



**CLOUD
LEADERSHIP
FORUM**

Produced by IDC & IDG Enterprise

The Cloud Roadmap – Delivering innovation and efficiency

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IBM

June 13-15, 2010

Hyatt Regency Santa Clara
Santa Clara, California





Cloud: Consumption & Delivery Models Optimized by Workload

“Cloud” is a **new consumption and delivery model** inspired by consumer Internet services.

Cloud enables:

- Self-service
- Sourcing options
- Economies-of-scale



Cloud represents:

- The **industrialization** of **delivery** for IT supported **services**

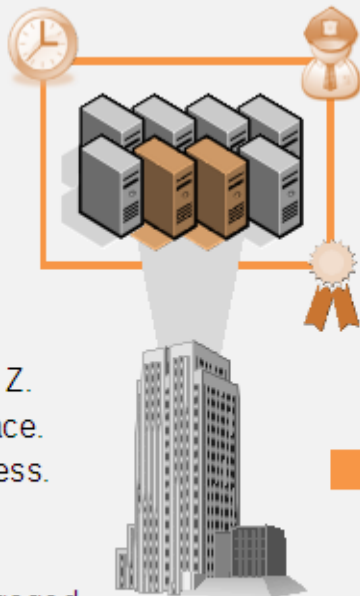
Multiple types of clouds will co-exist:

- Private, Public and **Hybrid**
- **Workload** and / or **Programming Model** Specific

Requirement #1 – Security and Privacy

Today's Datacenter

Tomorrow's Public Cloud



We Have Control

- It's located at X.
- It's stored in server's Y, Z.
- We have backups in place.
- Our admins control access.
- Our uptime is sufficient.
- The auditors are happy.
- Our security team is engaged.



Who Has Control?

- Where is it located?
- Where is it stored?
- Who backs it up?
- Who has access?
- How resilient is it?
- How do auditors observe?
- How does our security team engage?



People and identity



Application and process



Physical infrastructure



Data and information



Network, server and end point

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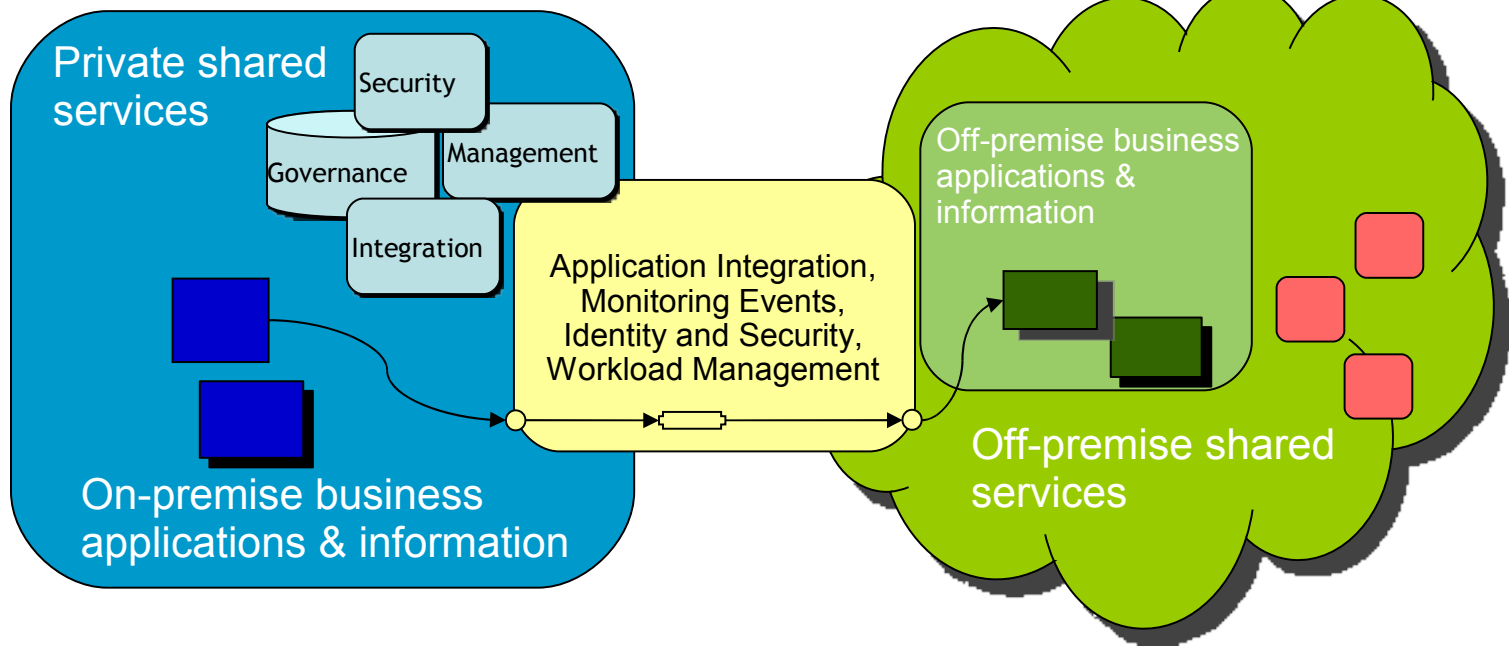




