



IBM Market Development and Insights

This battlecard addresses four major use cases across four top IaaS competitors. All competitors offer solutions/services for these ...

Competitive Findings

All competitors have solutions and/or offerings for all four use cases

Use Case	AWS	Microsoft	Google	Rackspace	SoftLayer/IBM
APPLICATION HOSTING: Provides infrastructure to host client or partner apps (little dev/test focus)	<ul style="list-style-type: none"> SaaS/ISVs Enterprise apps 	<ul style="list-style-type: none"> Own apps Enterprise focus 	<ul style="list-style-type: none"> Mobile apps Web apps Linux workload focus (presently) 	<ul style="list-style-type: none"> Legacy apps SMB apps 	<ul style="list-style-type: none"> Well-suited for many app types, including apps with high IO, born-in-cloud
DEV/TEST: Provides infrastructure and tools to allow clients and partners to develop and test web/SaaS applications	<ul style="list-style-type: none"> Born-in-cloud apps Specific testing scenarios, e.g., load testing 	<ul style="list-style-type: none"> Targets MSFT developers Quickly evolves to PaaS selling 	<ul style="list-style-type: none"> Born-in-cloud and startup apps Few enterprise workloads 	<ul style="list-style-type: none"> Web and cloud architected apps Legacy apps 	<ul style="list-style-type: none"> Solutions like Flex Images facilitate dev/test environment creation
MOBILITY: Provides infrastructure and tools to allow clients and partners to develop, test and deliver mobile applications; infrastructure to support mobile backends	<ul style="list-style-type: none"> Targets mobile app developers in startups and enterprise 	<ul style="list-style-type: none"> Key focus with Azure Mobile Services Quickly evolves to PaaS selling 	<ul style="list-style-type: none"> Mobile case studies Pushes AppEngine in addition to IaaS 	<ul style="list-style-type: none"> Provides basic infra and partnered solutions Support mobile back-ends 	<ul style="list-style-type: none"> Chosen for low latency, fast disk IO, global reach, single pane management
BIG DATA/ANALYTICS: Provides infrastructure, software and tools to allow clients and partners to move, process, analyze, store, deliver big data and analytics	<ul style="list-style-type: none"> Multiple use cases Highlights multiple instance sizes, provisioned IOPS Pushes PaaS-related db and Hadoop solutions 	<ul style="list-style-type: none"> Top focus area Many recent PaaS-related announcements Specific solutions for big data, e.g., IoT 	<ul style="list-style-type: none"> “Google created big data” Performance-focused value proposition 	<ul style="list-style-type: none"> Offers Hadoop installed on VM or bare metal Partner solutions, e.g., HortonWorks noSQL services acquisitions 	<ul style="list-style-type: none"> Can bring up Hadoop environ. quickly Cloud mix of bare metal and VMs Partnered and own db solutions

... though competitive differentiation extends well beyond the specifics of the four use cases, including PaaS

Competitive Findings

- All competitors are focused on an **ever-evolving set of use cases beyond these four – broad & specific**
 - ▶ Vertical stacks with PaaS elements | Industry-specific solutions | Application-specific, e.g., marketing/campaign apps and analytics | Product-specific, e.g., media encoding

Comparison	AWS	Microsoft	Google	Rackspace	IBM
Key Differentiation Across Use Cases	<ul style="list-style-type: none"> Largest variety of instance sizes and storage options Dominant position Constant innovation Cost play 	<ul style="list-style-type: none"> “One cloud focus”: IaaS, PaaS, SaaS for public, private, hybrid Cost play 	<ul style="list-style-type: none"> Engineering culture to support scale of operations Cost play 	<ul style="list-style-type: none"> Support for hybrid environments Fanatical Support 	<ul style="list-style-type: none"> ✓ Single pane mgt of bare metal, public, private cloud ✓ “Triple” Network ✓ Price performance ✓ Account mgt
Typical PaaS Up-Sell beyond basic IaaS Components	<ul style="list-style-type: none"> Database and related offerings Adjacent and integrated services 	<ul style="list-style-type: none"> Database and related offerings PaaS app dev 	<ul style="list-style-type: none"> Database and big data soln's Google App Engine and Managed VMs 	<ul style="list-style-type: none"> Managed services/support 	<ul style="list-style-type: none"> ✓ Partnered data solutions ✓ IBM/BlueMix upward mobility
Typical entry and discussion points	<ul style="list-style-type: none"> Unique and new services; cost attractiveness Partners 	<ul style="list-style-type: none"> PaaS and SaaS solutions Partners 	<ul style="list-style-type: none"> Big data use cases Apps requiring scale 	<ul style="list-style-type: none"> Ability to mix/migrate traditional hosting, cloud OpenStack founder 	<ul style="list-style-type: none"> ✓ Performance of bare metal with the flexibility of cloud ✓ Unique mgt and network

Competitors – and notably AWS – will take the offense with security. Be sure to evangelize SoftLayer's superior ability to secure clouds

Claims:

"Our security is **good enough for the CIA**, so it's good enough for anyone"



"AWS provides the **same level of isolation as a bare metal server** through their private nodes"

"SoftLayer cannot support **HIPAA and PCI requirements**"



In order to get security support above the operating system, IBM will charge you a lot of money

IBM = \$\$\$\$\$

SoftLayer/IBM Positioning/Response:

The CIA/AWS architecture is unique. It is a one-off situation, and would need to be a one-off solution for each and every client beyond the CIA. To be truly equivalent, we would have to talk about an on-premise cloud environment which IBM has already provided to many clients. **IBM can inherently provide the client with a secure environment** through a combination SoftLayer's secure private network, bare metal offerings, and other SoftLayer/IBM security options and services.

This is not the whole story! Yes, AWS does offer virtual private nodes, though they charge a premium for this. While this solution improves isolation, it **does not provide the performance benefits of a bare metal SoftLayer configuration**. With a SoftLayer bare metal machine, a client can get local storage, also isolated – which is not possible with AWS

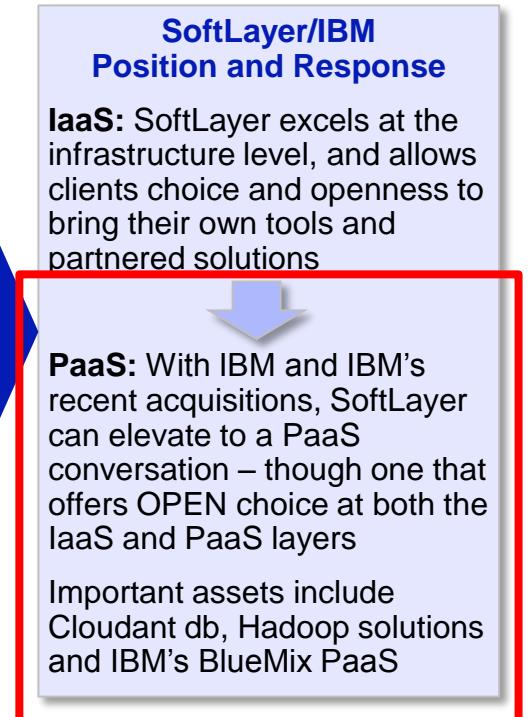
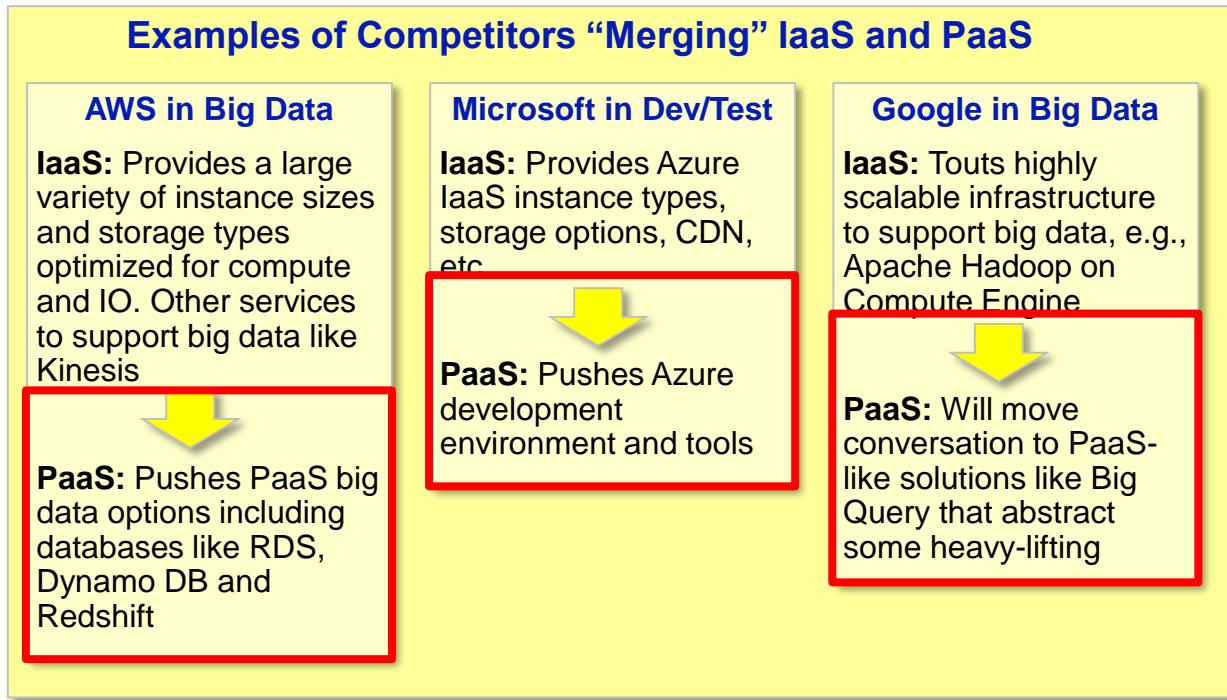
We are HIPAA and PCI ready, and will sign a HIPAA BAA with clients. Softlayer is suited to (and already does) host PCI workloads through bare metal and single-tenant private cloud offerings. Note: we do not recommend hosting PCI workloads in any multi-tenant environment, including our own. We are working toward a PCI Report on Compliance in 2014

