



Cloud Definitions and Opportunity

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March 2015

Cloud and The 3rd Platform of Computing

In 2008, IDC started to notice the IT industry was at the beginning of a hyper-disruption - one of those massive shifts that comes along every 20 to 25 years. In 2011, we had seen enough to give it a name: the 3rd platform. The new era of technology is built on the four technology pillars for innovation and growth: cloud, mobile, big data, and social technologies (see Figure 1).

FIGURE 1

The Era of the 3rd Platform



Source: IDC, 2015

Of these four pillars, cloud perhaps represents the biggest disruption. That's because it changes the way companies consume and pay for access to technology. But more and more these days, companies are realizing that, beyond a better way to consume software, the cloud offers them brand new ways to solve their business problems. Simply consider some of the file synchronization services that allow someone to see his files on any device, anywhere. New capabilities like this and others are unleashing the imaginations of companies across the globe, tackling business problems with the cloud that were previously unsolvable.

This IDC executive brief begins with definitions of cloud, and its various forms. And then goes on to outline the vast and growing adoption of cloud technologies. If you want a better understanding of what cloud is, and how fast it's growing, please read on.

What Do We Mean By Cloud?

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A lot of people have a general understanding of what the cloud is. But they get confused once they dive into the details. Let's first have a look at the different flavors of cloud, which will help to clarify the various options available you.

IDC's IT cloud services taxonomy is based on the widely used U.S. National Institute of Standards and Technology cloud services categories: infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS) (see Table 1).

TABLE 1 IDC IT Cloud Services Taxonomy		
IDC Top Level	Primary Market	Secondary Markets
SaaS	Applications	Collaborative Apps, Content Apps, CRM, ERM, SCM, Ops & Manufacturing Apps, Engineering Apps
	System Infrastructure Software	System & Network Mgmt, Security, Advanced Storage
	Other SaaS	New/emerging SaaS functional offerings not otherwise covered within the traditional Application and SIS functional categories above.
PaaS	Application development and deployment	Cloud Testing, Database as a Service, Integration as a Service, Cloud Application Platform, Data Analysis & Access, Content Management, App Server Middleware, and Other AD&D
	Other PaaS	New/emerging PaaS offerings not otherwise covered within the traditional AD&D functional categories above.
IaaS	Basic Storage	
	Server	
	Network	
	Client	
	Other IaaS	New/emerging IaaS functional offerings not otherwise covered within the traditional functional Infrastructure categories above.

Source: IDC, 2015

The cloud market is highly diverse. At the highest level, the two types of deployment models for cloud services are public and private:

- **Public cloud services** are shared among unrelated enterprises and consumers; open to a largely unrestricted universe of potential users; and designed for a market, not a single enterprise.
- **Private cloud services** are shared within a single enterprise or an extended enterprise, with restrictions on access and level of resource dedication and defined/controlled by the enterprise (and beyond the control available in public cloud offerings). Private cloud services can be *onsite* or *offsite*; and can be managed by a *third-party* or *in-house staff*. A self-run private cloud is a cloud service that an enterprise owns and operates itself. The enterprise may have acquired the hardware and software components required to build a private cloud and assembled it (or had a systems integrator do so). A managed private cloud is an enterprise-owned cloud service that is operated by a third-party services firm. This is a less common model and parallels traditional onsite managed services arrangements in which the customer uses third-party staff to operate its traditional on-premise IT environment.
- A **virtual private cloud service (VPC)** is a premium version of a public cloud service, with tiered options for greater privacy/security and customer control. Physical resources are not dedicated to a single customer — allowing the service provider and the customer to benefit from public cloud economics.
- A **dedicated private cloud service (DPC)** is provided on *dedicated/isolated physical resources* to a single enterprise or an extended enterprise.

