Cloud Computing 101

Cloud 101

Introduction to Cloud Computing

So you've heard about the cloud. In fact you may even be using the cloud in your business. But do you really understand what the cloud is? Do you realize the business opportunities it could present to your organization and how to take advantage of those opportunities?

Let's answer those questions and take a look at what the cloud is, what opportunities it can offer for your company and find out what it really means to be "in" the cloud.

So What is the Cloud?

There are so many definitions on what "cloud computing" is. So let's make it simple.

The cloud is a metaphor for the Internet and transacting over the Internet. The cloud is not limited by hardware. Cloud computing means that you store, access, transact over and work in/over the Internet.

To understand what the cloud is you need to know what it is not.

- The cloud is not your hard drive — that is considered local or physical infrastructure.
- The cloud is not your company network — that is still your internal LAN or WAN.
- The cloud is not just the Internet — the Internet as we now know it is not just a website-filled world.
- The cloud is not your data center — again that is local or physical infrastructure.

And there are different types of clouds. No these aren't cumulus, stratus or cirrus. They are instead the public cloud, the private cloud and the hybrid cloud.

Let's look at the definitions of these to create context. We will unpack their role in your business a little later.

CLOUD

SECURITY	NETWORK	STORAGE	EUC
BUSINESS APPLIANCES	WEB APPLICATIONS	SOCIA MEDIA	OTHER

DATA CENTER

DATA CENTER CAN BE:
ON OR OFF PREMISE

HYBRID
PRIVATE
PUBLIC
EUC = END-USER COMPUTING

PRIVATE CLOUD

CORPORATE DATA CENTER

BUSINESS APPLICATIONS

SECURITY LAYER

NETWORKING LAYER
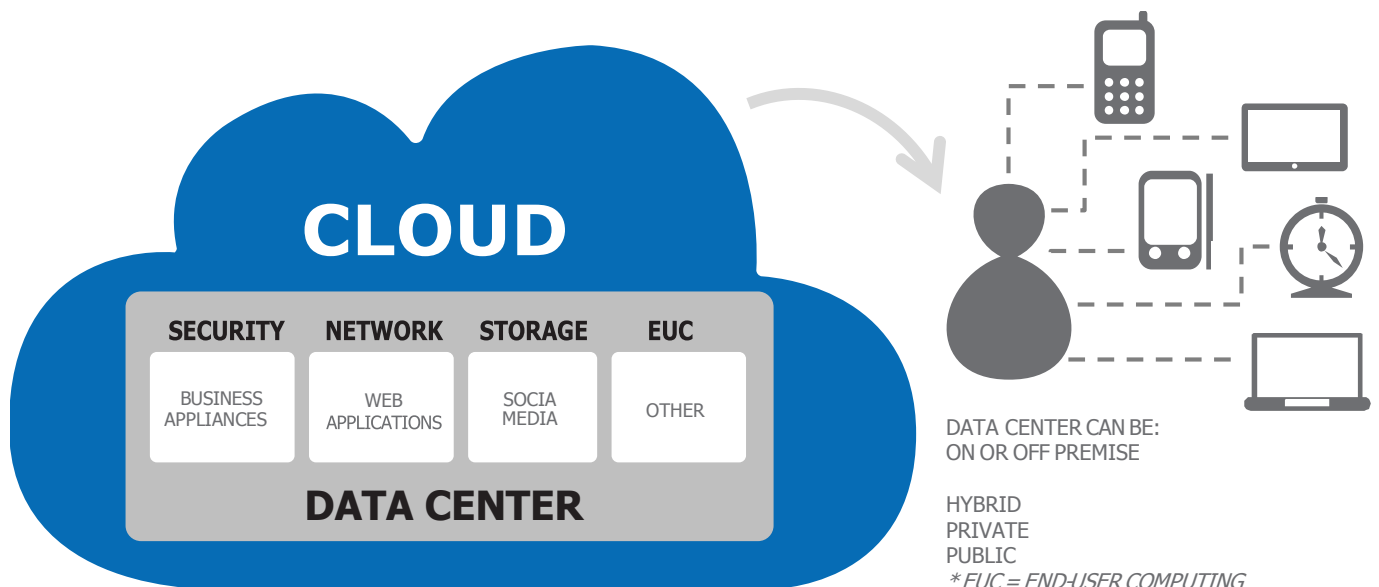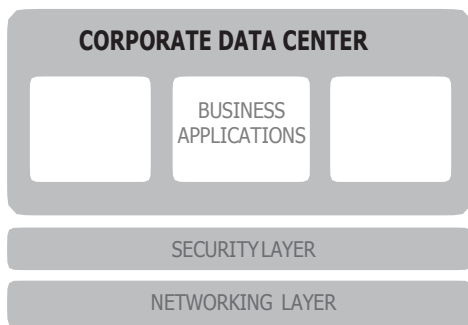
Workload mobility in the hybrid cloud

HYBRID CLOUD

DATA CENTER

CLOUD SERVICE PROVIDER

MICROSOFT DATA CENTER
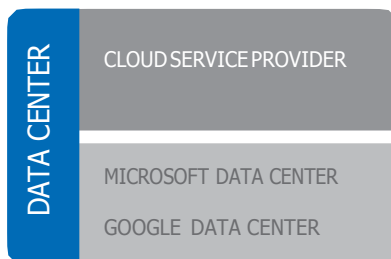
GOOGLE DATA CENTER

When you make use of services that can move between your data centers and off site it is called hybrid cloud.