The superior differentiation here is that IBM – unlike its competitors – offers an extensive array of IT services. IBM provides a very clear line of division in responsibilities, just as our cloud competitors do. Beyond that, a **client is free to choose** if they are going to use in-house resources, third party firms, or IBM services to help secure high levels of the IT stack, such as the application layer

Be aware that many competitors, particularly AWS and Microsoft, bring PaaS components into infrastructure use case discussions

Other Findings/Recommendations: IaaS vs. PaaS

- **IaaS “bleeds into” PaaS** pretty quickly. For example, several competitors position database with storage
- **Be prepared to discuss IBM’s broader PaaS/SaaS capabilities**



Top competitors showcase low costs. Be careful to present a well-priced, price/performance solution highlighting competitive add-ons



Other Findings/Recommendations

- ✓ Focus on the **infrastructure required to deliver the workload**. Workloads are not “one size fits all”!
- ✓ In many cases, SoftLayer provides **better price/performance than 100% virtualized solutions**
- ✓ **Don't just compare at the VM level instance cost!** Be sure to include “hidden” elements in comparisons
- ✓ “Apples to apples” comparisons are good, but remember SoftLayer can offer more “apples” for similar cost

Illustrative Example: Comparing Competitor Virtualized Solution with SoftLayer Optimized Bare Metal/VM solution

Item	Competitor Virtualized Solution	SoftLayer Cloud Solution	Performance AND cost savings!
VMs	Yes	Yes	
Bare Metal with single pane mgt	No	Yes	
Inter DC Bandwidth Costs	Extra \$\$\$	Included	
Support	Extra \$\$\$	Included	
Software (OS, hypervisor, MW)	Be sure all components are included!!		More Workloads On Fewer Resources At Lower Cost
Up-Front Payment Commitment	Likely-for better prices	None Required	
Multi-Year Commitment	Likely-for better prices	None Required	
Noisy Neighbors?	Likely	No-can be avoided	

Set the Stage: Be proactive, highlighting capabilities that put AWS and others at a disadvantage from the very start



SoftLayer/IBM: Proactive Positioning:

Unique Cloud Infrastructure

AWS and many others don't offer bare metal. Those that do, don't offer it as a completely integrated component. ***Focus on bare metal/virtual options as an integrated cloud solution***

Unique Cloud Management and Visibility

Most competitors don't offer the same degree of single pane management and visibility into the performance and location of infrastructure. This is a key client concern and one where ***competitors like AWS and Google have little to offer***

Optimum Pricing

Most competitors are in a “race to the bottom” with infra pricing. SoftLayer is – and will continue to be – cost competitive when comparing specific workload performance. Don’t lead with low cost. ***Lead with a price for performance message***

Hybrid

Few competitors are as prepared to address infrastructure, integration and services required to address hybrid workloads. Hybrid will become an increasingly important aspect as cloud moves forward. Be proactive with hybrid messaging but ***don’t stop at infrastructure. Remind clients of IBM’s integration and services capabilities that really set it apart.***

Consulting and advisory services

Most competitors require partners for services beyond infrastructure. For larger clients especially, ***be sure to focus on these services options. That said, be careful not to overwhelm***, as cloud competitors are keen to suggest that IBM just wants to bring in an “army of expensive consultants”. AWS and others only play to the lowest common denominator in services without partners

SoftLayer and IBM are OPEN

SoftLayer/IBM are open standards-focused. 1) Deeply committed to OpenStack (IaaS) and CloudFoundry (PaaS) – pre-dating SoftLayer. 2) OpenStack used by SoftLayer in storage (Swift) 3) Determine client’s drive for open source. If it’s integration, then SoftLayer is strong with APIs. If it’s interoperability, note that IBM has JumpGate project where IBM is providing a wrapper around SoftLayer APIs to make them Open Stack-compliant

Across use cases, AWS has some formidable strengths in the IaaS layer, with a broad and deep portfolio ...

AWS Claims: AWS Positioning:

Extensive Scale

Market Leader, Superior Scale. More than 5x compute capacity than next 14 competing vendors combined. “Makes AWS the best fit for large batch processing and analytics workloads requiring hundreds of servers”

Broadest Portfolio

Broadest & Deepest Cloud Service Portfolio; Integrated services; Diverse Family of Compute Instances w/ Resource Guarantee: Multiple instance families to support different workloads:

Many Client References

Proven ability to execute – well-funded and well-managed

**Continuous Innovation/
Thought Leadership**

Services and Features: rolls out several major new services each year along with hundreds of feature enhancements to existing services

Applicability to Use Cases

Use Case and Workloads: Increasingly migrating complex, specialized workloads onto AWS infra

Hybrid Cloud-Ready

Partners with Eucalyptus for private cloud; API supported by hybrid providers like RightScale, Scalr

...though SoftLayer/IBM can often match or beat many of AWS's claims

AWS Claims:***SoftLayer/IBM Positioning/Response:***

Extensive Scale

SoftLayer is one of the largest infra providers with a global footprint with 13 datacenters growing to 40 data centers. SoftLayer currently has 20 PoPs with plans for significant expansion; Clients in 140+ countries. IBM is making massive investments

Broadest Portfolio

AWS has no bare metal option; AWS depends on instance variety/complexity - where SoftLayer supports and optimizes this with customizable, unique bare metal and public/dedicated cloud portfolio

Many Client References

IBM and SoftLayer have thousands of cloud clients covering many uses across all four use case categories

**Continuous Innovation/
Thought Leadership**

IBM's ongoing innovations and announcements have been, are, and will be steady-paced, addressing many client needs. IBM's offerings will complement and transcend IaaS

Applicability to Use Cases

IBM's ability to address migration of enterprise workloads is greatly enhanced by SoftLayer's ability to offer bare metal and single pane management.

Hybrid Cloud-Ready

SoftLayer's infrastructure and management capabilities are inherently "hybrid", supporting highly securing private clouds with public cloud access through one single management panel

AWS has established itself as the ‘de-facto’ cloud standard, with an increasingly strong story for highly regulated industries

AWS Claims:

De-Facto Standards

Low Price

Extensive Security/Compliance Certifications

Strong Customer Focus

Extensive Partner Ecosystem

Ease of Use

AWS Positioning:

EC2 and S3 are de facto APIs supported by 3rd party tools and other cloud mg platforms like OpenStack, CloudStack, Eucalyptus. Well-adopted with broad ecosystem

Focused on lowest cost compute per GB: “That need low cost, agile, elastic, open and secure compute resources”; On demand, reserved and spot (bid) pricing

Visibility of, and growing acquisition of compliance related certifications/audits to gain access in enterprise including financial services, healthcare, public sector. AWS offers industry-specific “GovCloud” solution, touting an increasing number of certifications, e.g., for FEDRAMP, FISMA, FIPS 140-2 compliance endpoints, DoD certifications

Strong reputation for working with clients to solve issues; Claims a maniacal focus on listening to client needs

Large community of partners of all types: SI, ISV, MSP, VARs. Solid/Growing & Solutions Marketplace: due to lack of depth at software/PaaS layer, AWS has minimal channel conflict. Effective partner programs for ISVs.

Largely self-serve; ease of consumption model

SoftLayer/IBM are OPEN standards-focused, which has and will garner adoption by those who require choice, flexibility, and compliance

AWS Claims:

De-Facto Standards	<p><i>SoftLayer and IBM are open standards-focused. While AWS has created broad adoption, its de facto standards are proprietary. Highlight investment in open standards, portability, interoperability, offering choice and flexibility</i></p>
Low Price	<p><i>IBM can be less expensive for big data and other workloads than AWS!</i> While IBM will remain cost competitive, an 'apples to apples' comparison must be made to address specific workload performance. Never talk about price without performance. SoftLayer is often competitive for price/performance, when considering inclusions like support, free inter-DC network bandwidth</p>
Extensive Security/Compliance Certifications	<p><i>IBM is well along in important federal government certifications, and runs other industry-compliant and highly sensitive workloads in IBM and SoftLayer DCs</i></p>
Strong Customer Focus	<p><i>AWS is known to allow clients/partners to work through issues for 12-18 months before they take action in the form of new features on the AWS platform (often disintermediating partner solutions built in the meantime)</i></p>
Extensive Partner Ecosystem	<p><i>IBM is growing a strong and varied partner ecosystem to enhance and complement its own set of IaaS and PaaS assets, offering choice, flexibility, strong open stance</i></p>
Ease of Use	<p><i>SoftLayer's UI, management portal and extensive APIs are designed for each of use and facilitating repeatable processes such as server instantiation with FlexImages</i></p>

Examples of statements made by AWS and its partners illustrate some of its aggressive approaches to selling

Amazon Web Services: Sample Quotes



On bare metal advantage:

Bare metal is basically co-location, and this works on people who don't fully understand the cloud and still want to touch the infrastructure. They lose the benefit of the cloud" – ex-AWS

SoftLayer's bare metal options are part of its cloud solution! Cloud does not mean all virtualized!

