

Delivering on the Promise of Cloud Computing

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In Dept Seminars Track – D1

Session 1



DELIVERING ON THE PROMISE OF CLOUD COMPUTING

How many cloud experts in the room?



Get ready for more cloud

- 2012 Cloud spending: \$60b
Source: IDC
- Cloud spending by 2020 \$150b
Source: Bain and Company
- SaaS growth from \$9.97b to \$23b by 2015
Source: Gartner
- IaaS market to grow by 47.8% through 2015
Source: Gartner
- Global cloud computing will grow from \$40.7b in 2011 to over \$241b by 2020
Source: Forrester





Some interesting cloud projections

- Cloud computing traffic 12-fold by 2015 from 130 exabytes to 1.6 zettabytes [Source: Cisco](#)
- 20% of IT spending will be driven by smartphones, tablets, mobile networks, social networking & data analytics [Source: IDC](#)
- 50% of companies will store customer-sensitive data in the cloud by 2016 (now: development and test) [Source: Gartner](#)
- Over next 3 years 65% of growth will be from today's cloud-free companies [Source: Bain and Company](#)

Cloud job growth



Cloud-Related Jobs Worldwide in Millions



Cloud computing allows IT organizations to save money and shift legacy work to the cloud, freeing up resources to innovate and hire more people.

Cloud services will generate nearly 14 million jobs worldwide by 2015.

Source: IDC White Paper Sponsored by Microsoft Cloud Computing's Role In Job Creation. February 2012.



Cloud computing – differing views

- Cloud Computing refers to both the applications delivered as services over the Internet and the hardware and systems software in the datacenters that provide those services. The services themselves have long been referred to as Software as a Service (SaaS).
- A mechanism to connect infrastructure, applications, and platforms over a remote network, typically on virtualized off-site servers over a secure IP connection
- A more flexible and dynamic infrastructure with greater levels of self-service and enterprise application support.



Cloud computing – Is it new?

- The concept is not new, the implementation is radically different.
- **My take:** The confluence of disparate capabilities equates to new technology (massive low-cost server farms, statistical multiplexing and virtualization, open APIs)



Cloud computing defined

Cloud computing is a model for enabling 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.



NIST elements of cloud computing

NIST cloud model promotes availability and is composed of:

- 5 essential characteristics
- 3 service models
- 4 deployment models



5 Essential characteristics of cloud computing

- On-demand self-service
 - It's there when you need it
- Broad network access
 - Tons of connectivity options
- Resource pooling
 - Sharing who-knows-where resources
- Rapid elasticity
 - You get what you need
- Measured Service
 - You get what you pay for





Essential characteristics of cloud computing

On-demand self-service – A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service’s provider.

Broad network access – Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, laptops, and PDAs).

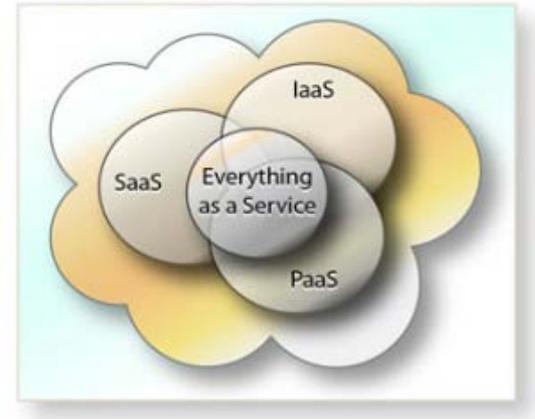
Resource pooling – The provider’s computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand. There is a sense of location independence in that the customer generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction (e.g., country, state, or datacenter). Examples of resources include storage, processing, memory, network bandwidth.

Rapid elasticity – Capabilities can be rapidly and elastically provisioned, in some cases automatically, to quickly scale out and rapidly released to quickly scale in. To the consumer, the capabilities available for provisioning often appear to be unlimited and can be purchased in any quantity at any time.

Measured Service – Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be monitored, controlled, and reported providing transparency for both the provider and consumer of the utilized service.

Cloud service models

- Software as a Service (SaaS)
 - Give me a logon
- Platform as a Service (PaaS)
 - Here's my application – run it
- Infrastructure as a Service (IaaS)
 - Rent a datacenter





Cloud service models

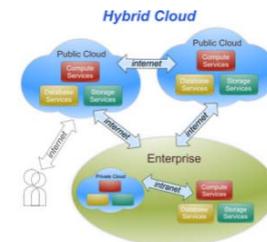
Infrastructure as a Service (IaaS) – The capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, deployed applications, and possibly limited control of select networking components (e.g., host firewalls).

Platform as a Service (PaaS) – The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly application hosting environment configurations.

Software as a Service (SaaS) – The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser (e.g., web-based email). The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

Cloud deployment models

- Public cloud
 - Sold to the public, mega-scale infrastructure
- Private cloud
 - Enterprise owned or leased
- Community cloud
 - Shared infrastructure for specific community
- Hybrid cloud
 - Composition of two or more clouds





Cloud deployment models

Private cloud – The cloud infrastructure is provisioned for exclusive use by a single organization comprising multiple consumers (e.g., business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.

Community cloud – The cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be managed by the organizations or a third party and may exist on premise or off premise.

