



# Cloud Computing & The Enterprise

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# Start with the fundamental benefits of the cloud...and activate them to transform your business.

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Low cost and high speed:

## Operational Dexterity

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A pharmaceutical services company achieves a projected USD\$250,000 in annual savings and reallocates 80 percent of its data integration resources to strategic activities through the integration of Cloud into traditional IT systems

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Flexibility and agility:

## New business value

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A major medical group taps a collaborative care cloud to apply advanced analytics and clinical support to improve patient outcomes

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Simplicity and ease of use:

## IT without boundaries

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A global telecom's virtualized application development environment enables more testing earlier in the cycle, improving defect discovery and delivering 100% ROI in 30 days.

## Understand perceived cloud inhibitors...and overcome them to gain competitive advantage.

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Reliability and availability:

**Intelligent workload placement and managed resilience**

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A leading life insurance company develops a cloud strategic roadmap including a workload analysis identifying a target workloads for migration

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Integration challenges:

**Seamless integration of traditional IT and clouds**

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A major financial services organization in the United States developed a detailed strategy to integrate cloud technologies into its existing hosting, desktop, voice, video, storage and network systems—boosting agility across the business.

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Security concerns:

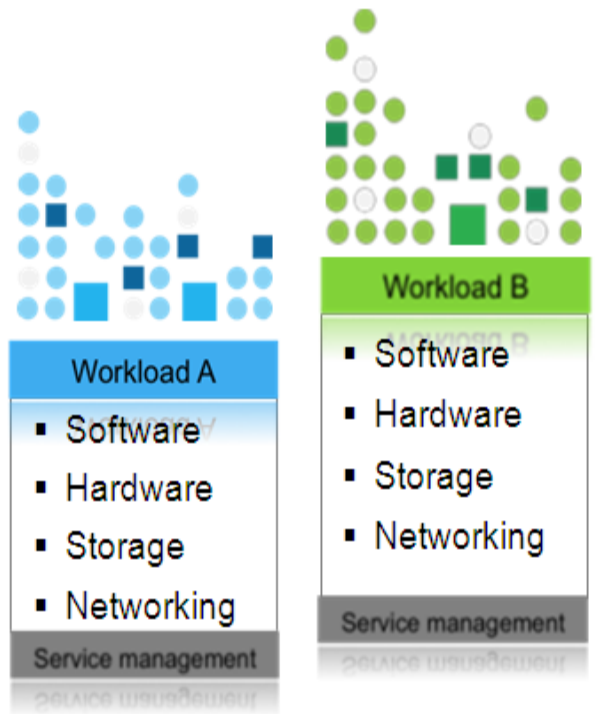
**Enterprise governance and policy-driven decision making**

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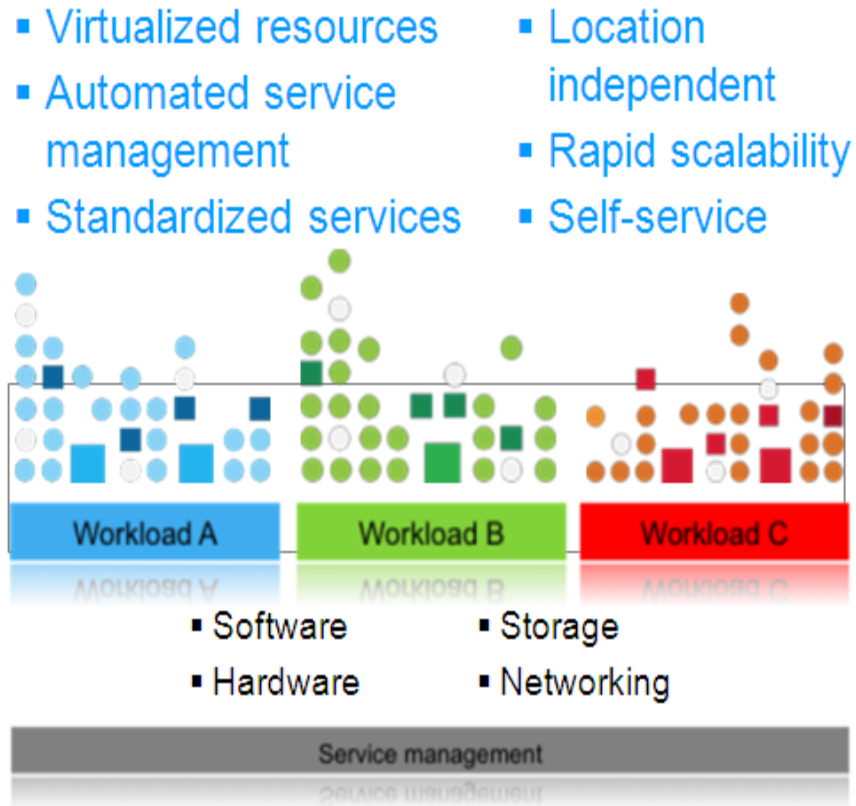
A global hotel group implemented a comprehensive cloud governance and security model.