On "open":

There will be lock-in just about everywhere. It has to be painful to leave any provider. There's a lot of talk about openness - Openstack, etc. It's not always that simple. [...] I haven't seen two Openstack deployments that are the same." – AWS partner

IBM is a leader/investor in "open" and interoperability. AWS invests in its own proprietary 'standards'

Cloud management for clients/partners:

"AWS offers **consolidated billing** - applies to companies with many different departments or initiatives or applies to an SI [partner]." – AWS partner

Feature Lock-In:

"I had a client – a large consumer electronics company that for legal reasons had to make some very large changes. An overworked developer created an entire e-cart workflow using Simple Workflow. **There is NOTHING like this in another cloud! So this is lock-in ...** feature –specific because you can't find it anywhere else." – AWS partner

Focus the conversation on client needs. SoftLayer will often have an equivalent solution. Avoid feature comparisons.

Breadth of services and responsiveness:

"You can get all you want with cloud from AWS. It **becomes a philosophical choice NOT to go with AWS**. From the facts and figures, you have consistency or performance. Problems are fixed quickly" – ex-AWS

Underscore SoftLayer's solid reputation for support, and the reasons why clients have chosen SoftLayer over AWS

At-a-Glance: Why is SoftLayer better than AWS?

Why SoftLayer is better than AWS



In General:

- Bare Metal:** SoftLayer cloud can combine bare metal and private/public virtual instances, all managed through single pane. **AWS doesn't do this**
- Price for performance:** SoftLayer can beat AWS when comparing all costs that go into a specific solution, e.g. SoftLayer does not charge for data transport on its internal private network. **AWS charges for this – it's often a significant component.**
- Transparency:** SoftLayer's infrastructure whereabouts are completely transparent to the client. Clients can specify exact physical location. **AWS can't do this.**
- Service Consistency:** With few exceptions, all of SoftLayer's services are available across all of its locations. **AWS has significant service inconsistency across locations.**

APP	App Hosting	Mobility	Dev/Test	Big Data/Analytics
<ul style="list-style-type: none"> SoftLayer has more “fine-tuning” capability Great for high-compute and IO intensive apps from mobile and gaming, to financial services and healthcare apps No need to overprovision VMs (as AWS needs to do) No hypervisor performance tax! 	<ul style="list-style-type: none"> SoftLayer offers the perfect combination of bare metal and virtual instances in cloud This allows mobile back-end developers to have better performance for their databases, for example 	<ul style="list-style-type: none"> SoftLayer automates the provisioning of infra for all types of testing Flex Images automates image deployment. Can exactly match test and production on client's choice of optimized infra and software stack Ease of moving images from bare metal to VMs 	<ul style="list-style-type: none"> SoftLayer's price for performance really shines here, allowing the client to purchase what they need AWS's alternative for high IO is provisioned IOPS – very expensive when compared by workload to SoftLayer 	



COMPETITIVE OFFERING(S):

- Typical Solution Components:** Starts with: EC2, S3, Auto-scaling, Elastic Load Balancing
- May Also Promote:** CloudFront CDN, Route 53 DNS, Database services
- Key Focus! Promotes app hosting as a specific solution with reference architectures and many self-help artifacts

KEY VARIANTS OF USE CASE:

- SaaS providers/ISVs/“born-in-cloud” apps:** host apps with cloud architecture and auto-scaling; Pushes RDS, SQS, DynamoDB, etc.
- Enabling SMB and legacy enterprise apps:** Brings in add'l features, and partners, e.g., security/VPC, to support enterprise architecture needs
- Government Agencies: Secure, compliance, certified hosting
- Additional industry/partner focus, e.g., media, SAP, MSFT hosting

EXAMPLES & CASE STUDIES:

- Boasts a long list of case studies for application hosting
- Examples: Pfizer, Nasdaq, Nokia, GE, SAP, Unilever, Adobe, Lionsgate (ERP), Thompson Reuters

VALUE PROPOSITION:

- Target Market:** SaaS providers that need hosting for scalable web apps. Enterprises with on-prem apps for migration and web apps; Government contractors
- Target Roles:** Application owners/developers; IT infra mgrs; Trying to reach LOBs
- Messaging:** Use public cloud rather than (expensive, slow to provision, inflexible) on-prem infra to host complex apps. Focus on your core competency rather than infra-undifferentiated heavy lifting. Migrate your data center apps and SaaS apps to the cloud

IBM OFFERING(S):

- Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- Also promotes:** Global reach, load balancing (local, global, HA options); dedicated high performance services, GPU offering with cloud flexibility, robust CDN

IBM KEY VARIANTS OF USE CASE:

- Born-in-Cloud:** Well suited for hosting many different kinds of apps, particularly those with high I/O with high user experience needs
- “Cloud-enabled”:** Use for staging legacy apps not originally built for cloud, with highly-secured, highly customizable bare metal options
- Includes:** Client/ISV app infra for **production** workloads; to best support existing client assets and provide platform for future svcs
- Gaming, social, performance-focused, digital marketing**

IBM EXAMPLES & CASE STUDIES:

- DataHotel | ConvertStar | Repsol S.A., LAN Airlines | DataZoo | Heroku | Slideshare | WhatsApp | Citrix | Intel | Coca-Cola amatil | Open Table | Marriott | Pitney Bowes

IBM VALUE PROPOSITION:

- Target Market:** SMB; will expand with IBM, BlueMix and PaaS.
- Target Roles:** IT infra and architectural roles > developer; sometimes LOB. Expand target roles to include additional decision-makers and influencers including LOB, C-level including CFO
- Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements. Supports clients' existing portfolios, license models, and provides platform for future services. Full infra to support hosting/migration to cloud and born-in-cloud apps managed through one portal

About this Use Case: Application Hosting

Cloud vendor provides infrastructure, and possibly other PaaS components, necessary to host client or partner applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- **Continued innovation:** new features and offerings that address both “born-in-the-cloud” and re-platforming efforts
- Industry's **largest compute capacity**-support scalable SaaS apps
- **Enterprise features** like VPC and VM Import simplify on-boarding of enterprise apps
- Claims proven capability for hosting **mission critical**, enterprise apps - Use cases demonstrate viability and economics of hosting critical enterprise systems like SAP, Oracle and SharePoint.
- **Large SI/Vendor community** happy to help migrate apps and services to cloud
- Supports both Linux and Windows apps well

SALES TACTICS & FUD:

- Strong “**self-service**” **capability** appeals to startups, individual developers and application owners in LOB
- **Cost play:** Highlights cost reductions and commitment to the same
- **Aggressive, fast-growing field sales and services** to support and grow enterprise accounts requiring solutions with high support
- Exceptionally aggressive “FUD” in the U.S. federal government with its security focus and **compliance certifications**, CIA win and DoD ‘credentials’ – which it parlays to commercial large enterprise
- Strong go-to-market programs with **SIs** like Cap Gemini, Cognizant and Wipro that provide architecture and development expertise as well as managed services offerings
- Strong partnerships with “born-in-the-cloud” partners who serve as strong AWS evangelists

IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion.
- **Single pane management** for cloud bare metal and VMs. Easily move assets between tiers, e.g., web front end on public and DBs on bare metal and isolate them. Reduce costs/increase security
- **Transparency** – visibility across all infra – good for web apps and regulatory needs. **Fine-grained control** with 2,000+ exposed API services (10x nearest competitor)-control down to indiv. Service
- **Ease migration/hosting** of apps not entirely architected for “cloud” - apps that need server resiliency
- Internal **private network** to enhance quality of experience
- **Open:** IBM is committed to open tools, choice, and flexibility
- **Steady-state hosting:** ability to mix server types, automation

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- **Services:** Most enterprises will need services in support of hosting migrations, despite what AWS touts as possible
- **Scale:** Highlight 20+ PoP connections and 40 DCs by end 2015
- **SaaS companies – AT SCALE** – will require control over architecture/deployment, for both cost and control
- **Choice of location in global network:** SoftLayer can guarantee hosting locations down to datacenter, rack and row – for security/compliance. SoftLayer runs many highly compliant workloads, providing single tenancy, highly secure environments
- **Sensible pricing model:** AWS charges low base, high overages; Compare apples to apples, including network charges, support etc.
- **Proprietary Lock-In:** IBM can leverage existing investments AND extend with new capabilities, true portability, including **open tools, choice** and **flexibility** to extend into the platform layer
- Excellent base to build out **enterprise private cloud** requirements (HA, isolation, encryption, etc.)