Requirement #2 – Service Management is needed to connect, manage and secure hybrid clouds

Enterprise Infrastructure & Private Cloud

Public Cloud [SaaS, IBM Cloud, other Public Cloud]



Workflow
Manage the process for approval of usage



Provisioning
Automate provisioning of resources



Monitoring
Provide visibility of performance of virtual machines



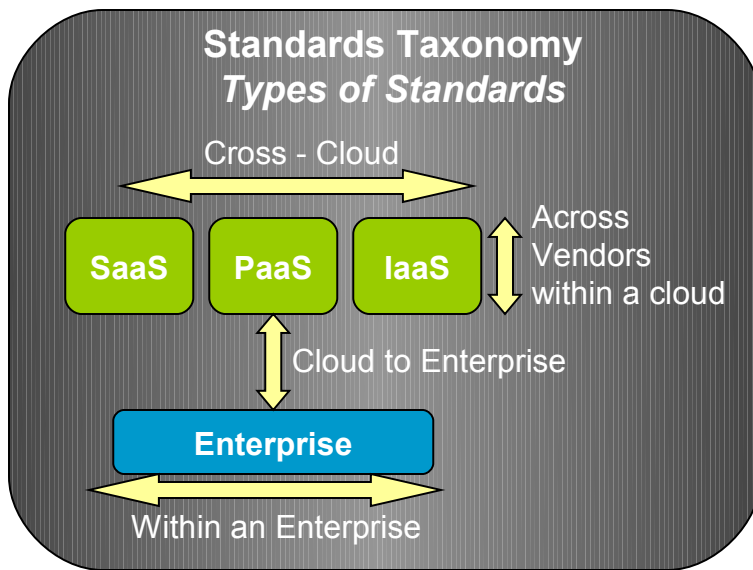
Metering and rating
Track usage of resources





Requirement #3 – Open Standards

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Standards address inhibitors to cloud adoption including security, vendor lock-in and portability.

Recognize that cloud standards are emerging throughout the market, within IT and other industries.

Standards should be open, have long term stewardship, have code to back them, and be widely adopted.