Public cloud – The cloud infrastructure is provisioned for open use by the general public. It may be owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud provider.

Hybrid cloud – The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between clouds).



Cloud computing resources

- The NIST Definition of Cloud Computing
 - Authors: Peter Mell and Tim Grance, Version 15, 10-7-09, National Institute of Standards and Technology, Information Technology Laboratory
<http://csrc.nist.gov/groups/SNS/cloud-computing/>
- Cloud Security Alliance
<http://www.cloudsecurityalliance.org/>
- Many differing views and definitions so ensure everyone in the enterprise is on the same page

Proclaimed Cloud benefits (2010)

- Elimination of an up-front commitment by Cloud users
- Developers with innovative ideas encounter less barriers to entry
- Quick up-and-down for temporary apps
- Reduces infrastructure costs
- Converts some capital expenses to operating expenses
- Highly efficient pricing where customers pay only for resources used on a short-term basis as needed.
- Virtually unlimited computing power on demand
- Increasingly open high-value business data typically delivered up via SOA
- Rapid expansion of business information in machine-readable form.
- Less pressure on corporate IT departments charged with managing the infrastructure and budgeting for new equipment to keep up with demand
- Companies with large batch-oriented tasks can get results as quickly as their programs can scale
- Fewer over-provisioning and under-provisioning concerns
- Better security – if you have archaic or home-grown security capabilities
- Transfers risk
- Gives application providers the choice of deploying their product as SaaS without provisioning a datacenter
- SaaS-Service providers enjoy greatly simplified software installation, maintenance and centralized control over versioning

IT Cloud benefits I see most

- Pay for what is used
- Higher levels of availability
- More robust backup and recovery
- Higher resource utilization and resource sharing
- Faster responsiveness and flexibility i.e. provisioning and de-provisioning of applications
- Ability to tailor services to specific user groups or individuals
- Latest functionality via continuous software updates (no more version control)
- Lower IT costs, less IT staff (small number) but cost savings are nominal



Business Cloud benefits I see most

- Accelerating speed of business
- Pay for what is used
- Faster responsiveness and flexibility i.e. provisioning and de-provisioning of applications
- Greater ease-of-use through rapid-delivery self-service
- Latest functionality via continuous software updates (no more version control)
- Enhanced support of mobile users – easier access – support of multitude of user devices (consumerization of IT)
- Greater collaboration between work groups and easier to share systems with providers
- Greener - Reduced waste and lower energy consumption





Proclaimed Cloud downsides (2010)

- Data transfer bottlenecks and latency concerns
- Absence of a business model that fully reflects the technology's flexibility
- Data owner no longer has direct or indirect control of the physical environment affecting his/her data
- Data confidentiality and “auditability”
- Performance unpredictability, bugs in large-scale distributed systems
- Questionable security – if you have proven, mature, advanced security capabilities
- Pricing models need to evolve – lack of flexible pricing
- Service Availability and Business Continuity Management and assurance concerns
- No data handling and security practices standards
- Users might become dependent on proprietary systems whose costs will escalate or whose terms of service might be changed unilaterally and adversely
- What recourse when application isn't available, performance bogs down, or there's a security breach
- SLA “penalty” costs will carry over to price
- Reputation fate sharing and legal liability

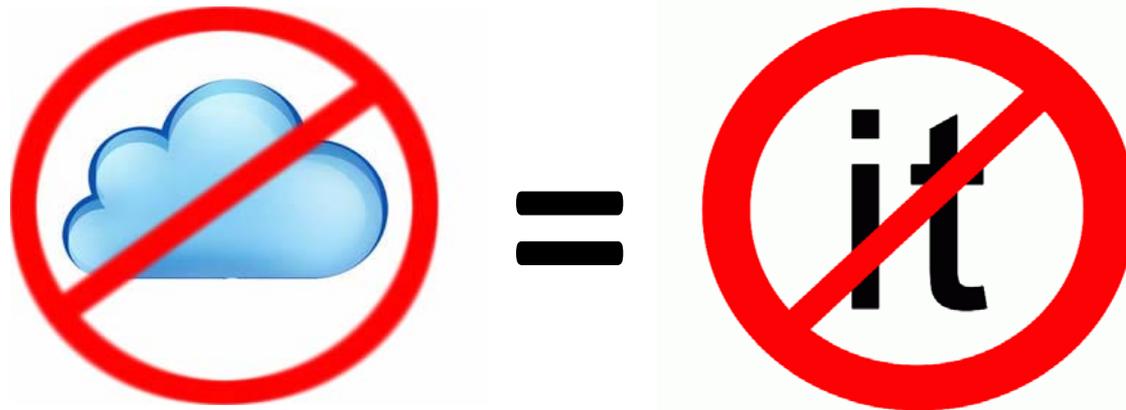
IT downsides of the Cloud I see most

- Lack of cloud experience
- Decreased security
- Decreased availability
- Decreased performance
- Increased costs
- Lack of interoperability standards
- Difficulty integrating with existing infrastructure
- Back-out (migrating back to on-premise)
- Speed in deploying new users
- Pricing strategies
- System complexity
- Rapid technology advancements of cloud capabilities
- As you scale up it becomes more difficult to manage multiple cloud instances – could increase labor costs
- Rising cost due to greater storages