Use Case: Application Hosting



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Leverage core services including EC2, S3 [low cost!], though differentiates with other services such as: RDS, SimpleDB, DynamoDB, CloudFront CDN, SNS for push notifications; SQS messaging

KEY VARIANTS OF USE CASE:

- Startups, ISVs through large enterprise/LOB – mobile apps and mobile apps that accompany other web apps; Games, Social Apps, Mobile Entertainment

EXAMPLES & CASE STUDIES:

- Mobile case studies include Kooaba, nuTsie, Parkvu, Pictranslator, Playfish, Roambi and Urbanspoon

VALUE PROPOSITION:

- **Targets:** Mobile app developers, ISVs, enterprise LOB owners
- **Messaging:** Create mobile apps in languages of client choice to complement client website and/or serve a mobile audience
- Scale Quickly | Faster to Market | Low Cost | Compete Platform
- Multiple device support | Multiple language support/SDK
- Simple store/retrieve files from cloud; Low cost storage/options
- Single API for device notifications (SNS)
- IAM – AWS web identity federation – to streamline sign-ins, e.g., from Facebook, Google, Amazon – for streamlined UX
- Scalable, reliable, high performance architecture, PAYG
- Easy to use, flexible, cost-effective, secure

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- **Also promotes:** global reach and load balancing; GPU offering, robust CDN; Cloudant; message queue, Partner data stores (Mongo, Riak), BlueMix

IBM KEY VARIANTS OF USE CASE:

- Gaming and social applications

IBM EXAMPLES & CASE STUDIES:

- **Koram Games:** Chosen for low latency, fast disk I/O using SAS/SSD RAID-10, high bandwidth, redundancy/HA, low latency private network for web to DB server comms
- Others: **Bump; WhatsApp, Yelp**

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** IT infrastructure roles; IT architectural roles; developer
- **Messaging:** Architect cloud infra solutions combining bare metal and virtual machines to address performance/security requirements, fine-grained control via APIs
- Global reach and network infrastructure for quality of experience
- Choice of DCs to best extend global reach to mobile endpoints

About this Use Case: Mobility

Cloud vendor provides the infrastructure and tools necessary to allow clients and partners to develop, test and deliver mobile applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- **Broadest array of applicable services** including messaging, email, CDN, NoSQL, caching, etc.
- **SDKs for iOS and Android** makes it easy for developers to call an AWS web service API directly from a mobile app - No need to write custom libraries to handle HTTP connections, request retries, and error handling, or built additional infra to proxy the API requests through a server fleet. With the mobile SDKs, developers can add storage, messaging, and databases to their mobile applications
- **Amazon AppStream** enables streaming of resource intensive apps and games to mass-market devices. This is a new service as of 2013 that reduces development effort for multiple target devices while enabling a much richer user experience

SALES TACTICS & FUD:

- Claims broad languages of client choice for mobile apps
- Extensive support for mobile application developers specifically with assets such as "Mobile Developer Center"
- Strong "**self-service**" **capability** appeals to startups, individual developers and application owners in LOB
- **Aggressive, fast-growing field sales and services** to support and grow enterprise accounts requiring solutions with high support
- Strong go-to-market programs with **SI**s like Cap Gemini, Cognizant and Wipro that provide architecture and development expertise as well as managed services offerings

IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Single pane management for all cloud servers, bare metal or virtualized. Easily move assets between tiers, e.g., web front end on public and databases on bare metal and isolate them. Reduce costs/increase security
- Internal **private network** to enhance quality of experience
- **Open:** IBM has open tools, choice, and flexibility. Leverage clients' existing tools; extend into platform layer. Future of openness with SoftLayer and BlueMix, IBM/partner assets
- **Mobile workloads:** SoftLayer infrastructure provides the quality of experience for end users. No hypervisor tax. APIs for automation and scripting

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- **Mobile services will include APIs**, application management and QA, and include integrated developer experience for both cloud and mobile application
- **Cloudant technology** enables HA, scale elasticity and mobile device synchronization. Optimized in the SoftLayer environment. Provides simple API for mobile data to mobile and web developers
- **Proprietary Lock-In:** Within AWS, clients will become increasingly locked into the AWS ecosystem. In contrast, IBM can protect clients' current investments AND leverage new capabilities moving forward. Clients can embrace **open** tools, have **choice** and the **flexibility** of leveraging tools and extending into the platform layer
- **IBM BlueMix:** mBaaS is a key element and function for BlueMix. Be prepared to discuss and promote BlueMix's ability to serve up the backend of a mobile app across geographies

Use Case: Mobility



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Core AWS IaaS or PaaS services including db options like RDS; ISV partner solutions from the marketplace
- **Dev Test is one of the earliest and most compelling AWS use cases** for both startups and enterprises-providing infra on a PAYG basis- and didn't have to involve production app hosting
- AWS does not list Dev Test as a solution area, but in practice it is subsumed in all the other solution areas

KEY VARIANTS OF USE CASE:

- Most often dev test is leveraged for web and cloud architected apps that will run on the same infrastructure, but legacy app environments can also be deployed, e.g., SAP and Sharepoint

EXAMPLES & CASE STUDIES:

- Unfuddle, Arcus Global

VALUE PROPOSITION:

- **Targets:** App development teams, application owners/developers from Startups to SMB, ISVs to Enterprise across all verticals
- The **developer** is AWS' top target audience – which it attracts with a low cost/risk, easy-to-use value proposition
- Synergy when using same cloud infra for both dev/test and production
- **Messaging:** Leverage infra on demand for dev and QA processes. Provision dev test environment in minutes vs days/weeks. Release them when you don't need them (vs hoarding them for later use.) Access HW on demand for scalability, performance testing

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, "block" and object storage
- **Also promotes:** global reach and load balancing; GPU offering, robust CDN; Flex Images for easily creating test images
- BlueMix is a critical component of dev/test as clients move from simply using infrastructure for dev/test to the higher level PaaS capabilities that IBM can offer

IBM KEY VARIANTS OF USE CASE:

- None specifically noted-TBD

IBM EXAMPLES & CASE STUDIES:

- Intel

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally targets SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** IT infrastructure roles; IT architectural roles; Can be LOB execs, depending on application, such as CMO
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements

About this Use Case: Dev/Test

Cloud vendor provides infrastructure and tools necessary to allow clients and partners to develop and test web/SaaS applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- Most robust IaaS platform with extensive PaaS services to leverage – to automate and abstract infra management
- **Extensive Marketplace** with supporting dev/test solutions and images
- **Strong devops culture among user base** seeking to automate development, testing and deployments
- Strong for Linux and open source solutions

IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Single pane management for bare metal and cloud. Easily move assets between tiers, e.g., web front end on public and databases on bare metal and isolate them. Reduce costs/increase security
- Can **ease re-platforming and testing** of apps not entirely architected for the “cloud” - apps that need server resiliency
- **Open:** IBM has open tools, choice, and flexibility. Leverage clients' existing tools; extend into platform layer. Future of openness with SoftLayer and BlueMix, IBM/partner assets
- **Performance-focused hosting workloads:** one panel mgt

SALES TACTICS & FUD:

- **Specifically addresses the pain points** in the dev/test use case such as the types of testing (unit, A/B, load, security) and how AWS addresses the infrastructure and higher level services it has to cover these specific types of testing
- Provides **clear guidance** for dev/test in specific environments such as SAP or Microsoft Sharepoint
- Focused sales and bus dev teams to address specific target clients such as startups and the venture capital community
- Strong “self-service” capability appeals to startups, individual developers and application owners in LOB. Provides content and webinars around setting up dev/test environments
- Aggressive and fast-growing field sales and services to support and grow enterprise accounts that require high support levels
- Strong go-to-market programs with SIs that provide architecture and development expertise as well as managed services offerings

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- AWS has a ‘multi-tenant with firewalls’ story – adds VMs, e.g. for the database tier as needed. IBM should bring in its ability to provide a well-architected, ‘**price for performance**’ solution that leverages cloud flexibility
- **Proprietary Lock-In:** Within AWS, clients will become increasingly locked into the AWS ecosystem. In contrast, IBM can protect clients' current investments AND leverage new capabilities moving forward. Clients can embrace **open** tools, have **choice** and the **flexibility** of leveraging tools and extending into the platform layer
- **Reality:** Clients, particularly enterprises, will require services in support of their architecting and re-architecting their apps. SoftLayer/IBM are uniquely capable of helping them
- “Born-in-the-cloud” SaaS companies – **AT SCALE** – are likely to require their own control over architecture and deployment, such as the unique combination provided by SoftLayer: for cost and control



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Core features include many different memory and IO-optimized instance sizes, Storage including S3, Block (EBS), Glacier (archival)
- Other features go beyond IaaS, e.g.: Redshift (DW), RDS (SQL), DynamoDB (noSQL), Kinesis (real time data stream), Direct Connect and import/export for moving large data sets quickly
- AWS also promotes reserved and spot instances for price savings