Source: Cloud Computing Use Case Group
www.cloudusecases.org

Management



Virtualization



API



SLM\SLA



Network



Storage



Security



Industry Verticals



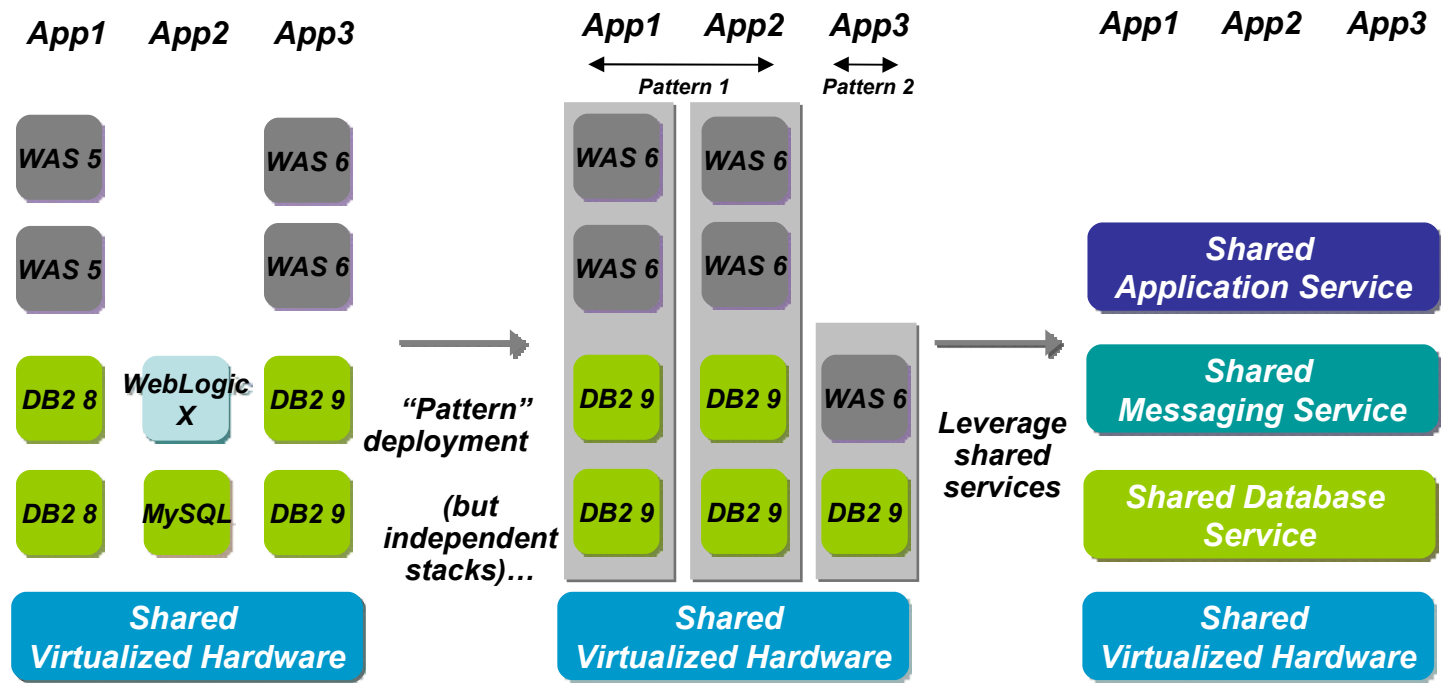
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Requirement #4 - Migration and Quality of Service

Virtualized Traditional Standardized Images and Patterned Deployment Shared Middleware Platform Services (increased reuse)



Reduced Costs and Increased Flexibility

Shared, virtualized hardware results in Capex savings; shared middleware services results in Opex savings





How to optimize the use of clouds

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Cloud Strategy and Workload Assessment

Cloud Delivered Services

						
Development and Test	Desktop	Infrastructure	Storage	Analytics	Collaboration	Business Services

Platform and Infrastructure Services

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Companies have different motivations for leveraging cloud

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Risk & Compliance

34,000-employee bank deploying a private cloud to centralize management of desktops.

Greater remote flexibility without sacrificing control.

Employee Productivity

Enable collaboration across global employees as well as its network of customers, partners and suppliers.

Time to Value

Increased efficiency, productivity and ease-of-use of its development and test environment

Analytics & Security

Design and demonstration of a secure cloud infrastructure for defense and intelligence networks; insights about cyber attacks, network failures & automatically preventing disruptions.

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IBM uses cloud computing to meet internal and external challenges and opportunities

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Analytics Collaboration Development and Test Desktop Storage Business Services

Blue Insight 109,000 users growing to 200,000	LotusLive 75% of all web conferencing	CIO Dev/Test Cloud Time to build a dev/ test environment from 1 week to 1 hour	Workplace Cloud Estimated savings up to 30%	Network Storage Cloud Up to 40% savings in storage costs	Production Cloud 1,000 applications identified
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Fit for purpose middleware platform

Common Compute Platform
(Compute/ Network/ Storage)