PUBLIC CLOUD

DATA CENTER

AMAZON WEB SERVICES

- WAZE

- FACEBOOK

- PINTEREST
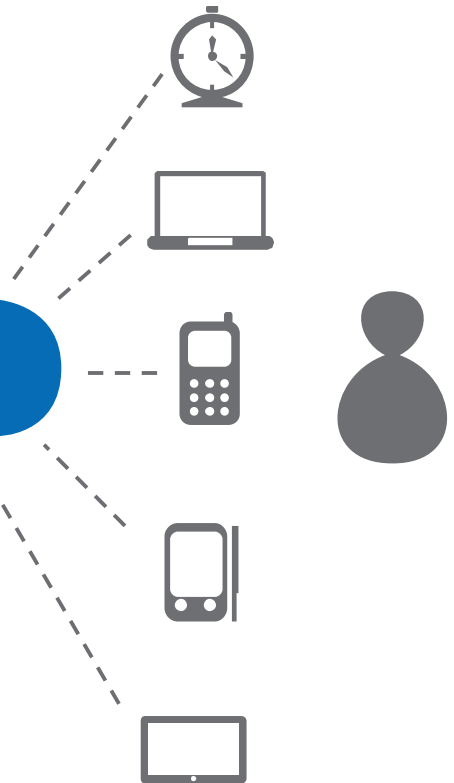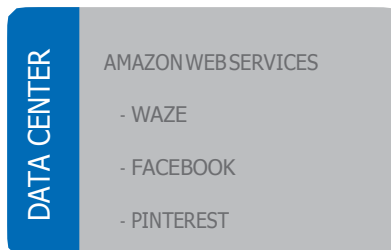
CLOUD

Public Cloud

A public cloud is based on a standard cloud computing model, where a service provider (think Google or Amazon) makes resources, such as applications and storage, available to the general public over the Internet. Public cloud services may be free or offered on a pay-per-usage model.

Private Cloud

Private cloud (also called internal cloud) is a marketing term for an enterprise computing architecture that's protected by a firewall. Promotion of the private cloud model is designed to appeal to an organization that wants more control over their data than they can get by using a third-party hosted service.

Hybrid Cloud

A hybrid cloud is a cloud computing environment in which an organization provides and manages some resources in-house and has others provided externally. It marries the best of the private and the public cloud, and gives the user the ability to store critical business data onsite.

Stages of Technology Evolution

In order to see where we are going, we need to understand where we have been. Where did cloud technology start?

With the mainframe. We then moved to smaller mainframes or servers. After this we took a giant leap with the concept of virtualization. By using software, we could make one server/mainframe believe it was many. So IT shrank and paved the way for mobility to be b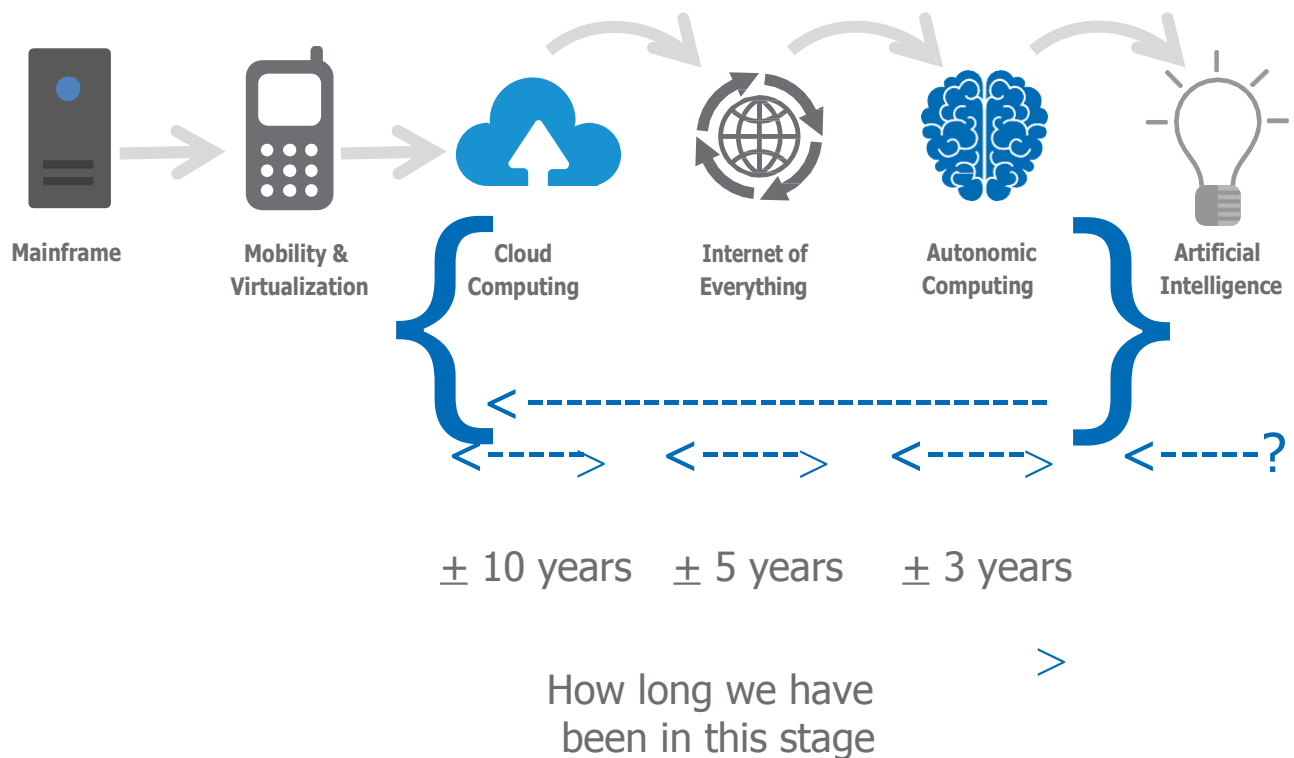orn. Suddenly we weren't strapped to our desks and we could move about. In this era, the Internet was born and it started shaping how we did things.