KEY VARIANTS OF USE CASE:

- AWS separates this into many “sub” use cases depending on the nature of the big data and the type of analytics: “Big Data” and “Data Warehousing” are two key areas
- Big Data projects such as Hadoop... as well as Data Warehousing project with Redshift

EXAMPLES & CASE STUDIES:

- Case Studies: AirBnB, NASA, Illumina, Bankinter, Seven Bridges, Dropcam, Yelp
- Partners: AWS also highlights partners with specific expertise in aspects of big data, e.g., ThingBig Analytics, Marketshare, MAPR

VALUE PROPOSITION:

- **Target Market:** Larger companies/LOBs in Financial Svcs, Life Sciences, etc. Smaller startups/SMBs leveraging analytics based on new, cost-effective capabilities, such as gaming companies analyzing player click data to increase monetization. ISVs (to host big data infra, as well as provide big data tools)
- **Target Role:** App developers and business analysts
- **Messaging:** Move big DW and analytics to the cloud with ease

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- **Also promotes:** global reach, load balancing; GPU offering, CDN
- **Pre-configured Big Data Partnered Solutions:** MongoDB, Riak, Microsoft SQL, MySQL; Hadoop environment solutions
- Nimsoft monitoring
- Aspera Extreme File Transfer

IBM KEY VARIANTS OF USE CASE:

- **BlueMix:** With BlueMix, IBM will support many variants of big data use cases, offering clients choice in processing, storing and analyzing big data with both IBM and partnered solutions

IBM EXAMPLES & CASE STUDIES:

- Blue Kai (acquired): consumer data/marketing analytics-Hadoop
- Church Media Group: high powered computing/data crunching
- Nexage: high volume transactions with low latency needs
- FitBit; Strug; Technicolor

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** LOB; IT infrastructure roles; IT architectural roles
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements

About this Use Case: Big Data/Analytics

Cloud vendor provides infrastructure, software and tools to allow clients and partners to move, process, analyze, store, deliver big data/analytics.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- **Largest Pool of Capacity** - Makes AWS the best fit for large batch processing and analytics workloads requiring hundreds of servers
- Redshift delivers **petabyte scale data warehousing** at a fraction of the cost of on-premise solutions, enabling customers to plug in their preferred business intelligence tools
- S3 & Glacier deliver very **cost effective data storage**
- **Multiple NoSQL options** with SSD acceleration from DynamoDB to Cassandra to MongoDB
- **Multiple instance families and sizes** optimized for high compute, memory, GPUs, storage and networking requirements
- **Facilitates data transfer into and out of the cloud** with Direct Connect and Import/Export service
- Kinesis delivers **big data streaming** and analysis in real-time

SALES TACTICS & FUD:

- AWS will take the focus from IaaS to PaaS very quickly in the big data area
- AWS listens carefully to how the client wants to approach big data, i.e., “do it yourself” with infrastructure components – to more abstracted solutions with its managed database options
- AWS touts the integration of its big data components, from EC2 and S3 (for example) through to its database, CDN and global network capabilities
- Related focus includes media-related applications



IBM DIFFERENTIATION, SPARKLERS:

- **Choice**: Provides tools to allow users to create their own big data solutions, as well as offering partnered solutions. Clients typically come to SoftLayer to build own server clusters. Pre-configured solutions still allow configuration by user
- **Price performance**: Compared ‘apples to apples’ SoftLayer has an exceptional story for comparable systems – allowing clients to get their workloads finished more quickly and at less cost
- Bare Metal options and the surrounding systems, such as SoftLayer’s private network facilitate the price-performance story for big data. Two key elements: **bare metal access and high-speed network**. **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Speed of deployment: sell big data solution sets rather than servers, e.g., Hadoop medium-size environment running in a day

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- The SoftLayer **platform** is ideally suited to big data deployments, high I/O and latency-sensitive apps
- IBM brings “big data” **assets** to be leveraged for these workloads
- **Scale** – certain “as a service” options may not operate well at scale and require more customized configurations ideal for SoftLayer
- Price for performance: Softlayer’s **bare metal** servers ensure that CPUs are used to process data rather than power hypervisors
- Important to illustrate price/performance for the workload – will often be competitive or lower priced than AWS when compared with all inclusions on SoftLayer side-such as free inter-DC transfer
- AWS tends to sell infrastructure to support a DIY big data analytics deployment, in contrast with IBM, which sells an automated solution set that is much quicker to set up via APIs on the website

Use Case: Big Data/Analytics

AWS is also adept at providing guidance and content around use cases specific to each product

Amazon Web Services Use Case Focus: General



Amazon Appstream Use Cases: application streaming

- Games
- Media and Entertainment
- Simulation Software
- 3D Graphics Development

AWS CloudTrail: beta: web service that records AWS API calls for an account and delivers log files

- Security Analysis
- Track Changes to AWS Resources
- Troubleshoot Operational Issues
- Compliance Aid
- Note – this service needs S3, and sometimes Glacier; Other CloudTrail options use other AWS features, e.g., SNS (Simple Notification Service) for log file notifications; additional analysis on log files is available through partners (AlerLogic, Boundary, Loggly, Splunk, Sumologic). There is no additional charge for CloudTrail, except for the storage and other services it uses (S3, SNS)

RDS for PostgreSQL

- Large-scale web apps
- Internal and departmental applications
- Excellent vehicle for ETL into analytics engines
- Geospatial and mobile apps (e.g., support for geospatial queries using PostGIS extensions)

Sources: SAI interviews, analysis and secondary research; AWS

Additional uses cases highlight both IaaS and PaaS elements, particularly use cases that process large and fast data

Amazon Web Services Use Case Focus: General



Development & Test Use Cases (IaaS feature focus)

- Frameworks & environments
- Testing at scale

Disaster Recovery

- Use AWS as Secondary Site (shared storage application)

Running Enterprise Applications (PaaS – using databases)

- Microsoft, SAP, Oracle: Relational DB Service (SBaaS – no need to install or manage DB instances)
- Backup Oracle RMAN to S3
- SAP: SAP enterprise apps in the AWS “Elastic Data Center”
- Enterprise internal apps such as HR, payroll app, inventory management online training to distributed workforce

Other Verticals/Horizontals

- Industrial Internet
- Digital advertising space
- eCommerce website: accommodating sudden demand
- Pharma research: large-scale simulations
- Media companies: serve streaming video to worldwide customer base

AWS Corporate Sales Teams focus on these and others:

- ✓ Web apps
- ✓ Enterprise apps
- ✓ HPC
- ✓ LOB app hosting
- ✓ Websites
- ✓ Data warehousing
- ✓ Big data
- ✓ Batch processing
- ✓ BCP/DR
- ✓ Global CDN
- ✓ Storage
- ✓ Dev/test

Sources: SAI interviews, analysis and secondary research; AWS

AWS takes Dev/Test and breaks it down into components – offering services and different value propositions for each

Amazon Web Services Use Case Focus: Dev/Test



Dev/Test (AWS cloud utilization ideas, from recent presentation)

▪ Frameworks and Environments

- **Source control** > leverage EC2 to run popular source control systems
- **Workstations** > enable standard build dev/test workstations
- **Project management** > Add integrated project management and issue tracking
- **Build servers** > Use EC2 horsepower to drive build servers and continuous integration

▪ Testing at scale:

- **Unit & Regression** > scale up and parallel run unit and regression plans in fraction of the time
- **A/B** > Run A/B scenarios testing with replica stacks
- **Load & performance** > utilize spot market for generating load and test how apps perform
- **Security** > Create sandboxes for aggressive security testing

Features:

- Isolation: with fine-grained IAM tools
- Automation: (PaaS elements)
 - CloudFormation
 - OpsWorks
 - Beanstalk
 - Partner tools like Chef, Puppet
- Apps Lifecycle: Integrate cloud environments into existing ALM processes and tools with auto deployment and CI