Business Downsides of the cloud I see most

- Speed in adding additional users
- Lack of clear enterprise value propositions
- Enterprise-wide organizational challenges



Business incentive to bypass IT

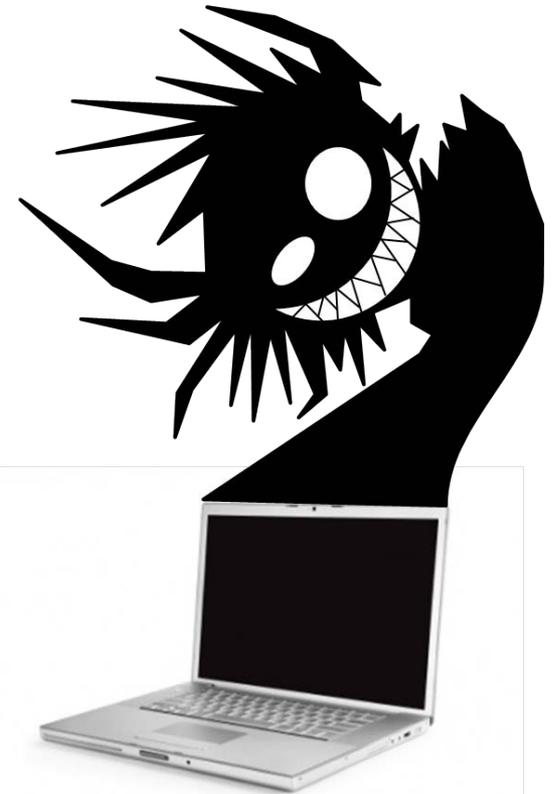
- Responsiveness is almost always the key driver for business users going directly to cloud providers – due to the lack of speed of their internal IT department to establish cloud services
- Business line pays directly for resources— exactly the kind of granular accounting most IT shops still don't—and can't—do



'Shadow IT'

Downsides of the business bypassing IT

- Not always less expensive
- Missing out on volume purchasing, procurement and contract/SLA oversight
- Frequently does not meet risk management requirements
- Increases chances of redundancy and decreases potential for reusability



Two sides to the Cloud Computing coin

People were either pro-Cloud or anti-Cloud

- Rarely do I find fence-sitters or both-side-seers
- Pro-cloud?
 - Immerse yourself in the downsides
- Anti-cloud?
 - Immerse yourself in the benefits
- Goal: Informed cloud
 - Knowing the pros and the cons and making informed decisions about what is best for your business



IT has much to gain



- By leading and managing this change, CIOs can drive cloud adoption while assuming a new, even more strategic role within the enterprise—partnering with business leaders to develop new revenue streams and cement IT’s roles as a driver of business innovation.
- CIOs can deliver higher levels of business value in the form of new IT services, while providing the agility and scalability needed to deliver IT innovations quickly

54% of CIOs believe cloud computing has enabled them to spend more time on business strategy and innovation. [Source: CA Technologies survey](#)

IT needs to take the lead



Use the Cloud to foster more collaboration with the business by helping to make cloud computing choices

- Take the lead on developing a cloud strategy and transformation roadmap
- Act as the cloud-provider clearing house
- Provide existing systems integration services
- Help business counterparts adapt to the new technology

IT needs to be ready



Building the correct cloud delivery model is critical

- Be the expert on moving to the Cloud vs. in-house IT
- Provide the facts about the opportunity and risk of the Cloud
- Ensure the continued assessment of on-premise systems to determine future-viability of cloud migration
- Adapt and evolve IT roles and responsibilities
- Help to do the “cloud math”



Cloud transformation is complex

- Enterprise cloud computing represents more than just a technology shift
- Cloud transformation requires fundamental cultural change and education/training throughout the enterprise, both within and outside of IT
- Business processes will need to be redefined - Org silos can inhibit cloud adoption (silo thinking prevents overall process optimization and automation)
- Difficult to accrue funding without strong value prop
- The strategic relevancy of transformation must be ensured in a repeatable fashion – at a rapid pace

Trust in IT is essential – as well as trust between groups

Cloud Transformation Roadmap



Business Case

The identification of enterprise strategy driven outcomes and the articulation of business value

Cloud Strategy

The approach to integrating cloud computing into a broader information technology strategy

Migration Planning

Assessment of IT and business capabilities and development of tactical and operational plans

Transformation & Adoption

Realization of cloud strategy and fostering of a cloud enterprise culture

Developed with Michael Kringsman of Asuret



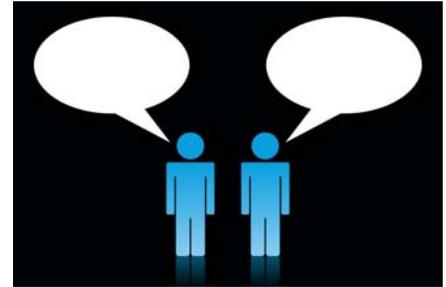
'Business' case for cloud computing

IT and the business must draw direct connection between enterprise goals and cloud computing and *then* set expectations

- Developing an IT-only cloud strategy is not only short-sighted, it ignores fantastic opportunity to engage the business
- How does cloud computing support enterprise strategy?
- How does cloud computing change enterprise strategy?
- Justifying the cloud is much easier when solving a business need versus the benefits of reducing the cost of IT.