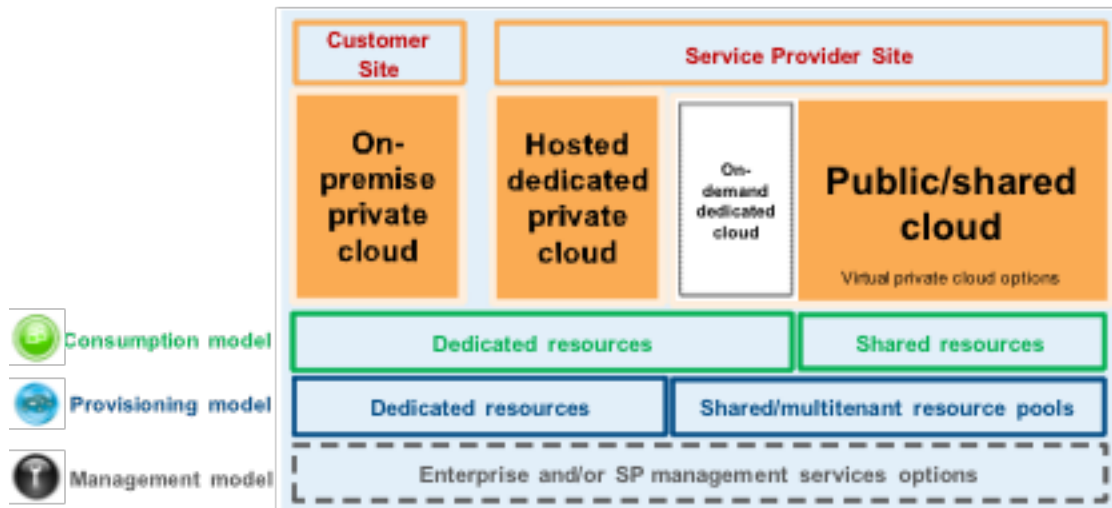
Two other often-discussed cloud service deployment model terms are hybrid cloud and community cloud:

- **Hybrid cloud:** This term is used to describe the consolidated coordination/management of multiple cloud services. Hybrid cloud services include "public/public," "public/private," and "private/private" combinations. IDC does not classify collaborations between cloud services and non-as-a-service IT as hybrid cloud services.
- **Community cloud:** A "community cloud" is a multi-enterprise cloud service that's been commissioned by, and is controlled by, a group of enterprises that have shared needs, control/specify the functionality of the services, and share the cost burden.

Figure 2 summarizes the cloud services deployment models.

FIGURE 2

Cloud Services Deployment Models



Source: IDC, 2015

The deployment variables include:

- Where the cloud service is located (on the customer's site or at a third party service provider),
- Whether it is consumed as a shared or a dedicated service (public versus private),
- The type of provisioning (completely dedicated, completely shared, or private cloud provisioned from the public cloud shared resource pool), and
- The management options, which may include both internal IT and external service providers.

Consideration of all these variables means there are several pros and cons to weigh before deciding what shape your cloud solution will take, and the context of the variables will likely change over time.

That's why it is important to create a roadmap for incorporating cloud into your technology portfolio, something that is best developed in consultation with cloud subject matter expert.

IDC also describes cloud services through the key attributes that an offering must manifest to end users of the service (see Figure 3). Cloud services require support of *all* of these eight attributes. This can be used as a checklist when evaluating cloud offerings from potential service providers to ensure that you are actually getting what you think you are getting.

FIGURE 3

Attributes of Cloud Services

- **Shared, standard service** — Built for multitenancy, among or within enterprises
- **Solution packaged** — A "turnkey" offering, pre-integrates required resources
- **Self-service** — Provisioning and management, typically via a Web portal
- **Elastic resource scaling** — Dynamic, rapid, and fine grained
- **Elastic, use-based pricing** — Supported by service metering
- **Ubiquitous (authorized) network access** — Typically accessible via the Internet



Source: IDC, 2015

Current Cloud Adoption and Projected Growth

Cloud is an essential part of the much broader, and bigger, impact of the shift in IT and its applications. Big data, mobile, and social technology solutions are all heavily dependent on the cloud services delivery model. In effect, these solutions can't exist without the cloud model as the underlying platform. In turn, cloud services growth is highly dependent on these other 3rd Platform technologies. Look for growth of cloud services to be positively impacted by breakthroughs in mobile, big data, and social technologies and solutions starting this year and beyond. Conversely, major breakthroughs in these areas will require (and drive) major investments in cloud technologies and services.