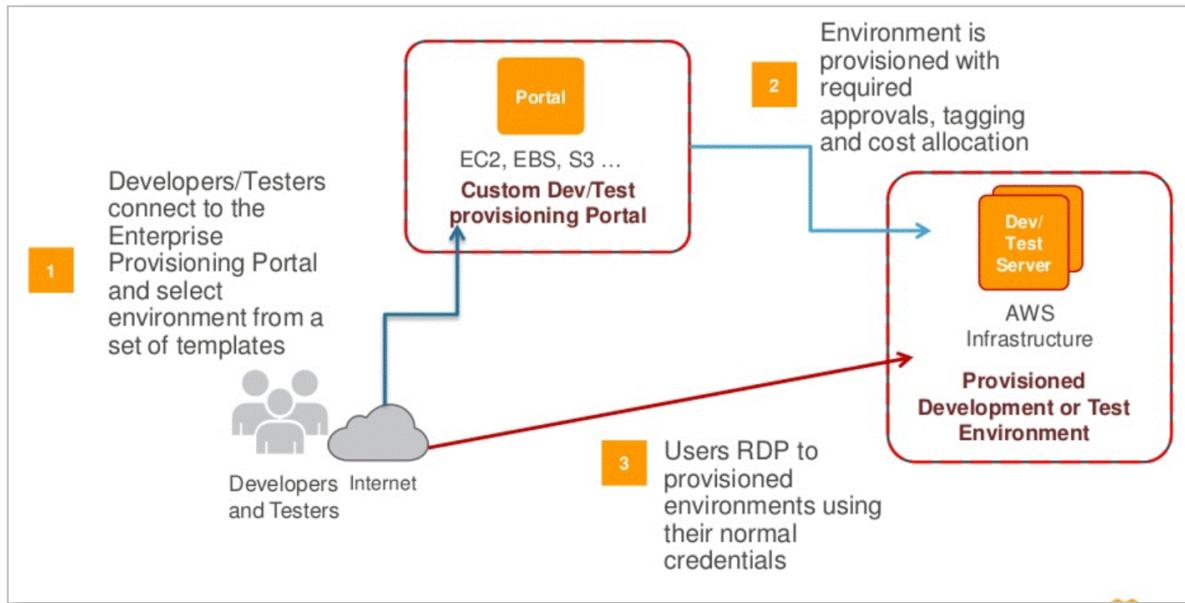
Sources: SAI interviews and secondary research; AWS Presentation, “Cloud Adoption in the Enterprise: industry perspective”, Philip Fitzsimmons, Manager, Solutions Architecture, AWS UK, 2014

AWS also provides many visuals to depict how its services can be used for a specific use case – in this example dev/test

Amazon Web Services Use Case Focus: Dev/Test



AWS Example of Provisioning for Dev and Test



- Interviewees acknowledge the importance of reference and visuals to help conceptualize the interaction of services for the use case

Sources: SAI interviews and secondary research; AWS Presentation, "Cloud Adoption in the Enterprise: industry perspective", Philip Fitzsimmons, Manager, Solutions Architecture, AWS UK, 2014

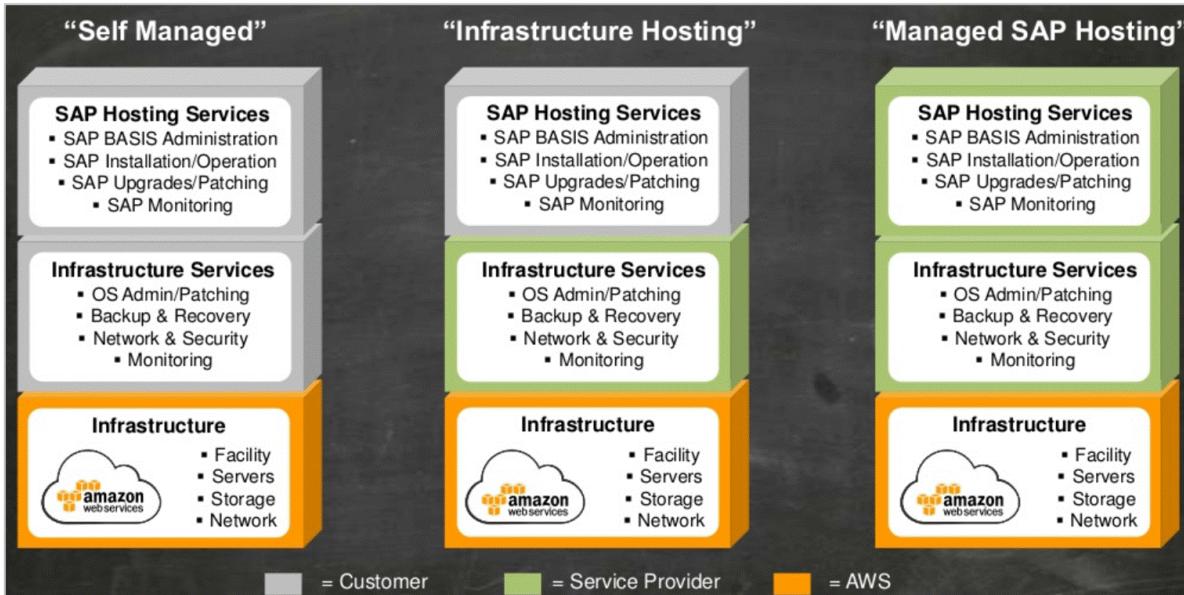
AWS not only positions specific use cases, such as SAP app hosting, it highlights the other uses along the SDLC/operations

Amazon Web Services Use Case Focus: App Hosting



- AWS shows hosting options (SAP example) for client and client/partner:

AWS and SAP Managed Services Options



As extensions, AWS highlights:

- Run SAP **Test**, Training, Demo, PoC, Sandbox on AWS
- Migrate SAP **DEV** and QAS to AWS
- SAP Document and Data **Archiving** to AWS Cloud Storage
- **Temporary infrastructure** for SAP upgrades and OS/DB migrations
- **DR site** for on-premises SAP production environments
- **Migrate** SAP legacy systems to AWS

Sources: SAI interviews and secondary research; AWS presentation, "Running Enterprise Workloads on AWS", Grace Mollison, Ecosystems Solution Architect, 2014

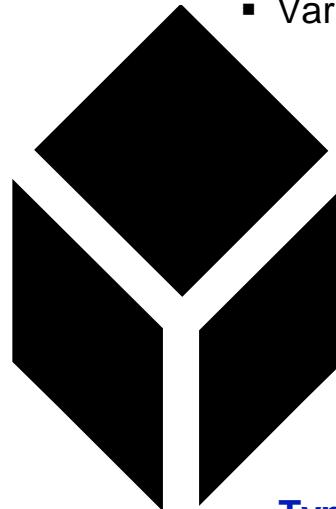
AWS also breaks down its “big data” use cases, making it easy for potential clients or partners to identify

Amazon Web Services Use Case Focus: Big Data



Big data use case examples:

- Digital Marketing and Digital Media: Web sites / Mobile Apps / Ads / Clickstream / User Engagement; Social media, user content
- Web sites: blogs, reviews, emails, pictures
- Customer segmentation
- Log analytics: App server (web sites, games) and IT infra logs; metering; Audit logs; Change/Config logs
- Recommendation engines
- Genomics and scientific research
- Sensor data: weather, smart grids, wearables
- Twitter
- Images/videos: Traffic, security cameras
- Social graphs: Facebook, LinkedIn, contacts



Types of Big Data:

- Volume
- Velocity
- Variety

Big Data Approaches:

- Query Engine Approach: DW, YesSQL, NoSQL
- Batch Engines Approach: MapReduce
- Streaming Big Data Processing Approach

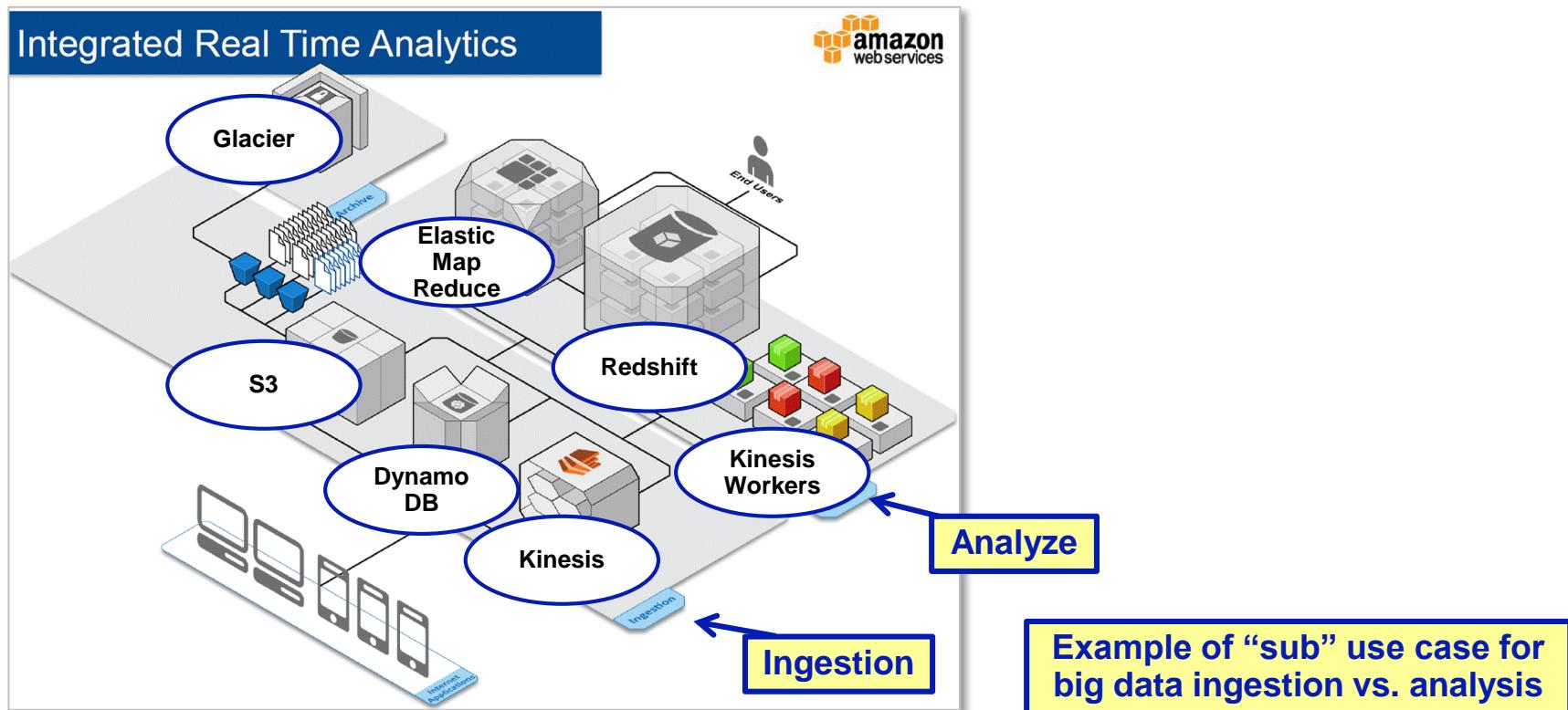
Types of Processing:

- Complex analytics
- Unstructured data
- Parallel ETL

Sources: SAI interviews, analysis and secondary research; AWS; AWS presentation, “Real Time Big Data Processing”, Cloud Expo 2014, Ian Meyers, AWS

Each big data use case promotes a configuration of AWS services (example with real-time analytics)

Amazon Web Services Use Case Focus: Big Data



Sources: SAI interviews, analysis and secondary research; AWS; AWS presentation, “Real Time Big Data Processing”, Cloud Expo 2014, Ian Meyers, AWS

AWS also gives plenty of examples of how individual clients use the components of its big data offerings

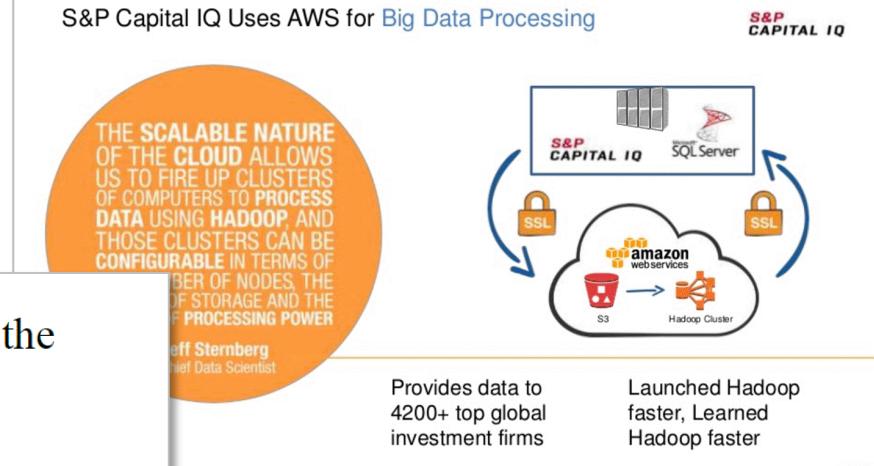
Amazon Web Services Use Case Focus: Big Data



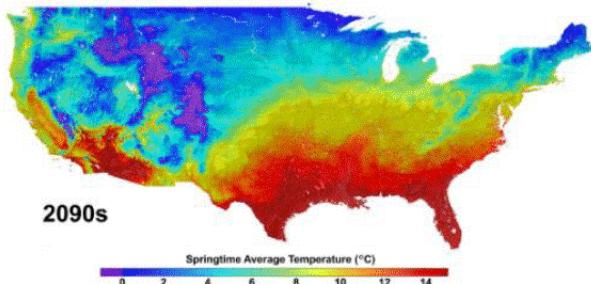
AWS offers client examples of various types of big data use:

Client Example

Client Example



NASA brings Earth science 'big data' to the cloud with Amazon web services



Sources: SAI interviews, analysis and secondary research; AWS; AWS presentation, "Real Time Big Data Processing", Cloud Expo 2014, Ian Meyers, AWS

AWS breaks down the mobility use case into three overarching uses: games, social apps and mobile entertainment

Amazon Web Services Use Case Focus: Mobility



AWS presents key Mobile Use Cases ...

- Games
- Social Apps
- Mobile Entertainment/Digital Media Apps



... and highlights specific offerings and attributes:

- Many different instance types/sizes
- Mobile device friendly
- Multi-lingual variety of SDKs
- Web identity federation (AWS IAM)
- Geolocation capabilities
- Storage options; CDN
- Database options
- Mobile blogs and forums
- PaaS up-sells, e.g., Elastic Beanstalk to deploy mobile backends



As a top player in the cloud market, Microsoft leverages strengths across its integrated cloud stack/portfolio and support for hybrid

Microsoft Claims:



Microsoft Positioning:

Strong, integrated portfolio across PaaS, SaaS and IaaS: Windows Server/HyperV; Windows Azure, Office 365, Microsoft Dynamics. In addition to continued commitment to PaaS and SaaS, Microsoft has also shifted focus to IaaS workloads, and is competing on IaaS-only deals where there is little or no existing Microsoft affinity

Strategic focus on “hybrid” cloud infrastructure and solutions. Microsoft claims Azure running in Microsoft data centers, and Windows Server and Systems Center running at customer and partner sites is the best of the hybrid cloud universe. Hybrid Strategy makes it easy to migrate and support apps in public and private environments. Common technologies across identity, virtualization, management and development

Many of Azure’s use cases include elements of PaaS. Gartner lists Azure as a leader (behind Salesforce.com) in the PaaS magic quadrant. Leverages leading traditional software presence. “Cloud-first” development process; has adopted an agile, multiple releases per year coding model

A fast follower in many of the price reductions made by AWS and Google

Visibility of, and growing acquisition of compliance related certifications/audits

However, the downside of a tightly integrated portfolio is the loss of openness and choice for the client

Microsoft Claims:

Integrated Portfolio

Hybrid Support

PaaS strengths

Price

Security/
Compliance

Microsoft Positioning:

This is a strong story for Microsoft, though equally as compelling is SoftLayer and IBM's strong stance on "open". SoftLayer's IaaS doesn't tie the client into a roadmap with IBM (though IBM will have a strong integrated, yet open story as its PaaS offerings mature)

Demonstrate SoftLayer's unique solutions for single pane monitoring – and extensive APIs - of public and private clouds, as well as bare metal servers. In reality, true hybrid will need to support multiple clouds.

If this is an infrastructure-centric engagement, keep the client and conversation focused on SoftLayer's position as a "neutral" IaaS player. Mention SoftLayer's partnerships with database providers and its Hadoop capabilities. Remind the client of IBM's investments in the PaaS layer its strong stance on "open" and portability

Never talk about price without performance. IBM will remain cost competitive; Must compare 'apples to apples' for specific uses. SoftLayer is often competitive for price/performance, when considering inclusions like support

IBM is well along in important federal government certifications, and runs other industry-compliant and highly sensitive workloads in IBM/SoftLayer DCs

Well beyond its infrastructure story, Microsoft promotes a “One Microsoft” position that includes a heavy focus on the developer

Microsoft Claims:

“One Platform”/
Familiarity

Partner
Ecosystem

Scale

Enterprise
Suitability

Industry
Suitability

Microsoft Positioning:

Unified Cloud and Server platforms with developer, desktop and mobile device platforms. Choice of on-premise software, cloud services, or integrated on-premise software + cloud services models -- supported by a **consistent (familiar) user interface and a common set of (familiar) developer tools**. Highly scalable and flexible cloud platform which helps in developing and delivering applications using tools and languages that people know

Microsoft has a reputation for enabling its very large partner channel with generous programs, including PoC credits and free tiers for Azure. Microsoft has a large SI/Vendor community happy to help migrate apps/services to cloud. Growing ISV community helps spur adoption – though largely Microsoft ISV shops. Traction with CSP and Hosting Providers with SPLA, and Hosting offerings: Infrastructure Solutions and Business Solutions. Integrating with non-Microsoft technologies and platforms / Oracle Partnership – running Oracle workloads on Azure

On of the market leaders in cloud with a global footprint

Microsoft, like IBM, enjoys solid mindshare within large enterprise, with a compelling hybrid cloud story to those in highly regulated industries

Showcases industry suitability for its IaaS and PaaS solutions, e.g., Launched “CityNext” initiative in 2Q13 to drive adoption of cloud solutions (O365 and Azure) in the public sector. Other industry focus includes media and entertainment, manufacturing, education, banking, more

While Microsoft's unified approach is compelling, it should be countered by SoftLayer/IBM ability to provide choice and flexibility

Microsoft Claims:

“One Platform”/
Familiarity

Partner
Ecosystem

Scale

Enterprise
Suitability

Industry
Suitability

Microsoft Positioning:

IBM gives client the ability to choose services that best fit their needs (from IBM or partners, including Microsoft). IBM is focused on “open” and avoiding proprietary lock-in. If this is an infrastructure-centric engagement, keep the client and conversation focused on SoftLayer’s position as a “neutral” and “open” IaaS player. Most clients will require the benefits of more than one cloud, opening doors for SoftLayer’s neutral positioning. [Note: Azure started as a Windows-centric PaaS offering and then evolved into IaaS, only more recently providing support for Linux and other open source]