OK, so we missed a few momentous steps. We don't want to give you a history of computing, but rather a quick view of the cloud.

With the Internet, which in simple terms is the mother of cloud computing, came the birth of this "era" we are now in. And we are starting to dip our toes in a new world called the Internet of Things (IoT) or machine-to-machine computing. In this world, you can use your phone to talk to your toaster through the cloud. It's real and it's here.

What's next? The people with the big brains are suggesting that the next phases of IT, which are emerging, are Autonomic Computing and Artificial Intelligence. But that's skipping ahead. Let's focus on where we are now … in the cloud.

| Mainframe | Mobility & Virtualization | Cloud Computing | Internet of Everything | Autonomic Computing | Artificial Intelligence |

± 10 years   ± 5 years   ± 3 years

How long we have been in this stage

* Autonomic computing is a self-managing computing model named after, and patterned on, the human body's autonomic nervous system.

Technology Evolution

The Internet was designed in 1974, though it did not open up until the 1980s. According to "Banking and Finance on the Internet," edited by Mary J. Cronin, online banking was first introduced in the early 1980s in New York. Four major banks — Chase Manhattan, Citibank, Chemical and Manufacturers Hanover — offered home banking services.

LIGHTWEIGHT DIRECTORY ACCESS PROTOCOL:
The universal administrative assistant (mostly in the form of Microsoft Outlook/Exchange) became the key to managing our work life and our world. Broadcast.com became one of the world's first online radio stations. Amazon.com with beginnings as an online bookstore became one of the greatest e-commerce sites the Internet has ever seen.

1992
THE BROWSER:
Became publicly available, making the Web work for the rest of us.

WWW

1985

VIRTUALIZATIONFOR X86 ARCHITECTURES:
Making the most of what you have.

1997

NETWORK FILE SYSTEM:
The file system that brought us to the age of network storage. No longer would your data be hostage to the computer in which it was created or to backup tape.

BROADBAND:
Cable and Digital Subscriber Lines start to make an appearance in homes, and telecommuting becomes a real option.

1999

1995
WINDOWS 95:
32- bit pre-emptive multitasking made possible everything that has come along for the desktop since including the graphical Internet and Mac OS X.

Wi-Fi:
The network computer is liberated! Blackberry: Life support for your government executive, with its push technology making the difference.

1989
WORLD WIDE WEB:
Invented by Tim Berners-Lee, it soon changed the way governments, business and people operate.

1996
OUTLOOK:
Outlook.com, a free Web- based email service run by Microsoft. One of the world's first Web mail services, it was founded as Hotmail.

2001
WIKIPEDIA:
The Wikipedia online encyclopedia was founded by Larry Sanger and Jimmy Wales.

WIKIPEDIA

1997
EMAIL:
Electronic mail goes back to the 1960s, but it really took off with Web use. By 1997, the volume of business email surpassed that of regular mail.
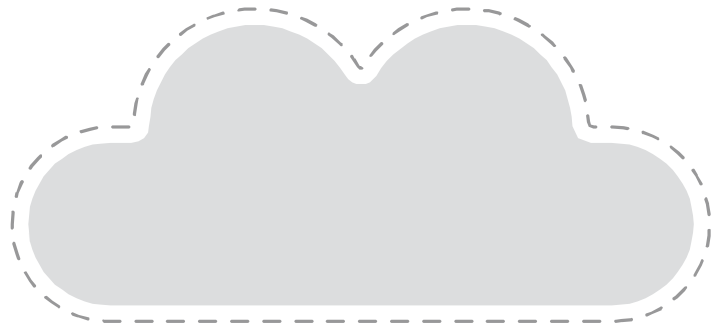
1998
GOOGLE:
We'd call it the portal to the Web, except portals aren't this easy to use. The search bar rapidly became the go- to source for culture with more than partial thanks to Wikipedia, Google's query shortstop.

Google

2008

OpenNebula

2008

NASA's OpenNebula:
The first open-source software for deploying private and hybrid clouds. Microsoft announced Azure.

2002

2002

MICROSOFT.NET FRAMEWORK:
A virtual machine independent of programming language. The future of Microsoft development.

2005

You Tube

2005

YOUTUBE:
Youtube.com launched.

2010

openstack™

2010

OPENSTACK:
Rackspace Hosting and NASA jointly launched an open-source cloud-software initiative known as OpenStack. The OpenStack project helped organizations offer cloud-computing services running on standard hardware.

2015

Spotify®

2015

SPOTIFY:
Spotify reached 75million paid for users in June 2015. A Swedish commercial music streaming, podcast and video service, Spotify provides digital rights management-restricted content from record labels and media companies.

2007

2007

FACEBOOK API/GOOGLE OPEN SOCIAL API:
Social network programming went mainstream.

facebook.

2003

2003

SERVICE ORIENTED ARCHITECTURE:
SOA and Web services paved the way for a new generation of online government services.
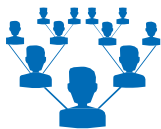
2003

2003

SKYPE:
Skype launched free VoIP software.

skype™

2009

2009

UBER:
UBER changed the face of public transport. While internationally launching in 2012, the company only added its carpooling features to its service in 2014.