We now are entering what IDC calls the "innovation stage" of the "3rd Platform" (and cloud) marketplace – in which we predict that a tripling community of developers will create a 10- fold increase in the number of new killer cloud-based solutions in the next four to five years. Many of these "killer apps" will be innovative and disruptive industry-focused solutions, created and marketed on industry-specific cloud services platforms and marketplaces, run by leaders in each industry seeking to attract communities of thousands of innovators to create valuable new services. Line-of-business executives will drive many of these cloud investments, as cloud services become much more valuable and strategic to enterprises. This is very good news for those adopting cloud solutions, because it means they will continue to benefit from innovations that will spur productivity and strategic advantage, enhancing the return on investment.

Looking at the numbers, the "greater cloud market", including cloud services and all the hardware, software, and services enabling them, will hit \$118 billion in 2015 and grow to over \$200 billion by 2018. Public IT cloud services spending, a major part of the greater cloud market, will reach \$56.6 billion in 2014 and over \$127 billion in 2018, with a compound annual growth rate (CAGR) of 22.8%, or about six times the rate of overall IT market growth.

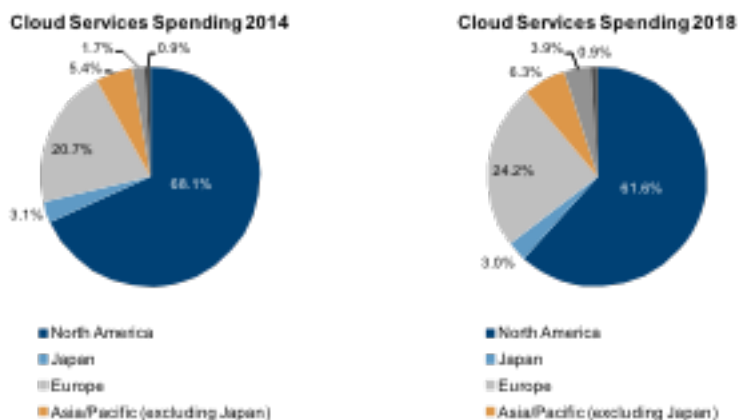
In 2018, public IT cloud services will drive nearly 20% of the \$640 billion aggregate spending in applications, development and deployment tools, infrastructure software, storage, and servers. Collectively, this will account for 55% of spending growth. Clearly, cloud is a very significant part of how companies are consuming technology today.

SaaS, which accounts for 70% of 2014 cloud services spending, will continue to dominate public IT cloud services spending, as most customer demand is, understandably, at the application level. PaaS and cloud storage services will be the fastest-growing categories, driven by major upticks in developer cloud services adoption and big data-driven solutions during the forecast period. IaaS will remain the second-largest IT cloud services category – boosted largely by cloud storage's 31% CAGR over the forecast period – even as intense price competition and looming consolidation pressure IaaS price points.

North America will account for 68.1% of IT cloud services spending in 2014, but the North America share will drop to 61.6% by 2018. In Europe, the second-largest region, share will rise from 20.7% in 2014 to 24.2% in 2018 (see Figure 3).

FIGURE 3

Cloud Services Spending - 2014 and 2018



Source: IDC, 2015

Essential Guidance

Cloud is a substantial transformative force impacting all areas of IT supply, composition, and consumption for all buyers and sellers. IT buyers are shifting steadily toward cloud-also and cloud-first strategies. In fact, IDC predicts that 70% of CIOs will adopt a cloud-first approach by 2016. Nearly all are reconsidering their IT best practices to embrace hybrid cloud construction and operations, secure data management, end-to-end governance, updated IT skills, improved multivendor sourcing, and a host of other key topics. The ballooning of supply – a huge increase in the number and diversity of cloud services available – is leading to vastly increasing customer demand as IT decision makers look well beyond automation (IT's traditional realm) and into new possibilities for data management, customer and employee engagement, application development and testing, and a range of other net-new possibilities. Smart IT leaders will focus on this guidance.

The cloud has changed the fundamental nature of computing and how business gets done and it will continue to do so through 2020. In fact, IDC predicts that by 2020 clouds will stop being referred to as "public" and "private" and ultimately they will stop being called clouds altogether. It is simply the new way business is done and IT is provisioned.

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