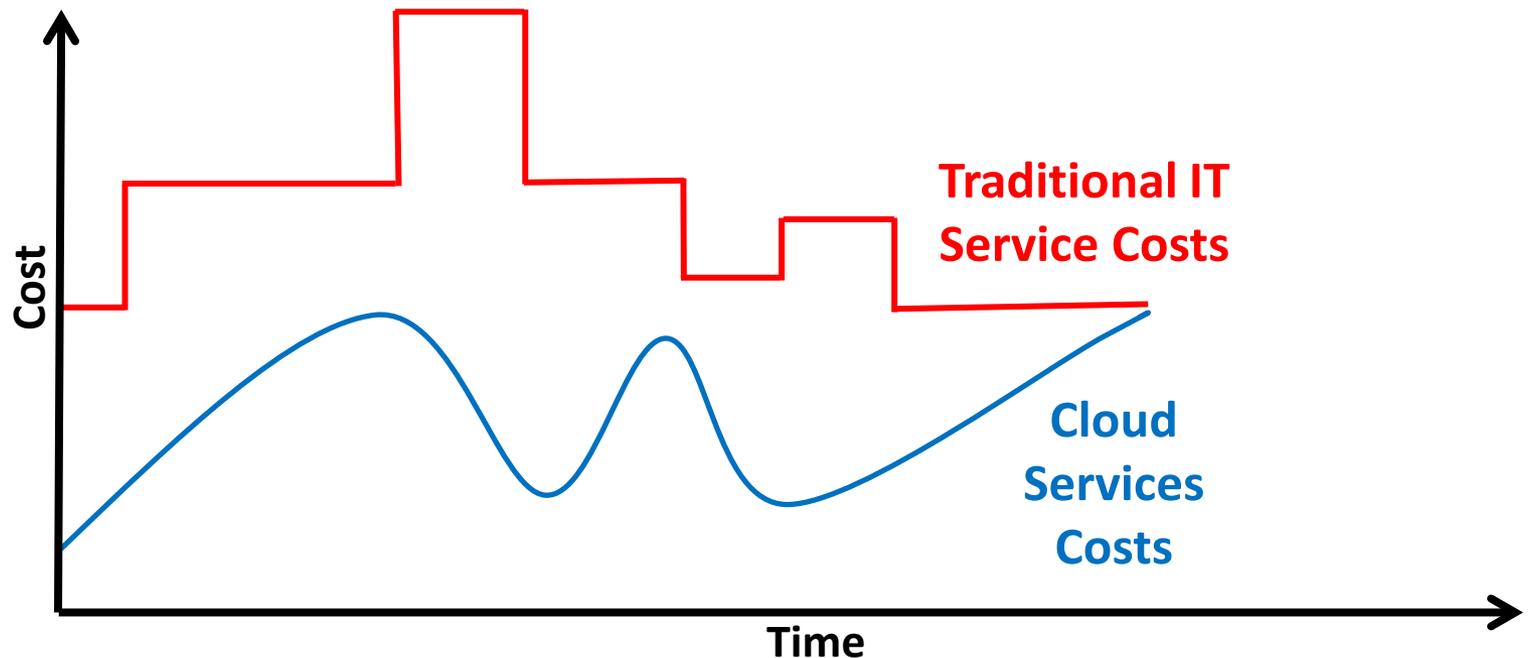
Cloud computing business case challenges

- Communication and collaboration
- Considering the intangible benefits
 - Agility and flexibility
 - Building cloud computing expertise
- Don't do it just to do it – use PPM to answer...
 - Should we invest in cloud computing?
 - Can we invest in cloud computing?
 - Are we doing what we said we would do? (cost, time, earned value)
 - Did we do what we said we would do? (benefits realization)