UBER

2013

2013

GOOGLE GLASS:
Google Glass went public. Google Glass is a type of wearable technology with an optical head-mounted display (OHMD). It was developed by Google X with the mission of producing a mass-market ubiquitous computer and displays information in a smartphone-like hands-free format.

GLASS

Cloud Computing and You

So do you use the cloud? Most people's first reaction is no. So let's ask another question … Do you make use of Internet banking or do you use Dropbox?

Yes? Then you are in the cloud. Let's use online banking as an example to explain the evolution of cloud computing and the progression people take to making use of the cloud as a de facto standard in how they prefer to transact with service providers.

The Backdrop: Online Banking

When did you last venture to your bank? For most of us, it's been a while. It's almost a forgotten era where large buildings housed row upon row of tellers who would greet you by your first name and stamp your little leather-bound savings booklet with every transaction.

Today instead of reaching for your keys to make a financial transaction, do you not reach for your keyboard or your phone?

This behavior is not dissimilar to what cloud computing has done for general business.

Would you prefer to hop in your car to drive to a physical environment to have a meeting, collect data or information, fulfill a simple transaction — or would you prefer doing it from your desk.

The cloud gives people back their time. It encourages productivity, speed of delivery and customer service efficiencies that have never before been seen. Online banking stripped away the physical layers with which people were comfortable and gave them options. It wasn't an either/or but through its progression and its maturity, people have become comfortable with it and now, to a larger extent, prefer it.

Take this a step further and put it into an enterprise context and cloud computing is the delivery of computing resources as a service. What resources? Software, platforms, infrastructure, storage, databases, security and even backend resources which are then all delivered via a model called "as a Service." We will break down the "as a Service" offerings we see today a little later.

Apple Music
No need to buy CDs anymore. With Apple Music, you simply paying a monthly subscription and have the music you like streamed to your phone and iPad whenever you want it.

Dropbox
With Dropbox you can store files and access them from your phone, tablet and laptop.

Facebook
You stay in touch with friends and family, update them on your day-to-day activities and find out what they're up to on their Facebook pages.

Flickr
As soon as you take a picture with your smartphone you can store it on Flickr to save or share it immediately.

Google Maps
You don't need a GPS device anymore. Google Maps helps you plan routes, avoid traffic and even select public transport options in your area.

Kindle
Love to read? Using the cloud, you can download all of your favorite books using the Kindle app.

Office 365
You can connect to your documents on SkyDrive via your phone, tablet or laptop. It's great to be mobile and engaged no matter where you are.

Pinterest
Save all of your favorite websites and ideas on Pinterest. You can pin and share ideas with a network of likeminded people around the globe.

Skype
With Skype you can easily stay in touch with my family overseas. Do more than just talk when you share video and even instant message anytime.

Twitter
Twitter keeps you up-to-date with news and events that are of particular interest to you. You can follow #hashtags so you always know what's going on with your favorite topics.

UBER
Don't have a car, but need a ride? UBER makes it easy to get a ride and get where you need to go.

Waze
Traffic is a nightmare today. You can proactively tell your friends and family to take a different route by using the crowdsourced power of Waze to know exactly what the traffic situation is like.

Xbox
Playing games on your own used to be so dull but now with Xbox Live you can chat with friends while they play from the comfort of their couch, stream new games and even join clans and groups from all over the globe.
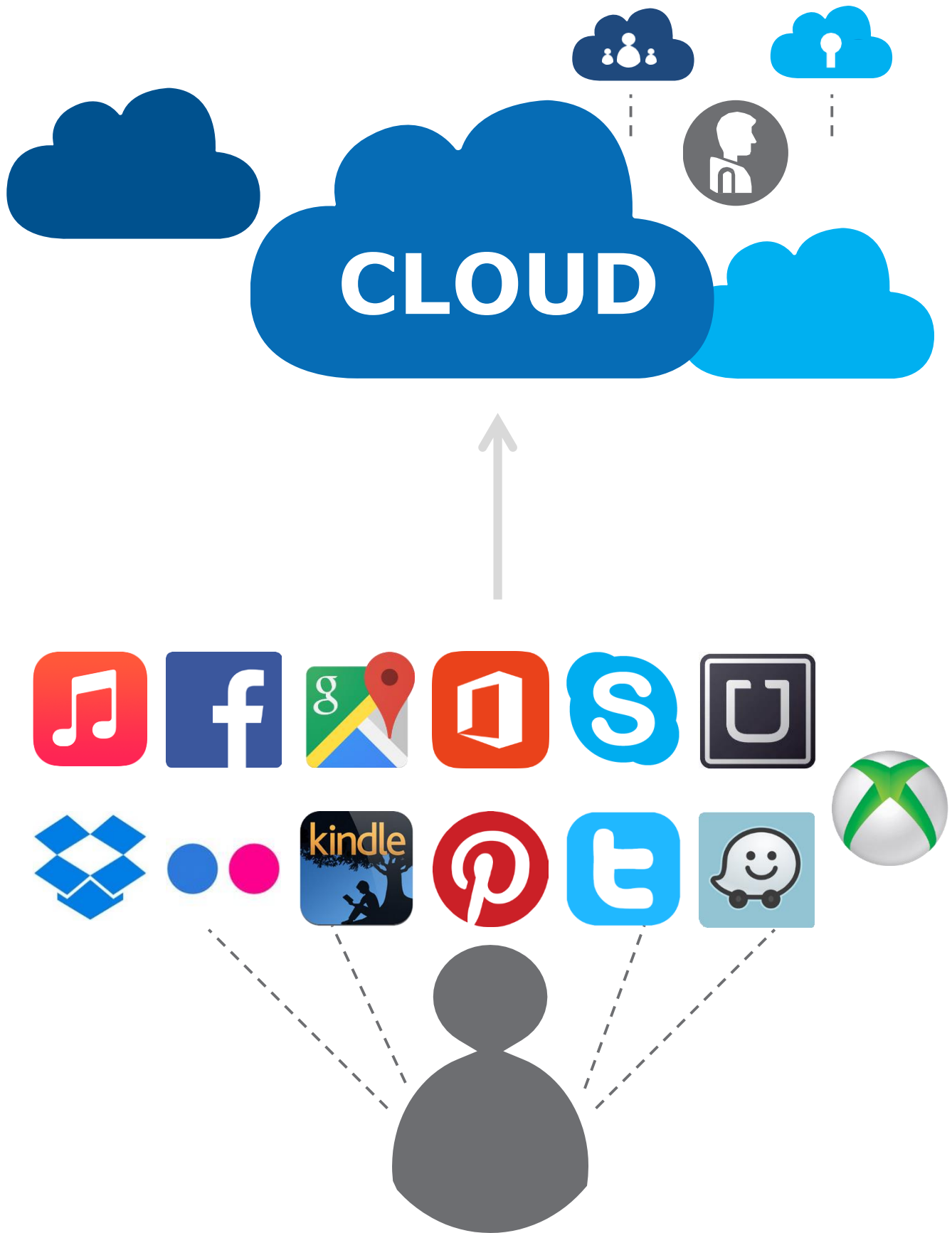
Your Business and Cloud Computing