# What is different about cloud computing?

## Without cloud computing



## With cloud computing



- Virtualized resources
- Automated service management
- Standardized services
- Location independent
- Rapid scalability
- Self-service

**Note: Elements of cloud computing taken from NIST, Gartner, Forrester and IDC cloud computing definitions**

# A successful cloud deployment starts with a comprehensive strategy:

**Identify workloads ready**  
to move to the cloud

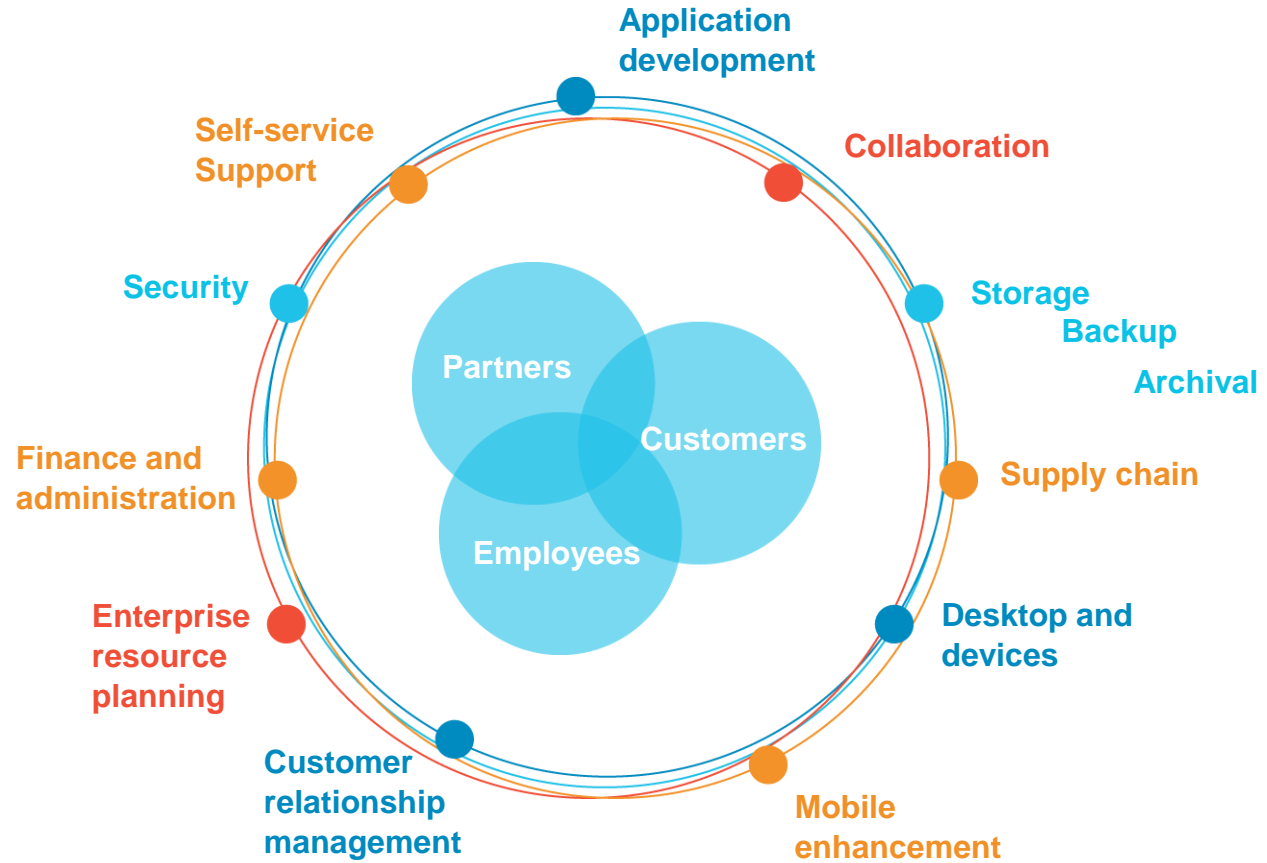
**Determine the cloud attributes**  
most appropriate for your business