Base Enterprise Platform

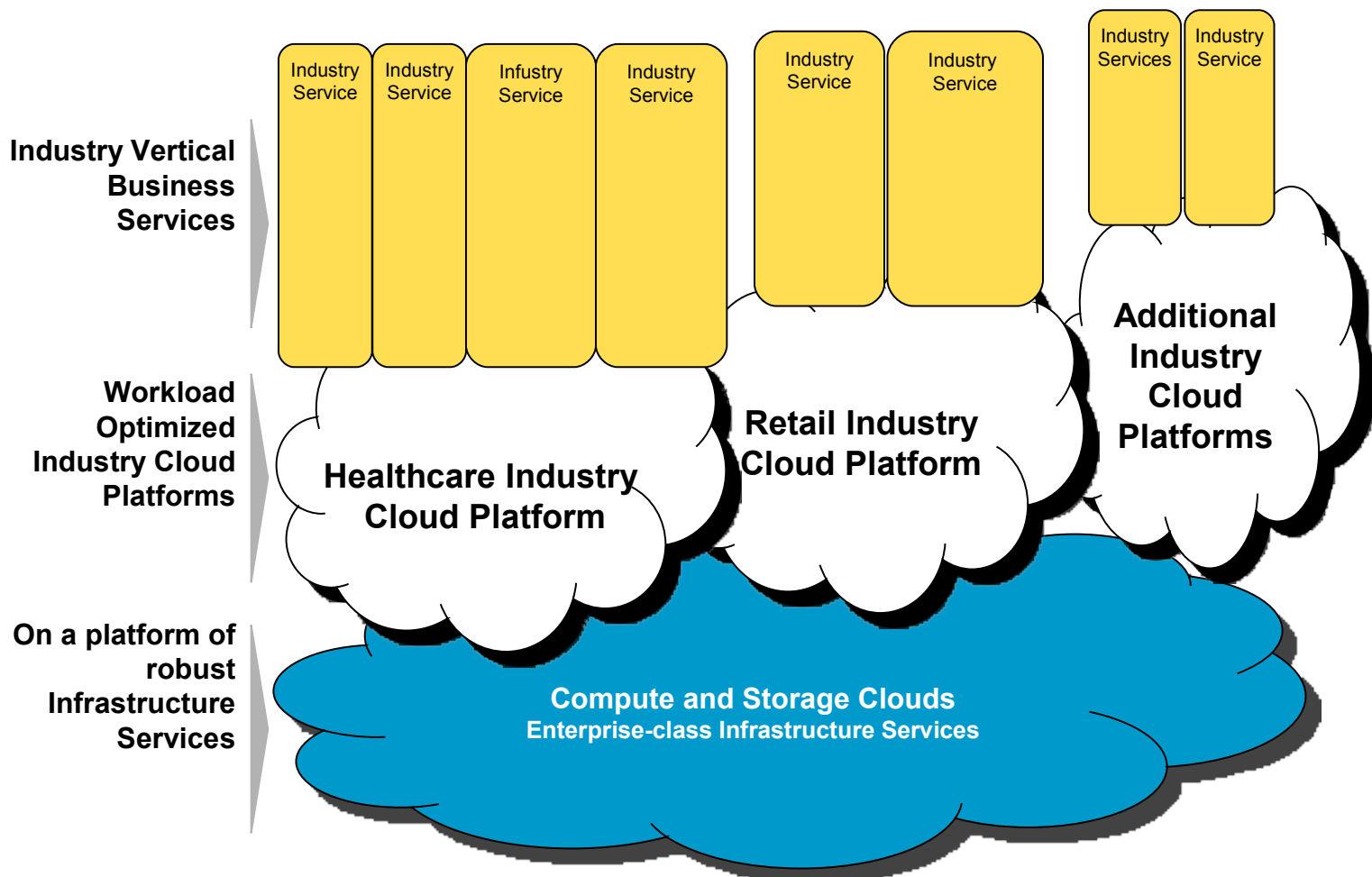
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Cloud enables global industry transformations

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In Summary...

- Businesses that implement cloud computing are seeing **significant results**.
- Cloud will be adopted by **workloads**.
- **Infrastructure** and **labor levers** drive cloud economics.
- Cloud will have major implications for enterprise **security, privacy, integration, service management** and **migration**.
- Cloud will be a core component in **industry** and **business** model transformation.

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