So let's summarize. Cloud computing delivers a host of services and technologies via the Internet. It refers to things being hosted offsite, in the cloud or both, as opposed to things being only housed locally or onsite. It doesn't require bricks and mortar but rather a collection of technology end points or devices that come together to deliver services to your teams, your customers or consumers. The beauty of the cloud is that it provides options. There is no this or that. Instead it's an option of both or many.

The Opportunity

With the cloud, businesses can transform operations, cut costs, and increase efficiencies and productivity. How?

- Making use of the cloud to access software, as opposed to installing suites on each device, alleviates the pressures of managing licensing requirements, streamlines costs and frees up valuable resources.
- You can now put your data in a secure environment in the cloud and then offer remote access to all work-related data.
- Creates a mobile environment (the mobile cloud) that enables your employees to engage and interact with your business anywhere and on any device. It also enables your customers to engage with your services or products in a mobile environment.

What Does the Cloud do for IT and You?

- Creates efficiencies within the IT department by leveraging offsite resources and minimizing the need for additional internal staff to support onsite systems.
- Allows IT to roll out applications and systems more efficiently, provisioning solutions on the fly.
- Makes use of offsite teams to support applications such as email, productivity suites and even business systems.
- Gives businesses the ability to roll out mobility solutions for field workers and field sales teams through customized platforms.
- Offers a single view of IT administrative tasks.
- Reduces the load on your infrastructure and conversely the load on your IT teams.
- Provides standardization of business systems, solutions and user profiles.

How You Deploy to the Cloud

Cloud deployment refers to the enablement of SaaS (Software as a Service), PaaS (Platform as a Service) or IaaS (Infrastructure as a Service) solutions that may be accessed on demand by your business.

The beauty of the cloud is that you can cherry pick what you want to live in the cloud and dictate what you put there at any given point.

Where you need to identify a couple of factors:

- What is my organizational appetite for the cloud?
- =Do I really need my own cloud?
- Does my service provider have the right security policies in place?
- What do I need to keep internal and what can I move quickly to the cloud?
- Can my staff and customers benefit from the cloud?
- Will the cloud save me money in the short and long term?
- Do I have the skills to migrate the cloud?
- Do I have the right partners and vendors in place to help me get to the cloud?
- Are local cloud providers ready?
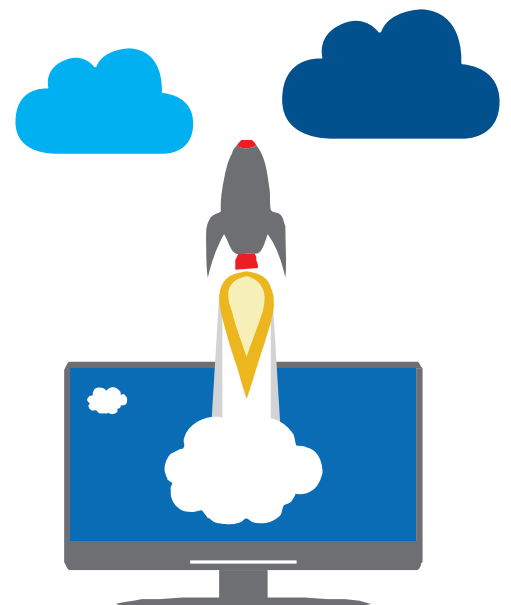
Which Cloud Works for You?

Public Cloud vs. Private Cloud

If we take a look at the definitions previously provided, private cloud implies it's your cloud, your systems and you dictate how people engage with these. Public suggests it belongs to someone else and you use it via the Internet. Both have their benefits and both have their disadvantages.

Accessibility

Public clouds allow you to replicate data to many applications with a single login through the Internet. It is ideal for multi-branch organizations that have offices around the globe. Limitations creep in when there are bandwidth constraints.
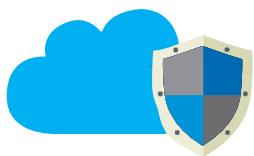
Security

Public clouds are publicly accessible which does mean that customers who have client-sensitive data are a little reticent to put this all in the cloud. While there are security solutions that firewall your data — it's a risk profile that many are still navigating.

