CLOUD SERVICES FOR BUSINESS CUSTOMERS

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Cloud: A Definition

"Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

-- National Institute of Standards and Technology

Cloud: Infrastructure as a Service?

Infrastructure as a Service

Software as a Service
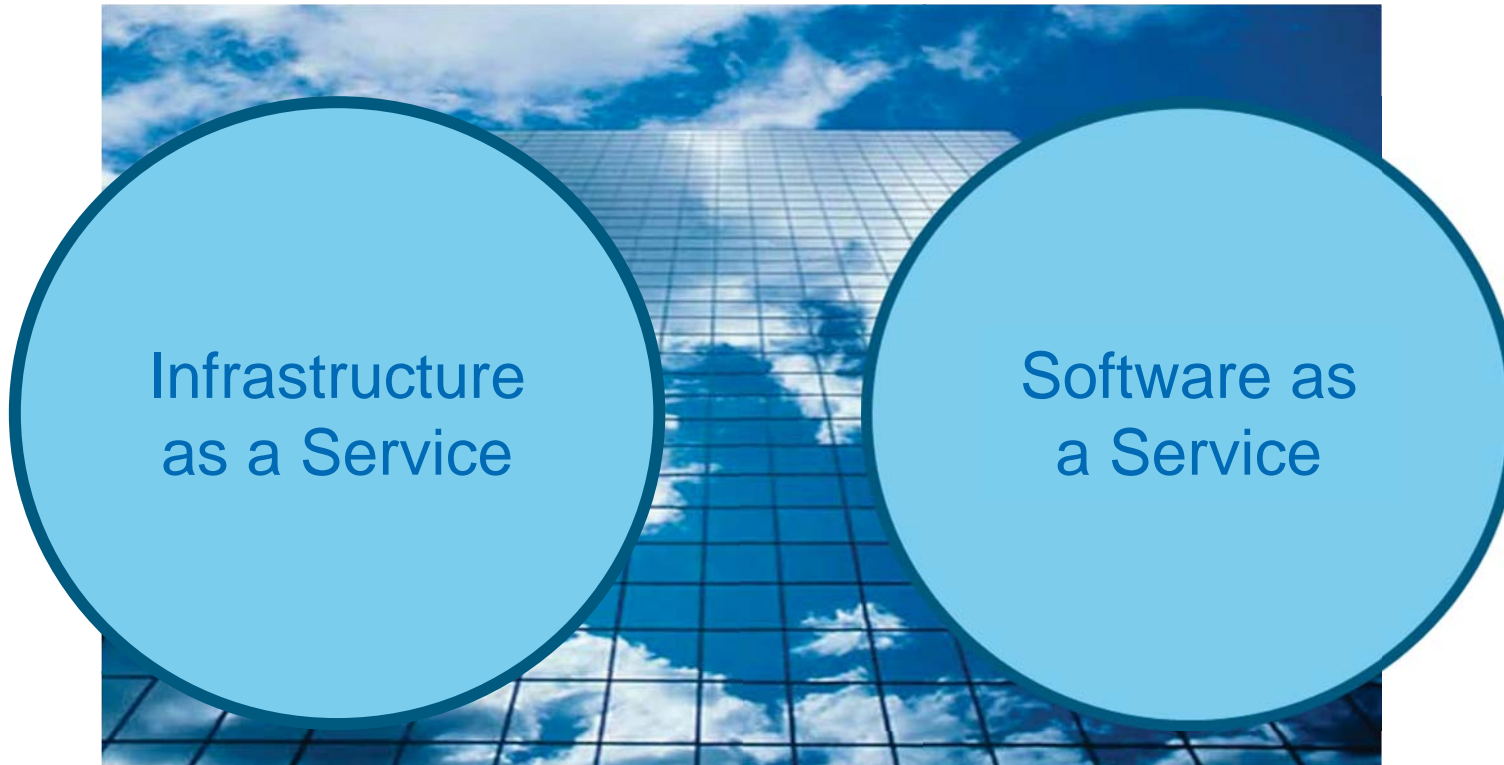
- ▶ IaaS is one of the prevalent interpretations of cloud, but today there are indeed many more.

- ▶ Software as a Service (SaaS) - now universally accepted as a form of Cloud - predates the use of the term by nearly a decade.

- ▶ Cloud is a concept which is transforming IT.

Cloud: Key Attributes

On-Demand Self-Service

- User can provision resources without service provider interaction.

Broad Network Access

- Accessible over the Internet by a variety of devices

Resource Pooling

- A large pool of resources is shared among many customers

Rapid Elasticity

- Resources can expand and contract based on demand

Measured Service

- Resources are measured and billed on a metered basis

Cloud: Much more than IaaS

Let's take a closer look at advances in desktop computing and storage.