Basic Cloud Economics

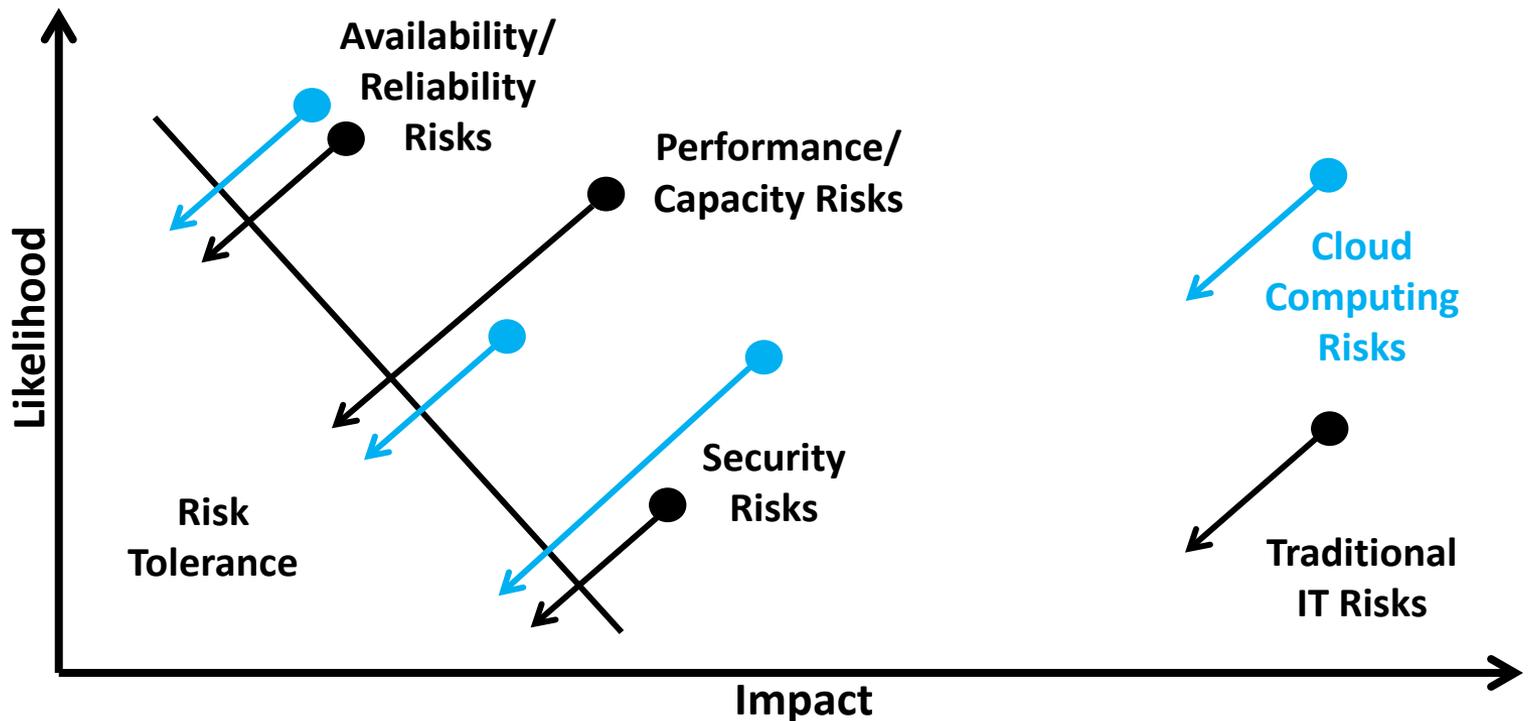
Cost savings derived from efficiency of upscaling/downscaling as demand changes, and reduced underutilization from sharing services



Note: Potential savings are greater when more layers of the IT stack are transitioned to the cloud ,e.g., greater savings for SaaS than IaaS
Source: Ron Speed CISA DRISC CA, "IT Governance and the Cloud" *ISACA Journal*, Vol.5 2011

Creating a Cloud Computing Business Case

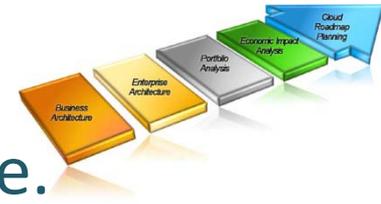
Mitigation needed to reduce risks within risk tolerance



$$\text{Cloud NPV} = (\text{PV cloud cost savings}) - (\text{cloud risk mitigation costs}) + (\text{traditional risk mitigation costs}) - (\text{costs to transition to cloud})$$

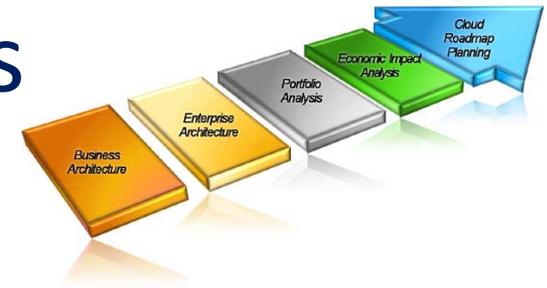
Source: Ron Speed CISA DRISC CA, "IT Governance and the Cloud" *ISACA Journal*, Vol.5 2011

Cloud strategy considerations



- Business situation and environment, i.e. requirements for speed to market, growth, legal, regulatory
- How can a private cloud provide more agility and flexibility than current hosting approaches?
- Workload characteristics, i.e. size, complexity, required customization
- Economics i.e. cost-savings or business transformation investment

Cloud strategy readiness considerations



- Enterprise architecture competency
- IT technology investment and outsourcing philosophies
- IT experience in complex large-scale technology projects
- Determine the benefit of private-to-public cloud transition (cloud proving and training ground)
- Not ready? Conduct some cloud pilots



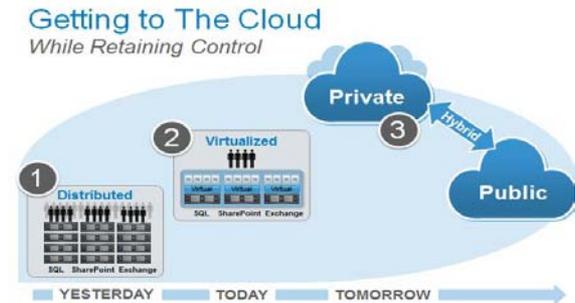
More cloud strategy questions

- What is the organization's risk tolerance?
- What are the viable paths to move applications to the cloud?
- What architectural changes are required to integrate cloud and non-cloud systems?
- How should infrastructure and operations processes change to take advantage of different procurement, provisioning and management models?
- Who is responsible for managing identity and privacy in environments that mix cloud and non-cloud systems?

