Cloud Trends for 2013

THETA 2013

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Objectives

1. illustrate some key trends for Cloud in 2013
2. highlight 3 key strategies you should be considering
Agenda

- Context
- Driver
- Trends
- Strategies
The dreaded TLA’s (FLA’s)

- CSP: Cloud Service provider
- Private Cloud: single tenant (often on-premise)
- Public Cloud: multi tenant
- Hybrid Cloud: mixed
- IaaS: Infrastructure as a service up to OS
- PaaS: Platform as a service (development platform \ middleware)
- SaaS: Software as a service
- ‘XaaS’: The rest
  - BUaaS
  - DRaaS
The dreaded TLA’s (FLA’s)

- CSP: Cloud Service provider
- Private Cloud: single tenant (often on-premise)
- Public Cloud: multi tenant
- Hybrid Cloud: mixed
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- SaaS: Software as a service
- ‘XaaS’: The rest
  - BUaaS
  - DRaaS
Context

• Birth of cloud concept: traced back to ARPANET

• Modern cloud revolution stems from 2 events:
  1. Prevalence of commercially available (x86) virtualisation in VMWare (2001)
Context

Cloud Service Providers (CSPs) Maturity

Wave 1
- Virtual machines on demand
- Very basic portals
- No network integration
- Low level SLA’s
- DC Integration: customers

Enterprise Maturity

Wave 1
- Movement to external DCs
- Started virtualising workloads
- Public cloud experiments
Context

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- Wave 1
  - Virtual machines on demand
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- Wave 2
  - Basic NW functions
  - More enterprise features (BU)
  - SLA improved significantly
  - Move to more PaaS offerings
  - Still high integration issues

Enterprise Maturity

- Wave 1
  - Movement to external DCs
  - Started virtualising workloads
  - Public cloud experiments

- Wave 2
  - Virtualisation mainstream
  - Some workloads in public cloud
  - Very little true private cloud
Context

Cloud Service Providers (CSPs) Maturity

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Application Developers
Driver

• In US and UK, 1 in 3 mission critical apps in cloud (1 in 2 by 2015)

• Developers
  - Embraced public cloud: speed and agility
  - The first and most obvious use case, but now going mainstream fast
  - ISV’s moving to SaaS models
  - ISV’s ‘cloud certifying’ their apps

• Created an expectation gap within IT
• Warmed over virtualisation isn’t enough anymore
• Enterprise IT struggling to deliver private cloud
Driver

- Implications are important: problem is app-centric
- Enterprise challenge is how to migrate applications
- Problem changes from well known classic IT SI to cloud migration

System Integration
- Servers
- Storage
- Network
- Firewall
- Data Centre
- Application

Cloud Migration
- Connectivity?
- Security?
- Compatibility?
- Support?
- Data Migration?
Trends
Market Trends

Consolidation and growth of larger global players
- Deep pockets and existing railroads
- Leveraging IP, network and DC assets
- Building new services
- Inability for small players to compete

Maturity: High
Market Trends

Upmarket movements by CSP’s to greater margins
• PaaS and SaaS (Azure, Elastic Beanstalk)
• IaaS still the largest growth engine
• Many more managed services

Maturity: Variable, approach with caution
Market Trends

Proliferation of Cloud Service Brokers (CSB’s)

• Typically tied more to SaaS applications
• Provide single marketplace
• Provide portal access

Maturity: Low
Market Trends

Cloud Spend Management Becomes a Priority

- Enterprises have little understanding of the realities of consumption
- Billing models vary significantly
- Some 3rd party services, but limited – internal issue
- Workload specific modelling required (e.g. Amazon IO tolling)
- CSP’s: the new telcos!

Maturity: Low
Technology Trends

Hybrid Clouds Will Take Off

• Enterprise private cloud inability to meet public cloud experience
• Significant improvement in public cloud SLA’s (99.99% : Tier 1 CSP’s)
• Public \ Private Cloud integration toolsets
• Variable economics impossible to ignore
• Significant improvements to network quality and availability

Maturity: Medium
Technology Trends

Big Data Will Take Off

• #2 CIO priority according to Gartner
• Massive infrastructure requirements make cloud textbook use case
• Typically >5TB unstructured data
• Variable economics impossible to ignore

Maturity: Low
Technology Trends

Software Defined Networks

• Next virtualisation step after Server and Storage
• Control plane separated from data plane utilising OpenFlow
• Huge impact to economics and manageability in cloud environments
• Allows the concept of a truly Virtual Datacentre
• Game changing in terms of availability and portability of workloads

Maturity: Variable (at this stage only NTT Communications)
Technology Trends

Hybrid Cloud Security Options

• Move to hybrid model – some on premise, some cloud based
• Improved integration to existing cloud platforms
• From simple patch management to a shift to the perimeter
• Addition of identity management toolsets

Maturity: Variable
Technology Trends

*IaaS Platforms Will Expand*

- Next generation will encompass all the elements in a traditional DC
  - Server
  - Storage
  - Network
  - Firewall
  - Load balancers
  - Security
  - WAN

- Ability to manage entire VDC from a portal
- Application-centric approach

**Maturity: Variable**
Technology Trends

IaaS Platforms Will Expand - example

- Resource Pool Management
  - CPU
  - Memory
  - Storage
- Virtual Machine Management
  - Add
  - Delete
  - Snapshot
  - Spin up \ down
- Console Access from Portal
- Real-time Performance Data
Technology Trends

IaaS Platforms Will Expand - example

- Network
- Firewalls
- Load Balancers
- Compute Resources
- Virtual Machines
- WAN
- VPN
- Colocated Infrastructure
- Ticketing
Technology Trends

IaaS Platforms Will Expand - example
Technology Trends

IaaS Platforms Will Expand - example

Service-based VDC approach
Technology Trends

IaaS vs PaaS (IDC data)

2012
- SaaS (41.9%)
- IaaS (28.2%)
- PaaS (3.8%)
- vPC IaaS (26.1%)

2016
- SaaS (33.5%)
- PaaS (3.9%)
- IaaS (31.8%)
- vPC IaaS (30.8%)
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Wave 3
- DCaaS
- SDN
- More PaaS

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Strategy
3 Broad Strategies

1. **Integration of cloud services**
   - Complexity dependant on number of environments
   - Cloud brokers still immature

2. **Moving applications to PaaS environment**
   - Highly complex application migration exercise
   - Probably not feasible for 3rd party applications
   - Potential for proprietary lock in

3. **Move to a provider that can provide VDC capability**
   - Single pane of glass
   - Less operational and technical risk
   - Good medium to long term migration solution
   - Same as today, but different operational and economic model
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2013
A year of change

Thankyou

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