



Cloud Computing Models and Types

“Certified IT Help Desk Support for end-users 24x7”

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Introduction

Over the past decade, cloud computing has become one of the hottest topics in the IT industry. It is undeniable that businesses can reap huge rewards from cloud computing. Many organizations choose to migrate to cloud computing to cut costs, improve performance and achieve scalability. The hype surrounding cloud computing may make it seem like a no-brainer move for any organization. Unfortunately, cloud computing remains a bit of a mystery. How do I use it? Is it a good fit for my organization's needs? What does a migration look like? Before answering these very important questions, an IT leader must first know what a cloud is. This white paper introduces cloud computing models and types, and seeks to jumpstart a thought experiment on the viability of cloud computing for your organization.

What is Cloud Computing?

Cloud computing, commonly referred to as “the cloud,” is a mode of on-demand computing resources supplied over the internet on a pay-for-use basis. Cloud computing models can include managed servers, internet-based applications, or both.

In its simplest terms, cloud computing is taking services like the applications an organization uses to operate its business and moving them off an organization's premise and onto shared systems. Applications are accessed via the internet instead of a company's hard drive. Cloud computing permits IT departments to operate like the internet and cut costs including those associated with server hosting and management.

Cloud Computing Models

In broad terms, there are three types of cloud computing models that vary by what aspects of the service is managed by the client organization and what is managed by the vendor. Generally, IaaS is more client-managed than PaaS which, in turn, is more client-managed than SaaS.

IaaS - Infrastructure as a Service

Organizations that can otherwise adequately host their applications in third-party data centers but prefer to outsource the care of their physical infrastructure so they can concentrate on other IT functions should select an IaaS host. IaaS is a migration model. Examples of IaaS are AWS, Azure and Google Compute Engine.

PaaS - Platform as a Service

Organizations that prefer its applications to be portable may want to simply drop its code onto a robust PaaS platform that provides a full (and invisible) infrastructure environment. PaaS is a build model. Examples of PaaS are AWS Elastic Beanstalk, Heroku and Google App Engine.

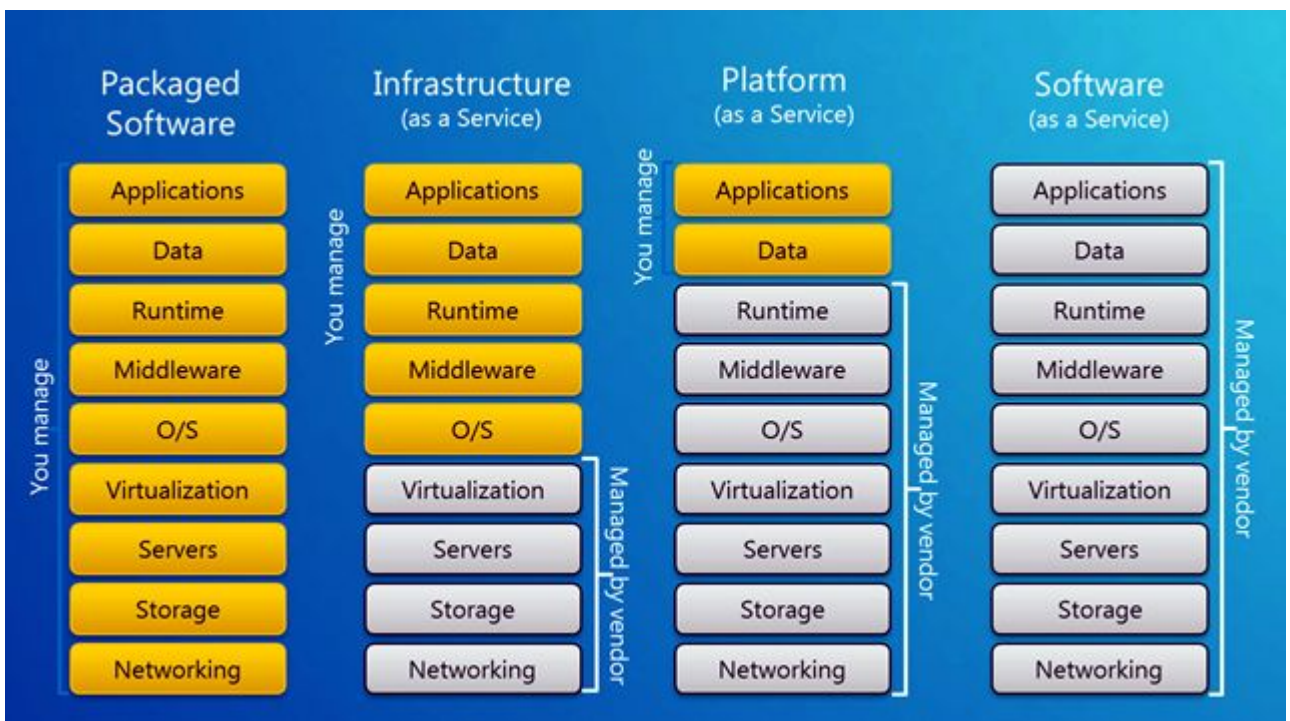
SaaS - Software as a Service

Organizations looking for a true “outsourcing” of computing capabilities may prefer SaaS as this model licenses centrally hosted productivity software on a subscription basis. SaaS is a consumption model. Examples of SaaS are Google Apps and Salesforce.

Compare & Contrast

Cloud computing can be looked at as a pyramid. IaaS is the base of the triangle where things like servers and networks are handled by the vendor, leaving operating systems and applications to be managed by the client organization. PaaS is the middle of the pyramid which builds on IaaS by allowing the vendor to manage operating systems and runtimes. SaaS is the top of the pyramid which builds upon IaaS and PaaS where the vendor manages everything including the applications and data the client organization uses and produces.

The diagram below gives a visual representation of what is managed by the client organization (“you”) and what is managed by the vendor and includes packaged software (an all in-house model) as a comparison.



Cloud Computing Types

The type of cloud must also be considered. There are three basic options.

Public

Resources are entirely hosted by a cloud provider like Amazon's AWS. Public clouds come with security issues, so they are best suited for less confidential information.

Private

Private clouds are created internally by an organization's IT department using a platform such as OpenStack or VMware's vCloud. Accessibility is an issue with private clouds, but they are secure enough to host confidential information.

Hybrid

The best of both worlds. A true combination of public and private clouds.



Private

- Single tenant implementation
- Owned and operated by IT organization
- Define your own data management policies
- Self-service and automation capabilities provide new agility



Hybrid

- Combination for Private & one or more public clouds
- Allows IT organizations to become brokers of services



Public

- Multi-tenant implementation
- Owned and operated by Service Provider
- Bound by multi-tenant data management policies
- Similar self-service and automation capabilities as Private Cloud

Conclusion

There are many considerations that go into deciding to migrate some or all of your IT department to the cloud. Cloud computing models and types are just 2 of these concerns, but are fundamental to an organization's migration strategy.

Regardless of the details of your strategy or your cloud vendor, team with theITSupportCenter for your migration to cloud computing. Migrations to the cloud can be challenging and lead to work disruption company-wide. Internal IT and help desk staff can be overwhelmed by the surge in support calls. theITSupportCenter's Certified Tech Advisors are experts in cloud computing and have successfully supported hundreds of migrations to the cloud. theITSupportCenter's Migration Adoption Program is comprised of two parts: technical support and end-user adoption support. Both elements are vital to a successful migration. theITSupportCenter assists your help desk and ensures a smooth and successful migration, with minimal disruption to your end-users and IT professionals.

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