With input from [Chris Curran of PWC Diamond Consulting](#), [CIO Dashboard post](#)

High-level cloud strategy options

- Private-only or Public-only
- Private *and* public cloud
- Private – to – public cloud transition
using private cloud as proving and training ground
(evolves current IT infrastructure, develop internal expertise, better control of security and compliance - *but don't do this just to make your IT staff "feel good"*)



Today:

- 30% have some public (dominated by SaaS then IaaS)
- 70% have some private (dominated by IaaS then PaaS)

Private cloud

- Less disruptive
- In-house security
- Reduced IT costs
- More control to meet SLAs
- Evolution rather than replacement
- Builds cloud expertise and competency



Public cloud

- Less training required
- Less investment
- Limited on-premise capacity
- When commodity services are available
- When provider security and availability are acceptable
- When you have a need for “burst capacity”



Cloud Adopter Types

	Transformational	Heterogeneous	Safety-conscious	Price-conscious	Slow-and-steady
Adoption Time	Early	Opportunistic	Opportunistic	Opportunistic	Late
% of Companies	1	11	22	12	44
2010 % IT in Cloud	44	13	14	5	1
2013 % IT in Cloud	49	42	26	19	10
2010 Cloud Spend	9	3	5	1	1
2013 Cloud Spend	12	8	10	5	8
Cloud Models	Public	Public	Private & Hybrid	Public	Private & Hybrid
Top IT Priority	Transforming IT environment	Evolving IT over time	Balancing security with growth	Lowering TCO	Minimizing disruption
CIO Perspective	Change agents on a mission	Optimize many factors for individual workloads	Both aggressive and cautious, (risk-based)	See IT as a cost center; all about savings	Let early adopters take risk and see how they fare
Business Needs	Efficient, flexible IT capabilities	IT is critical to business but highly complex	IT manages particularly sensitive data	IT delivers basic functionality; not a differentiator	Barriers constrain IT decision making

Source: Bain and Company

Private cloud concerns



- Additional layer of virtualization requires significant expertise to manage and support
- Can substantially decrease overall stability
- Diagnosing and resolving incidents more complex
- Extensive effort to gather requirements, define the architecture and plan the project – do you have the expertise?
- Operations teams are faced with an incredible challenge maintaining and supporting business customers on the private cloud

Public cloud concerns



- What are the risk, security, and compliance (legal & regulatory) requirements?
- Is “Proof of Concept” an option?
 - PoC could validate security, enable workload testing, validate “fast deployment” viability
- Is procurement and IT strategic sourcing up to the task?
 - Negotiation, SLAs, Contracts



Fine Print – Would you sign this contract?

- The SaaS vendor can suspend your right and license to use services, or terminate the agreement in its entirety, for any reason or no reason, at its discretion at any time, with, at most, 60 days' notice.
- In the event of a suspension of service, the SaaS provider will not intentionally erase your data (but will not represent that it will preserve it) and can condition return of your data upon your compliance with terms and conditions that the SaaS provider may establish in the future.
- Your access to services may be suspended without notice, and the SaaS vendor will have no liability with regard to such downtime.
- You bear sole responsibility for adequate security, protection and backup of your data, even though the other party is hosting it.
- The contract terms can be changed at any time by the SaaS vendor.
- Your company must indemnify the SaaS provider from all claims relating to your use of the vendor's services, with no limitations on liability.

Source: [Morrison & Forester](#) — Computerworld story, Feb 13, 2012, Robert L. Mitchell

Preparing for cloud migration

- Consider using a “cloud aggregator”
- Ensure IT skill and competency readiness
- Diligently address risk, security, compliance
- Thoroughly understand the environment – *technical and business*
- Assess the readiness of existing operational processes and redesign and implement new process when necessary
- Invest in public cloud management and monitoring solutions – *automation is key*
- Thoughtfully address disaster recovery and contingency planning

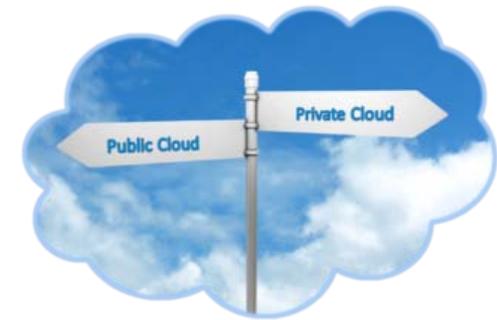




Cloud migration advice

- Identify a manageable set of applications and create a project team charged with building a cloud to host those applications or migrating those apps to a public cloud
- Define clear rules of engagement to help team focus their efforts
- Develop specific capabilities such as automated self-service provisioning, including a service catalog and embedded IT policies
- Pay close attention to capacity management. Cloud capacity must be available when users need it, requiring IT to manage capacity like a business supply chain.

What apps to move



For each application, IT needs to determine whether to host internally or externally

- Is the application mission-critical?
- Are there compliance requirements?
- Does the application support one of the company's core areas of business strength? What are the application's security and privacy requirements?
- Are there other barriers—such as specific hardware requirements or a lack of supplier application support—that may prevent virtualization?