**Redesign key processes** to support cloud implementation

**Accelerate your cloud deployment** by removing technical and operational barriers.

## And then apply that strategy to targeted processes across your business...

# Enterprises are using cloud to innovate a variety of key processes





There is a spectrum of deployment options for cloud computing

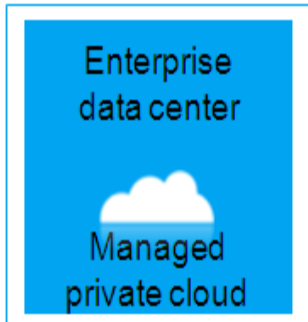
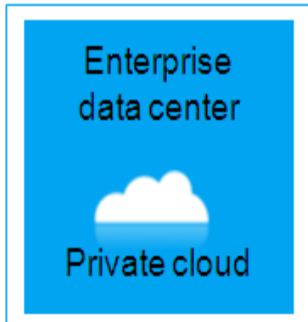


**Private**

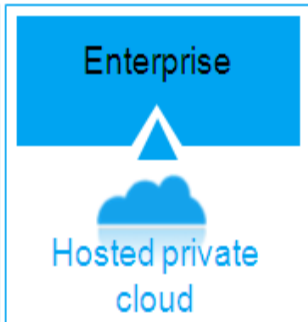
IT capabilities are provided “as a service,” over an intranet, within the enterprise and behind the firewall

**Public**

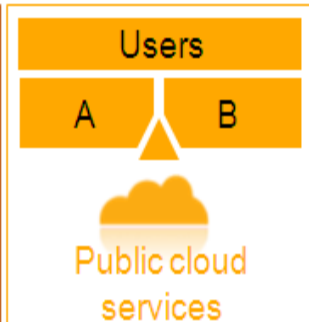
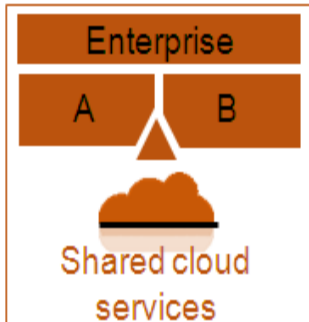
IT activities / functions are provided “as a service,” over the Internet