This is where a private cloud may be the best choice, especially for financial services companies and even telecommunications organizations that want to safeguard their customer data. Businesses elect the private cloud over the public cloud as a means to get around potential security concerns.
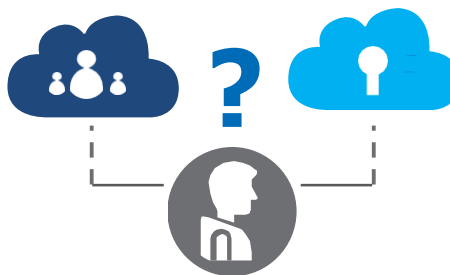
Public or Private Cloud?

The reality is that the public cloud is much easier to deploy. You purchase the service and you roll it out among your users, immediately reducing the need to adjust your current infrastructure investments in order to scale into the cloud. With it you pay for what you use. It's very attractive to small- to medium-size businesses who want to move away from needing IT resources to support them.

Conversely the private cloud's dedicated hardware and bandwidth resources make it an attractive option for many large enterprises. Yes it provides resources on demand, but it also preserves your current infrastructure investment as well as enables you to dictate your security policies, offers dependable availability and provides a high level of control.
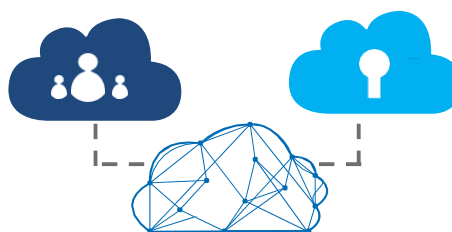
The New Darling — The Hybrid Cloud

Both private and public clouds can be advantageous to your business so why chose? You don't have to. With the hybrid cloud you can make use of the best of both worlds, retain control, dictate security, and outsource and insource as needed.

Remember a hybrid cloud is an infrastructure that includes links between one cloud managed by you (private cloud) and at least one third-party cloud (public cloud). In the hybrid cloud your "clouds" do not have to meet, but instead offer different services to different parts of your organization based on your company's appetite for both.

It's scalable, flexible and manageable, and it remains in your control.

Products in the Cloud

Today there are so many cloud products that you may feel a little out of your depth when selecting what suits your business. Again, don't follow an either/or approach when you don't need to. The cloud enables you to pay for what you use, so now you have variety in the choices you take and the choices you make.

SaaS – Office 365 is the combination of familiar Microsoft Office collaboration and productivity tools that are today delivered through the cloud. With Office 365 people can take advantage of anywhere access to email, Web conferencing, documents and calendars. The suite comes complete with business-class security built into its core and is supported and backed by Microsoft. It's perfect for all businesses, whether you are a small business or multinational enterprise, and offers customizable plans to fit your unique business needs.

SaaS – Adobe Document Cloud provides a modern and efficient way in which to engage with your documents in the cloud. With its incorporation of Adobe Acrobat DC, you can now leverage e-signing capabilities. In addition, it offers an integrated set of services that use a consistent online profile and personal document hub. In short, it lets you create, review, approve, sign and track documents whether on a desktop or mobile device. It also integrates with systems of record such as CRM, HCM, CLM and CMS.

SaaS – The Microsoft Enterprise Mobility Suite (EMS) is a comprehensive cloud solution made up of three components. Designed to address the urgent need for solutions that help organizations and their employees remain flexible and productive, EMS also ensures that corporate data is secure. EMS enables your organization to manage your IT, Bring Your Own Device (BYOD) and SaaS in a cost-effective way.

SaaS – SkyKick Enterprise Migration Suite has launched a tool focused on helping large businesses to transition to Microsoft Office 365 SaaS offering. This makes it simpler to move organizations with between 250 and 10,000 users to the cloud quickly and cost effectively.

SaaS – Symantec Protection Network delivers easy-to-use security and availability offerings to small- and mid-sized businesses at a price they can afford. The Online Backup Service enables cost-effective, reliable backup and restoration of business-critical data from the convenience of a Web browser.

DaaS – New Citrix Solutions deliver application-centric cloud services that enable organizations to take advantage of the best security, performance and reliability whether workloads run in the data center or in an external cloud. No matter whether the apps and data live, on-premises or off-premises, users get the same experience. Citrix XenApp allows enterprises to take advantage of hybrid clouds, provisioning desktops and apps to on-premises data centers, Amazon Web Services (AWS), Microsoft Azure, and other public and private clouds.

IaaS – Oracle Cloud offers a set of core infrastructure capabilities like elastic compute and storage to provide customers the ability to run any workload in the cloud. The services are great for developers and infrastructure services. Capabilities include: Compute Service to leverage elastic compute capacity to address growing business needs; Storage Service to provide a secure, scalable, reliable and simple storage solution to meet all of your enterprise needs; and Messaging Service to leverage dynamic messaging capabilities for workflow agility.