Cloud-based application questions

- How do I make sure all of the customers in Salesforce.com are synchronized with those in my customer management application, my billing application and my 6 product systems?
- Should I add custom application logic into Salesforce to validate customer and company information against my master list or should I do it externally?
- What kinds of skills and other organizational considerations should I make for the IT staff supporting my customer systems?



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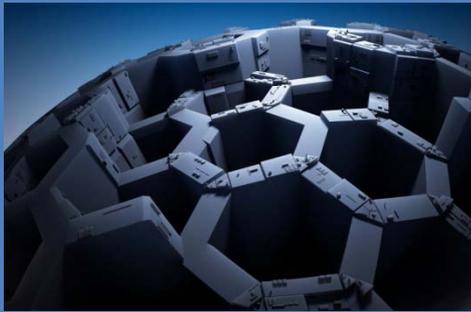
Governance decisions - to make cloud decisions

IT Principles for Digitization Decisions

Clarifying the Role for IT

Need to determine if Cloud influences IT Archetype

Enterprise Architecture Decisions



Biz/IT Architecture must incorporate the Cloud

IT Infrastructure Decisions



Must reflect the Cloud

Business Application Decisions



Which are candidates for the Cloud?

IT Investment and Prioritization Decisions

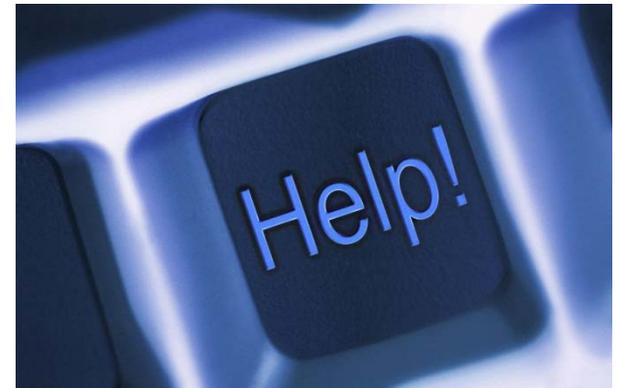


Increased need to ensure they are reasoned and rationale

Who helps makes those decisions?

- Biz/IT Strategic and Tactical Planners
- IT Portfolio Managers
- IT Financial Managers
- IT Program and Project Managers
- Business and Systems Analysts
- IT Research and Development Staff
- Client Relationship Managers
- Application Development Experts
- Provisioning Managers
- IT Outsourcing Managers
- IT Risk Managers
- IT Security Managers
- Enterprise and IT Architects

You still need IT even if you migrate to the Cloud





Governance processes required in the cloud

- Integrated Business & IT Planning – *Needed to determine Cloud fit*
- IT Investment Assessment, Prioritization, Funding & Benefits Realization Accountability (PPM) – *Cloud investment decisions*
- IT Financial & Resource Allocation – *Major \$\$\$ ramifications*
- Project Execution & Decision-making (PMO/PM) – *Cloud projects*
- Emerging Technology Evaluation & Adoption – *When to adopt*
- Client Relationship Management – *User to Provider liaison*
- Building & Maintaining Apps & Infrastructure – *Unless strategic differentiator*
- Provisioning of IT Services – *Needed to determine which Cloud?*
- Outsourcing Services – *Contracts and increased SLA criticality*
- Audit & Risk Management & Compliance – *CIA, CRO/CSO, SDLC*
- Architecture Management - *FIT*

Changing Roles in IT



IT Professionals and Managers will need to adapt

- From maintaining server room to managing SaaS service
- Greater opportunities for enterprise architects
- New roles cloud architects, cloud capacity planners, cloud service managers and business solutions consultants
- More focus on business development than application development
- Developers may not be writing on-premise apps but can assist with getting SaaS apps up and running
- PaaS could spell “golden age of development” given advent of easy to provision/de-provision computing resources (sand boxes)



Detailed IT cloud role descriptions

Cloud Specialist: Fosters cloud computing best practices and provides expertise, design, engineering, and troubleshooting of the cloud environment. Collaborates with project managers, engineers, developers and analysts to ensure cloud computing best practices are followed and applied.

Cloud Computing Architect: Understands cloud orchestration software stacks, application management frameworks, network designs, bandwidth latency, and other cloud computing technical areas. Drives the architect/design and implementation for cloud-based solutions. Drives the architecture/design and implementation to migrate to a cloud-based service and deployment model. Interact effectively with CTO, product manager, and engineering managers to drive an optimized solution under known constraints. Mentors cloud workers to adopt development and QA processes and best practices for cloud computing. Provide innovative ideas and business direction to leverage cloud computing capabilities.

Systems Engineer – Cloud Computing: Supports the transition to a cloud computing environment. Oversees the development of the cloud computing strategy, cloud capability assessment, and multi-year cloud computing plan programs, administration and support.

Cloud Architect – Infrastructure: Works with constituents to assist in the architecting of appropriate cloud solutions. Designs and architects innovative and practical cloud based solution for customers. Defines and recommends the cloud transformation/adoption roadmap. Supports enterprise architecture, IT architecture, and cloud computing architecture efforts.