Desktop: Trends

Server-hosted Virtual Desktop Is Coming Soon — Will Increase Data Center Servers and Storage

	2010	2011	2012	2013	2014	2015	2016
Users (Thousands)	4,145	5,906	6,965	10,440	14,165	16,365	18,465
Total users or install base (Thousands)	5,693	11,599	18,564	29,004	43,169	59,534	77,616
HVD install base as a share of professional DT install base	1.3%	2.7%	4.2%	6.5%	9.6%	13.1%	16.9%

"It's coming."

From "Forecast: Hosted Virtual Desktops, Worldwide, 2012-2016, 2012 Update," 29 June 2012

Gartner

Society of Cable Telecommunications Engineers

Desktop: Business Drivers

▶ DaaS can extend the life of existing endpoint devices and in time avoid costly (in CAPEX and OPEX terms) refresh cycles.

▶ Intellectual Property considerations. DaaS can provide a more tightly controlled, centrally managed point of entry to the corporate environment.

▶ DaaS can be a strategic element of a Business Continuity or Disaster Recovery plan. Most businesses give a lot of thought to BC/DR from a server perspective, but commonly overlook user access.

Desktop: VDI -> DaaS

Continued advances on the hardware side:

▶ More and faster CPUs, more memory, and low latency storage have enabled greater consolidation.

▶ Significant advances in protocols now provide a user experience comparable to or even superior to local device performance, and do so over connections with higher latency than ever before.

IaaS "2.0": SDDC and Hybrid Cloud

- In 2013/2014 and beyond we will see key evolutionary steps to enable a fully software defined virtual Datacenter.

- Network agility is facilitated by L2-over-L3 overlay technologies and emerging implementations within the virtualization stack (hypervisor).

- Hardware vendors increasingly supporting these overlay technologies and providing API-enabled devices which can participate in the SDDC world.

- Hybrid cloud is drawing a lot of attention today and is projected to be the predominant cloud deployment model going forward.

Reality Check!

- The world is still largely a legacy world.

- Businesses want solutions which can benefit from what cloud promises, but still need to support legacy workloads/designs.

- Not all clouds are created equal.

- The reality is many existing workloads can still benefit from cloud, but can't be moved wholesale for performance, resilience, or licensing reasons.

Security?

▶ There are still genuine challenges in some cases where regulation is lagging behind technology.

▶ Cloud does bring some additional considerations to the table, much of the apprehension stems from the lack of clear definition of cloud and how it is applied.

The Times, they are a changin' (…slowly)

- ▶ Traditional databases are often one of the most difficult components of an application stack to address in terms of "cloud friendliness".
- ▶ Leaders in the service provider space will need to be able to service both old and new workloads, provide appropriate infrastructure and SLAs for both as well as a migration path for their customers.

2013 Cloud Predictions:
More Acceleration and Acceptance of as-a-Service

- Infrastructure-as-a-Service (IaaS) cloud will be more widely accepted as the natural evolution of "traditional" IT outsourcing. Managed service providers will increasingly turn to cloud internally to meet their own infrastructure needs, thereby improving delivery cycles, enhancing service levels, and increasing efficiency.

- IaaS cloud will continue to evolve at an accelerated pace with 2013 marking the year of the "Software Defined Datacenter". By combining the proven record of virtualized compute, the promises of software defined networking, and the maturity of management tools and API's, the IT transformation which began with virtualization will be nearly complete. This API-enabled, elastic, resilient platform will provide developers the foundation for a new generation of applications which will ultimately change the way companies do business.

vmblog.com
Virtualization Technology News and Information
Published Friday, November 16, 2012

2013Cloud Predictions (cont.)

- Solid State storage will reach an inflection point in terms of availability, reliability, and cost. While solid state will not supplant spinning media storage quickly, it will play a starring role in 2013 as the industry sees both a continued migration of mission critical, and performance sensitive workloads to the cloud, as well as the proliferation of "big data" analytics.

- Adjacent "as-a-Service" offerings such as Desktop-as-a-Service, Database-as-a-Service, and Backup-as-a-Service will become widely available as service providers seek to differentiate in an increasingly competitive landscape. These additional "as-a-Service" offerings will also accelerate cloud adoption more generally due to the enhanced value proposition of combining complementary solutions.

- IT human resources will be compelled to adapt to a rapidly changing world. Gone are the days where singular focus and deep vertical expertise were the keys to success; tomorrow's IT resources must embrace a multi-disciplinary approach. While this may be seen as a threat by many, the reality is that IT as an industry is being presented with an opportunity to add value to the business they support, rather than simply "keeping the lights on."

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