PaaS – Microsoft Azure is a cloud computing platform and infrastructure, created by Microsoft, for building, deploying and managing applications and services through a global network of Microsoft-managed and Microsoft partner-hosted data centers. It provides both PaaS and IaaS services and supports many different programming languages, tools and frameworks, including both Microsoft-specific and third-party software and systems.
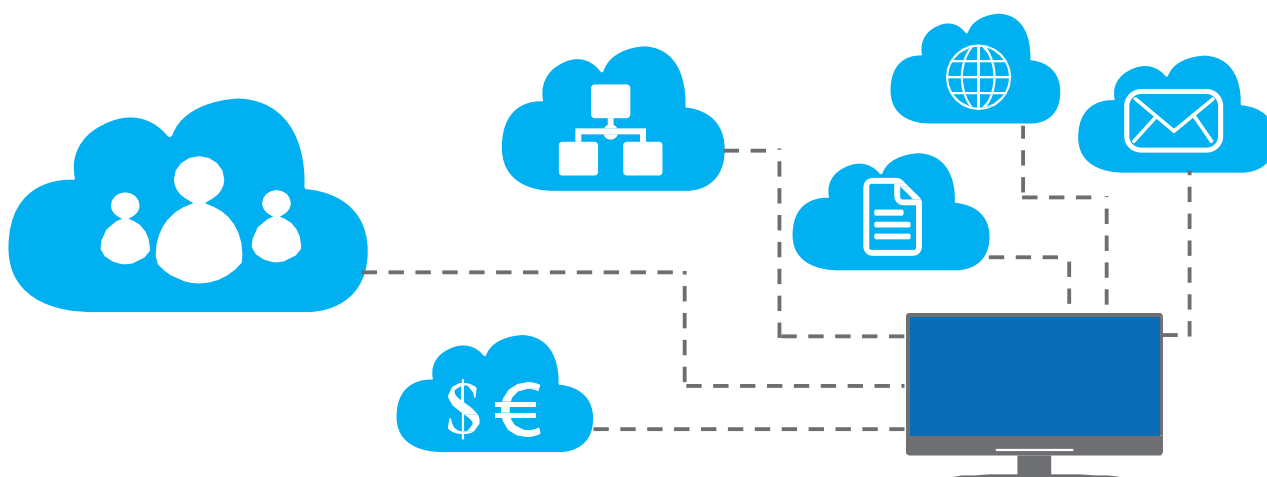
Mythbusters – The Truth of Cloud Computing

With anything that is new and that is misunderstood comes a number of myths and the cloud is no exception. Cloud computing is shrouded in myths and misperceptions — the very things that are slowing its adoption and impeding innovation in the industry. So here are a few myths that we would like to bust on your behalf.

Myth 1: My data is not secure with the cloud.

Some clouds are not and it's important to check with the cloud provider that you are engaging with. But as a general rule anyone who is putting together a cloud-based data center is making sure they have the security solutions in place to ensure your data is encrypted and secure. Companies make use of a defense-in-depth approach to provide physical, logical, and data layers of security features and operational best practices.

Myth 2: You own all your data in the cloud.

Once uploaded, your data may not be exclusively yours anymore. You may have some cross-border headaches if it's hosted in another country. They get to determine if your data violates the host country's copyright or IP laws. The host site also determines if your data is offensive according to the country's standards. Some sites may even sell ads based on your content, meaning your information isn't really private at all.

Myth 3: The cloud should be used for everything.

In some cases, cloud is not only a great fit for your business, but the perfect solution. However, not all applications and workloads benefit from the cloud. Look at each application and workload as its own entity and determine if there is a real reason to move it to the cloud. If there isn't a clearly defined reason, like cost savings, then keep it where it is.

Myth 4: I need to be connected to the Internet all the time.

Not always and not with all applications. Let's look at Office 365 as an example. You can work on your documents, emails and content in an offline state. When you are ready you can connect to the Internet and synchronize your data and emails. You don't have to be connected to be productive. This is the same for applications such as Amazon, Google Drive and even Dropbox.

Myth 5: It's cheaper to do IT myself.

No IT services aren't traditionally cheap, but the cloud has changed that. Remember as an SME customer there are a number of costs to factor in, for example the costs of your server and licensing at the time of deployment, versus over a three-year period. What was the true cost of running this yourself? If email is down how much did this cost your organization? Have you considered these factors when evaluating how much cheaper a solution such as Office 365 is for your business? The cloud takes the pain out of maintaining, running, refreshing and even hosting your IT solutions — ultimately making the costs much cheaper.
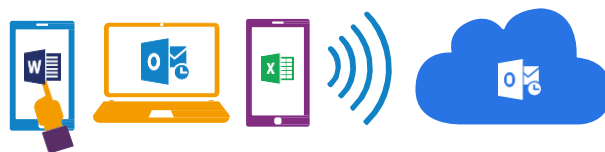
As a Service Glossary

Backup as a Service (BaaS)
BaaS is a subcategory of Storage as a Service (SaaS). It provides users with a system for the backup (often remote), storage and recovery of computer files. Think of it as virtual backup-stock.

Cloud as a Service (CaaS)
CaaS can be defined as any resource that is provided over the Internet but the most common cloud services include Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS).

Communications as a Service (CaaS)
CaaS is an outsourced communications solution that can be leased from a single vendor and enables the consumer to utilize enterprise-level VoIP, VPNs, PBX and unified communications without actually purchasing, hosting or managing the infrastructure. It saves the enterprise/consumer money and manpower.

Content as a Service (CaaS)
This service deals with content that can be delivered as a Web service and offers hosted content storage.

Data as a Service (DaaS)
Think of DaaS as the cousin of Software as a Service. DaaS means that data can be provided on demand to the user no matter where they are or the separation of provider and consumer.

Database as a Service (DBaaS)
DBaaS is a cloud-based approach to the storage and management of structured data. As a cloud-based service it gives users flexible, scalable, on-demand performance that's aimed at creating self- service and easy management, particularly in terms of provisioning a business's own environment.

Data Management as a Service (DMaaS)
DMaaS is when a company outsources the validation, storage, protection and processing of data to another party. This party ensures the safety, accessibility, reliability and timeliness of data for data users.