Detailed IT role descriptions

Lead Software Developer and Application Architect – Cloud Computing Focused: Leads the building of high business value applications to directly influence company growth. Designs and develops the next generation of software and leads assessment and adoption of cloud based platforms. Understands application partitioning, and decides which application objects need to be distributed into content delivery networks. Create business continuity and disaster recovery strategies via data center- or cloud-spanning designs, along with other application elements.

Cloud Alliance Manager: Dedicated to ongoing management of cloud computing service provider partnerships and relationships. Develops competitive strategies relative to vendors, pricing, assortment and solutions. Supports the governance required to ensure enterprise procurement and strategic sourcing goals are met.

Virtualization & Cloud Computing Subject Matter Expert: Support cloud computing strategy and roadmap development to ensure enterprise goals are met. Identifies potential risks, obstacles and solutions regarding the use of cloud computing.

Storage and data architects. Focused on building highly-scaled, highly-distributed data and storage schemes.

Software engineers, Sysadmin 2.0., Capacity planners, Financial analysts

IT Governance must be extended to cloud providers

IT Governance Definition(s)

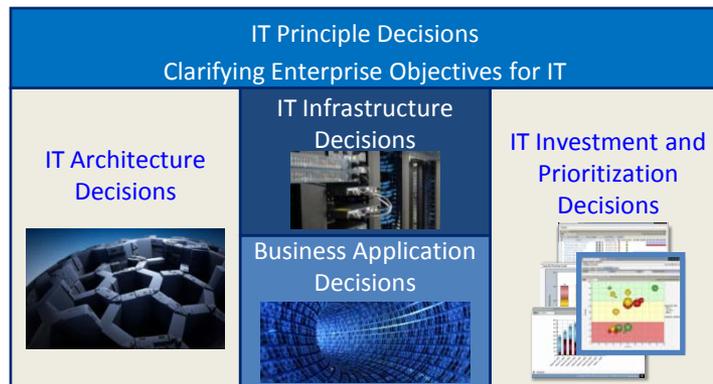
3 Key Questions:

- What decisions need to be governed?
- Who is accountable for governing those decisions?
- How will those decisions be governed?

IT Governance Principles

- Ensure IT is aligned with the business
- Ensure IT delivers value to the business
- Ensure IT manages risk
- Ensure IT manages resources
- Ensure IT manages performance

IT Governance Decisions



IT Governance Mechanisms

- Board of Directors / Committees
- Metrics
- Process Management

IT Governance Processes

- Integrated Business & IT Planning
- Architecture Management - Standards & Review
- IT Investment Assessment, Prioritization, Funding & Benefits Realization Accountability (PPM)
- IT Financial & Resource Allocation
- Project Execution & Decision-making (PMOs/PM)
- Emerging Technology Evaluation & Adoption
- Client Relationship Management
- Building & Maintaining Applications & Infrastructure
- Provisioning of IT Services
- Outsourcing Services
- Audit & Risk Management

PPM crucial to Cloud transformation

- Project & Portfolio Management (PPM) is key
Portfolio management is the centralized management of one or more portfolios, which includes identifying, prioritizing, authorizing, managing, and controlling projects, programs, and other related work, to achieve specific strategic business objectives.

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- Should we?
- Can we?
- Are we?
- Did we?

S.C.A.D. Model



- Application Portfolio Management (APM) is also key

APM helps determine what apps to move

For each application, IT needs to determine whether to host internally or externally

- Is the application mission-critical?
- Are there compliance requirements?
- Does the application support one of the company's core areas of business strength? What are the application's security and privacy requirements?
- Are there other barriers—such as specific hardware requirements or a lack of supplier application support— that may prevent virtualization?





Recommendations

- Ensure business and IT understanding and establish consensus on the definition of cloud computing
- Cloud transformation must be based on business need and value
- Research, study, and learn from current deployments



Recommendations

- IT should take the lead on cloud transformation and adoption
- Business must be a partner in cloud acquisition process
- Develop Cloud Transformation Roadmap and formal cloud strategy



Recommendations

- IT governance is essential to ensure successful cloud transformation
- Ensure PPM and APM practices are ready to quickly and thoroughly address cloud investment decisions



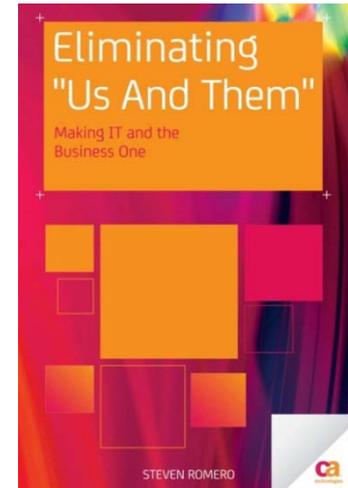
Recommendations

- Invoke rigorous business process and organizational change mgt.
- Expect outages & learn to manage them - SLAs and disaster recovery are essential
- Automate, automate, automate

IT governance, Process, and Organizational Behavior

“Eliminating ‘Us and Them’ – Making IT and The Business One”

- IT governance
- Process & Process Management
- Organizational Behavior



<http://www.amazon.com/Eliminating-Us-Them-Making-Business/dp/1430236442>

<http://amzn.to/qnfj77>



Thank you

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