Third-party operated



Third-party hosted and operated

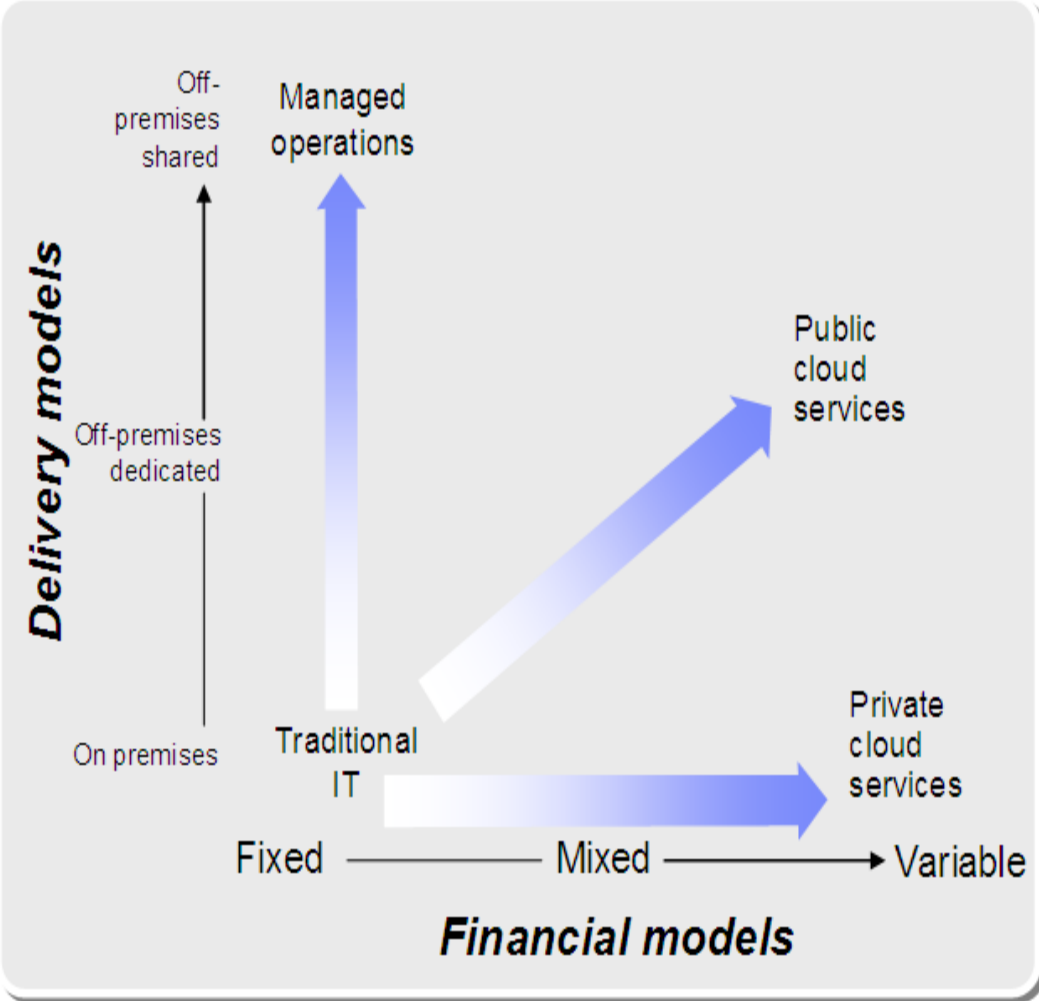


**Hybrid**

Internal and external service delivery methods are integrated

## Evaluating Delivery and Financial Models across the spectrum is a good reference point for comparing deployment options

As options for Cloud and utility computing grow, it is important to consider options for Delivery and Financial models. This thought process should be in the context of an overall infrastructure optimization program.





