that will lead to hybrid, including delivering containers as a service (CaaS), platform as a service (PaaS), and cloud management solutions. In addition, SUSE solutions will support the APIs needed for future hybrid cloud environments.

Which Cloud Is Right for Your Organization?

Once you understand the various types of cloud solutions available and the general features and benefits of each, it is time to decide which is right for your organization.

As you review this list of factors to consider, note that the priority given to each item depends on your specific organizational needs and requirements. When it comes to cloud computing, there is no one-size-fits-all solution.

Factors to Consider



Security, compliance, and data sovereignty requirements:

Generally speaking, the greater these requirements, the more likely you should choose a private cloud solution.



Business model and strategy:

Whichever cloud solutions you select, make sure they fit in as part of your overarching business model and strategy.



Existing IT environment and migration strategy:

Carefully evaluate your current IT infrastructure for opportunities to consolidate and move to public cloud or reinvigorate your assets as a private cloud.



Business tolerance:

Moving to the cloud is not without its risks, and it requires an organization-wide commitment. If that doesn't exist, proceed cautiously.



In-house technical expertise and skills:

A suitable team will be needed to deploy, develop, and manage the platform, whether you choose a private or public cloud solution. It's important to evaluate your existing resources, identify the gaps, and invest in recruiting or training appropriate personnel. Working with a trusted technology partner can help ease the burden when needed.



Project timescales:

If resources are needed immediately, the public cloud is likely the ideal choice. A private cloud is often a good choice for running production workloads initially developed in the public cloud.



Budgets and costs:

Be sure to investigate the full extent of potential private and public cloud costs—including licensing fees, pricing models, and support costs—over the immediate and long-term. Having a carefully prepared business case will help define and prove ROI and savings.



Types of workloads:

Consider the types and performance requirements of workloads you will be moving to the cloud, such as legacy, mission-critical, or cloud-native. If any have stringent service-level agreements, make sure your cloud solution will enable you to meet them.

References

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- ³ Gartner, "Cloud Computing Enters its Second Decade," Jan. 30, 2017. www.gartner.com/smarterwithgartner/cloud-computing-enters-its-second-decade
- ⁴ "Gartner Says Worldwide Public Cloud Services Market to Grow 17 Percent in 2016," press release, Sept. 15, 2016. www.gartner.com/newsroom/id/3443517
- ⁵ Ibid.
- ⁶ RightScale 2016 State of the Cloud Report. www.rightscale.com/lp/state-of-the-cloud
- ⁷ Ibid.



Get Started

Contact SUSE to discuss your infrastructure requirements and how we can help your organization on its journey to the cloud.

1-800-796-3700 (U.S. and Canada) or
1-801-861-4500 (worldwide).

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