Data Mining as a Service (DMaaS)
This is the same as Data Warehousing as a Service.

Data Warehousing as a Service (DWaaS)
Data warehousing is the electronic storage of a large amount of information by a business. Therefore DWaaS is when a business entrusts the warehousing of their data to another party. Storage of company data must be secure, reliable, easy to retrieve and easy to manage. As the amount of data companies deal with continues to increase, this cloud-based data analytics solution takes a large weight off the shoulders of businesses.

Development as a Service (DaaS)
Developers can make use of cloud-based IDE, which will then allow them to develop applications using a browser.

Desktop as a Service (DaaS)
A cloud service in which the back-end of a virtual desktop infrastructure (VDI) is hosted by a cloud service provider. This service is usually purchased on a subscription basis and the service provider manages the back-end responsibilities of data storage, backup, security and upgrades.

Disaster Recovery as a Service (DRaaS)
Cloud-based disaster recovery as a service is the replication and hosting of physical or virtual servers by a third party to provide failover in the event of a man-made or natural disaster.

Hardware as a Service (HaaS)
A service provision model for hardware that is defined differently in managed services and grid computing contexts. In managed services, HaaS is similar to licensing and in-grid computing it's a pay-as-you-go model.

Infrastructure as a Service (IaaS)
A form of cloud computing that provides virtualized computing resources over the Internet. IaaS is one of the three main categories of cloud computing services, along with Software as a Service and Platform as a Service. In this model, a third-party provider hosts hardware, software, servers, storage and other infrastructure components on behalf of its users.

Integration as a Service (IaaS)
This is making use of the cloud to develop or make use of tools that offer integration between business applications. Businesses can leverage this to integrate backend systems, sources, files and operational applications. The IaaS model enables integration across the cloud, making it possible to share data between systems as well as third-party vendors in real time.

Monitoring as a Service (MaaS)
MaaS handles the deployment of monitoring functions for various services and applications within the cloud, offloading a large majority of the cost by having it run as a service opposed to an in-house tool.

Network as a Service (NaaS)
NaaS is a business model for delivering network services over the Internet on a pay-per-use or subscription basis. The network becomes a utility that's paid for and all complexities are hidden from view. NaaS saves businesses money on network hardware and the staff it takes to manage a network in-house, because now the network is a managed service within the cloud.

Platform as a Service (PaaS)
Hosted software that serves as a platform for building SaaS offerings. It provides the capability for consumers to have applications deployed without the burden and cost of buying and managing hardware and software.

Security as a Service (SaaS)
SaaS is a business model in which the management of security is outsourced to a third party. It usually involves applications such as anti-virus software delivered over the Internet, but SaaS can also refer to security management provided in-house by an external organization.

Software as a Service (SaaS)
Basically, SaaS is any software offered remotely as a service. SaaS is the ability for a consumer to use on-demand software that   is provided by the service provider via a thin client device, for example, a Web browser over the Internet.

Storage as a Service (SaaS)
SaaS is when third-party providers rent space on their storage to end users that lack the budget or technical personnel to implement and maintain their own storage infrastructure.

XaaS (Anything as a Service)
XaaS refers to the delivery of IT as a Service through hybrid cloud computing and refers to either one or a combination of: Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Communications as a Service (CaaS) or Monitoring as a Service (MaaS).

Cloud Computing and General Computing Terms

Artificial Intelligence – The development and creation of computer systems that are able to perform tasks that usually require human intelligence/intervention.

Autonomic Computing – Autonomic computing is a self-managing computing model named after, and patterned on, the human body's autonomic nervous system. An autonomic computing system would control the functioning of computer applications and systems without input from the user, in the same way that the autonomic nervous system regulates body systems without conscious input from the individual. The goal of autonomic computing is to create systems that run themselves, capable of high-level functioning while keeping the system's complexity invisible to the user.

BYOD – BYOD is short for bring your own device. In the consumerization of IT, BYOD, is a phrase that has become widely adopted to refer to employees who bring their own computing devices — such as smartphones, laptops and tablets — to the workplace for use and connectivity on the secure corporate network.

Cloud Computing – The practice of using a network of remote servers hosted on the Internet to store, manage and process data, rather than a local server or a personal computer.

Crowdsourcing – The practice of obtaining needed services, ideas or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers.

Data Center – A data center is a centralized repository, either physical or virtual, for the storage, management, and dissemination of data and information organized around a particular body of knowledge or pertaining to a particular business.

Hybrid Cloud – Hybrid cloud is a cloud computing environment which uses a mix of on-premises, private cloud and public cloud services with orchestration between the two platforms.

Infrastructure – Refers to the composite hardware, software, network resources and services required for the existence, operation and management of an enterprise IT environment. It allows an organization to deliver IT solutions and services to its employees, partners and/or customers, and is usually internal to an organization and deployed within owned facilities.

Internet of Things – The Internet of Things (IoT) refers to the ever-growing network of physical objects that feature an IP address for Internet connectivity, and the communication that occurs between these objects and other Internet-enabled devices and systems. It is also known as machine-to-machine computing.

ISP – An ISP (Internet Service Provider) is a company that provides individuals and other companies access to the Internet and other related services such as website building and virtual hosting.

Private Cloud – Private cloud is the phrase used to describe a cloud computing platform that is implemented within the corporate firewall, under the control of the IT department.

Public Cloud – A form of cloud computing in which a company relies on a third-party cloud service provider for services such as servers, data storage and applications, which are delivered to the company through the Internet.

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