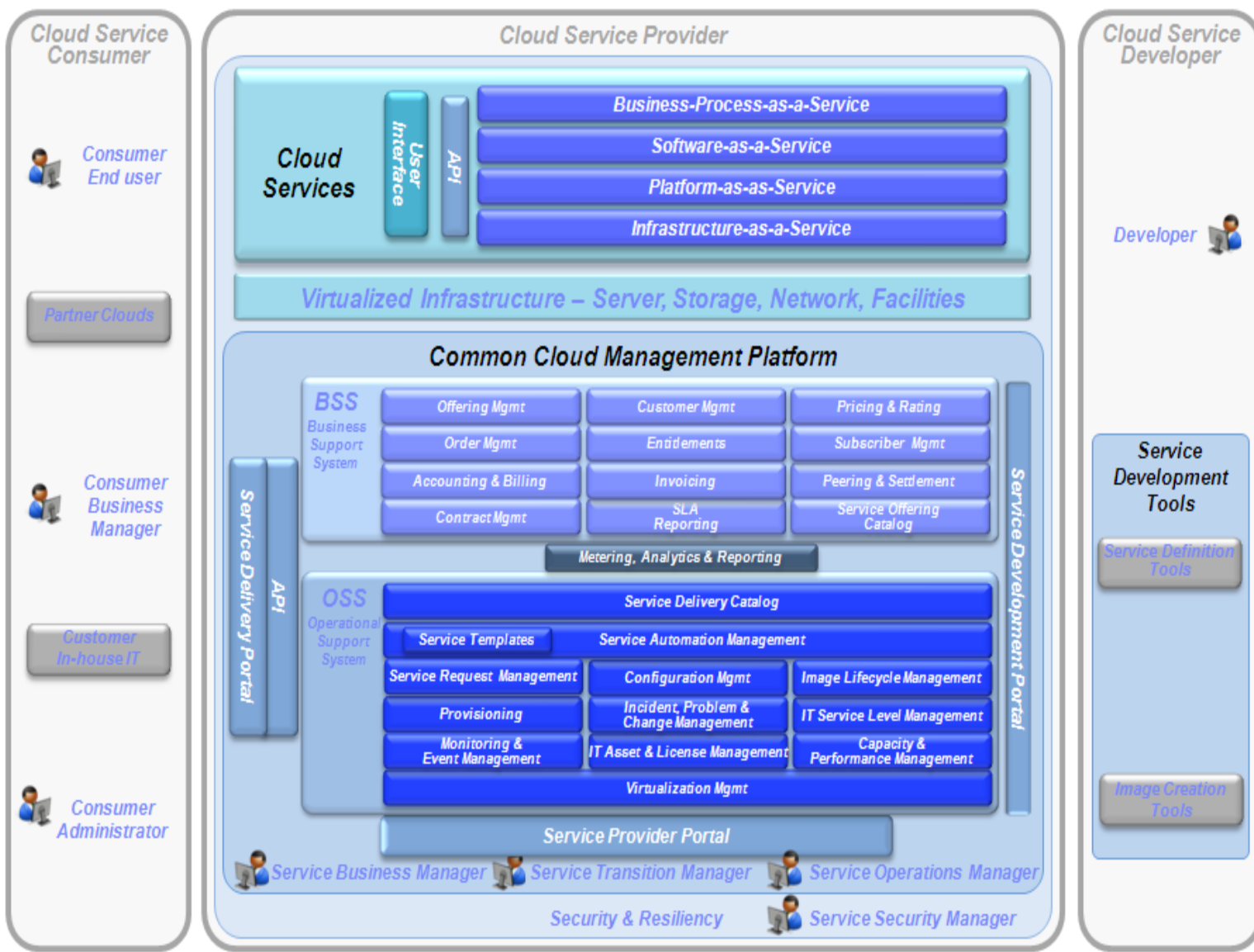
# Adoption of cloud computing will be workload driven

## Workload characteristics determine standardization

<b>Test for Standardization</b>	<b>Examine for Risk</b>	<b>Explore New Workloads</b>
<ul style="list-style-type: none"><li>▪ Web infrastructure applications</li><li>▪ Collaborative infrastructure</li><li>▪ Development and test</li><li>▪ High Performance Computing</li><li>▪ ...</li></ul>	<ul style="list-style-type: none"><li>▪ Database</li><li>▪ Transaction processing</li><li>▪ ERP workloads</li><li>▪ Highly regulated workloads</li><li>▪ ...</li></ul>	<ul style="list-style-type: none"><li>▪ High volume, low cost analytics</li><li>▪ Collaborative Business Networks</li><li>▪ Industry scale “smart” applications</li><li>▪ ...</li></ul>



# Common Cloud Management Platform Reference Architecture



# Innovation to Match Use Cases

## Traditional Needs

- Static provisioning, physical protection
- Predictable access
- 7x24 access; planned redundancy
- Range of performance & cost tiers
- Storage-driven data replication & migration facilities
- Storage encryption & access control

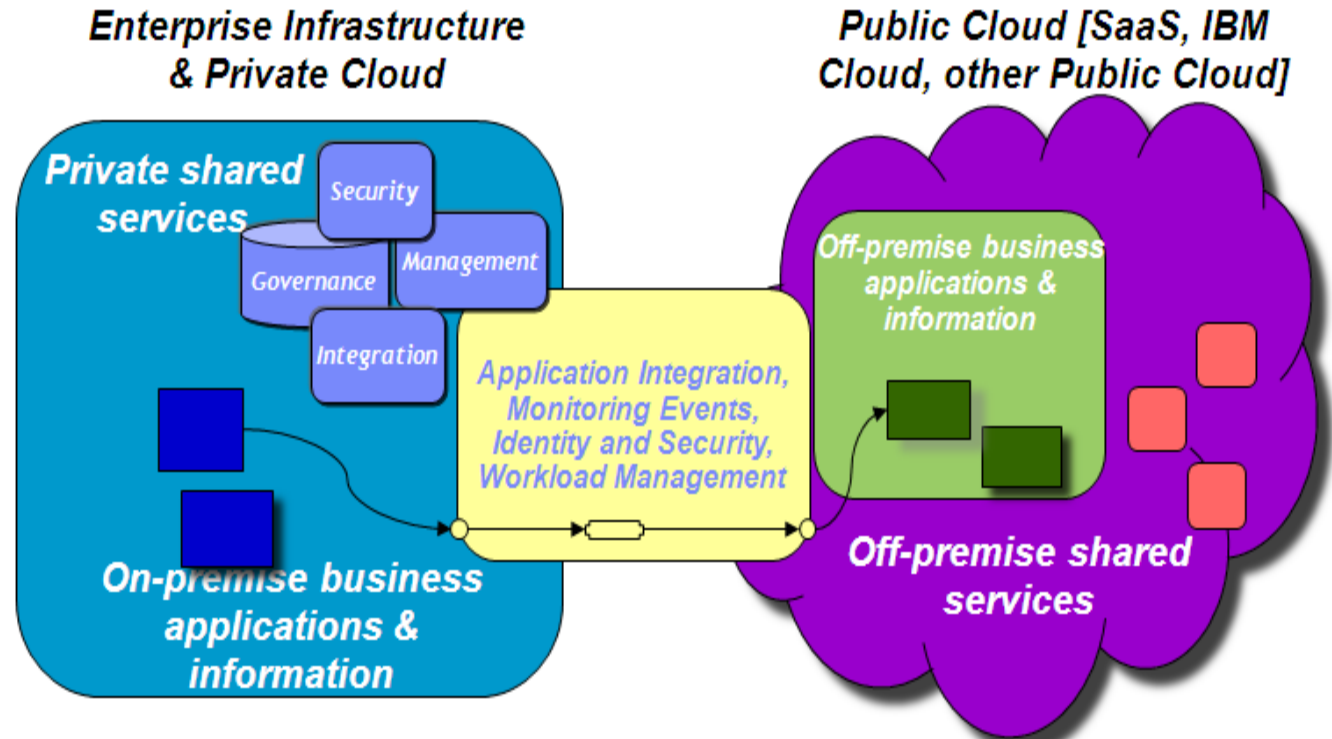
## Expanding Requirements

- Dynamic provisioning to virtual servers
- High availability of virtual servers and storage
- Virtual server and storage mobility
- Granular data replication & movement
- Security in multi-tenancy environments
- Policy based management of performance, copies, retention
- ISV integration with storage mgt & copy functions

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# Service Management to connect, manage and secure hybrid clouds



**Workflow**  
 Manage the process for approval of usage



**Provisioning**  
 Automate provisioning of resources



**Monitoring**  
 Provide visibility of performance of virtual machines

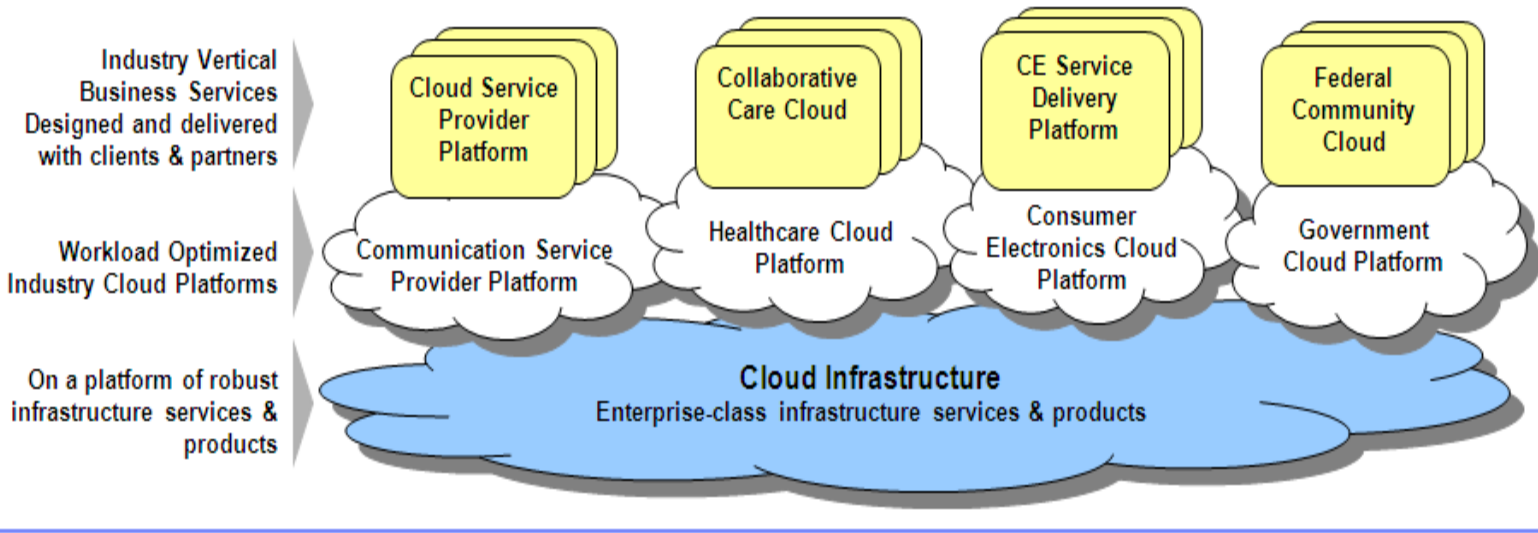


**Metering and rating**  
 Track usage of resources

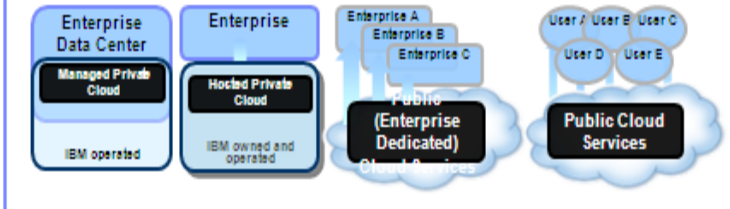


## Cloud enables global industry transformations

### Industry Vertical Portfolio of Cloud Offerings & Services



### Utilizing delivery models optimized to client and/or industry requirements





# Thank You

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**Driving Innovation  
Through the Information  
Infrastructure**

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