IBM is growing a strong and varied partner ecosystem to enhance and complement its own set of IaaS and PaaS assets, offering choice, flexibility – with a strong open stance

IBM is making massive investments; SoftLayer is one of the largest infra providers with over 120K devices; visible roadmaps

IBM has a deep enterprise legacy which, when combined with SoftLayer’s hybrid solutions, and IBM’s open and hybrid roadmap, provide an attractive open alternative to Microsoft’s proprietary approach

SoftLayer supports many different industries with its infrastructure, including those with a high level of need for regulatory compliance. IBM adds to this, bringing its deep industry expertise. Showcase SoftLayer’s client and wins across many different industries, especially regulated ones

Microsoft will make liberal use of its multiple entry points to begin a cloud discussion

<u>Tactics</u>	<u>Tactics/BM's Positioning/Response:</u>
SaaS Entry Points	<ul style="list-style-type: none"> ▪ Microsoft has a strong integrated portfolio of IaaS, PaaS and SaaS – often using SaaS as ‘tip of arrow’ entry points to IaaS features. Also leverages existing offerings, and highlights a seamless transition to cloud-based solutions. <i>If the client is an “end-to-end” Microsoft shop, they may still have needs for SoftLayer – for example - bare metal solutions somewhere within the organization for workloads with high IO</i>
PaaS Entry Points	<ul style="list-style-type: none"> ▪ Microsoft often elevates the conversation from IaaS to PaaS. Azure is a comfortable choice for Microsoft-centric shops and Windows developers familiar with .NET languages. <i>IBM gives client the ability to choose services that best fit their needs (from IBM or partners, including Microsoft). IBM is focused on “open” and avoiding proprietary lock-in. If this is an infrastructure-centric engagement, keep the client and conversation focused on SoftLayer’s position as a “neutral” and “open” IaaS player. Most clients will require the benefits of more than one cloud, opening doors for SoftLayer’s neutral positioning. [Note: Azure started as a Windows-centric PaaS offering and then evolved into IaaS, only more recently providing support for Linux and other open source]</i>
Partner Entry Points	<ul style="list-style-type: none"> ▪ Microsoft has a strong partner and loyal partner eco-system that appears to be well-compensated to sell its cloud offerings – often in combination. <i>IBM can approach this scenario similar to the SaaS and PaaS entry points. Additionally, IBM’s cloud consulting services should be highlighted in addition to SoftLayer’s infrastructure-focused support and architecting</i>
Enterprise Sales Teams	<ul style="list-style-type: none"> ▪ Microsoft has Large sales team with existing account relationships to tap. Microsoft is skilled at addressing enterprise requirements. <i>Be aware that Microsoft will leverage its enterprise agreements to include Azure in large enterprise accounts. Use other entry points to penetrate larger enterprises, e.g., through LOBs, marketing, BI departments, etc. IBM should leverage all of its enterprise connections in sales and support. At the SoftLayer level, entertain discussions around single pane management of hybrid infrastructure. Share IBM’s roadmap for PaaS and beyond, as Microsoft is focused at this level</i>

At-a-Glance: Why is SoftLayer better than Microsoft?

Why SoftLayer is better than Microsoft



In General:

- **Bare Metal:** SoftLayer cloud can combine bare metal and private/public virtual instances, all managed through single pane. ***Microsoft doesn't do this***
- **Performance & Price/Performance:** SoftLayer can beat Microsoft at the infrastructure level with custom options for high IO and storage. ***Microsoft is weaker – with smaller instance sizes and slower storage, and likely higher cost***
- **Transparency:** SoftLayer's infrastructure whereabouts are completely transparent to the client. Clients can specific exact physical location. ***Microsoft can't do this.***
- **Openness:** SoftLayer and IBM are committed to open standards. ***Buying into the Microsoft infrastructure and platform creates lock-in and lack of portability.***

APP	App Hosting	Mobility	Dev/Test	Big Data/ Analytics
	<ul style="list-style-type: none"> • SoftLayer has more “fine-tuning” capability • Great for high-compute and IO intensive apps from mobile and gaming, to financial services and healthcare apps • No need to overprovision VMs (as MSFT needs to) • No hypervisor performance tax! 	<ul style="list-style-type: none"> • SoftLayer offers the perfect combination of bare metal and virtual instances in cloud • This allows mobile back-end developers to have better performance for their databases, for example • Microsoft's platform approach creates lock-in 	<ul style="list-style-type: none"> • SoftLayer automates the provisioning of infra for all types of testing • Flex Images automates image deployment. Can exactly match test and production on client's choice of optimized infra and software stack • Ease of moving images from bare metal to VMs 	<p>1010101 0101010 1010101 0101010</p> <ul style="list-style-type: none"> • SoftLayer's price for performance really shines here, allowing the client to purchase what they need • Microsoft Azure was not purpose-build as a high-performance IaaS. It was added well after its early PaaS clients demanded it. IaaS is not an afterthought at SoftLayer

Sources: SAI interviews and analysis

36 April 2014

SoftLayer Sales Tool Development

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COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Indirectly supported via IaaS offering; the feature is not mentioned specifically on the Microsoft Azure site
- Offers: Azure Cloud Services and Azure IaaS VMs

KEY VARIANTS OF USE CASE:

- Increasingly focused on IaaS-only pursuits, however...
- Focused on Microsoft-familiar development shops of all sizes
- Targets enterprises/ISVs to extend in-house apps with cloud
- Targets “net new to MSFT” startups, clients in emerging markets
- Deploying enterprise apps on VMs: Suggests hosting Dynamics, BizTalk Server, Sharepoint, System Center, SQL Server on Azure

EXAMPLES & CASE STUDIES:

- Case studies include examples from startup third-party solution and game developer studios, ex: Agate Studio, BayCloud Systems, eClaris Software, Gameizon, Accuweather, MYOB, Webstation

VALUE PROPOSITION:

- **Target Market:** Companies at enterprise and SMB level with .NET developers and Microsoft software environments; ISVs, startups
- **Target Roles:** Application owners or IT infrastructure managers
- **Messaging:** Transition away from hardware purchasing to subscription-based and extensible storage to support dev/test and production environments on as-needed basis; interoperability with hybrid cloud environments

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- **Also promotes:** Global reach, load balancing (local, global, HA options); dedicated high performance services, GPU offering with cloud flexibility, robust CDN

IBM KEY VARIANTS OF USE CASE:

- Well suited for hosting many different kinds of apps, particularly those with high I/O with high user experience needs
- Also well-suited for staging legacy apps not originally built for cloud, with highly-secured, highly customizable bare metal options
- Includes: Client/ISV app infra for **production** workloads; to best support existing client assets and provide platform for future svcs
- **Gaming, social, performance-focused, digital marketing**

IBM EXAMPLES & CASE STUDIES:

- DataHotel | ConvertStar | Repsol S.A., LAN Airlines | DataZoo | Heroku | Slideshare | WhatsApp | Citrix | Intel | Coca-Cola amatil | Open Table | Marriott | Pitney Bowes

IBM VALUE PROPOSITION:

- **Target Market:** SMB; will expand with IBM, BlueMix and PaaS
- **Target Roles:** IT infra and architectural roles > developer; sometimes LOB. Expand target roles to include additional decision-makers and influencers including LOB, C-level including CFO
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements. Supports clients’ existing portfolios, license models, and provides platform for future services

About this Use Case: Application Hosting

Cloud vendor provides infrastructure, and possibly other PaaS components, necessary to host client or partner applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- Claims to be best-in-class for process performance
- Commitment to matching AWS on prices for compute, storage, bandwidth and other commodity services – so this will be often be a cost play against SoftLayer
- Large SI/vendor community to help migrate apps/services to cloud
- Interoperability to support hybrid cloud environments: working to mirror cloud environments between Azure services and Cloud OS, which enables clients to seamlessly move between public and private cloud environments

IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Single pane management for bare metal and cloud – required by many hosted apps. Easily move assets between tiers, e.g., web front end on public and databases on bare metal and isolate them. Reduce costs/increase security
- Can **ease migration** and hosting of apps not entirely architected for the “cloud” - apps that need server resiliency
- Internal **private network** to enhance quality of experience
- **Open:** IBM is committed to open tools, choice, and flexibility. Leverage clients' existing tools; extend into platform layer. Future of openness with SoftLayer and BlueMix, IBM/partner assets
- **Steady-state hosting:** ability to mix server types, automation

SALES TACTICS & FUD:

- Existing relationships with many large enterprises, with dedicated sales and marketing relationships at highest level
- Vast existing sales channel driven by partners-ISV/SI/VAR
- “Comfortable” choice for Microsoft shops with .NET developers – May leverage freebies with other Microsoft software
- Will “sweeten the pot” with free Azure tiers (\$ allowances for clients, developers, partners)
- New onramp features for IaaS (Backup, Recovery, Virtual Network, Express Route and Active Directory) could lead to more interest in App Hosting use case
- Cost play: Basic service, priced up to 27% lower than the standard version, is targeted at production apps that don't need the Azure load balancer, dev workloads, test servers batch processing apps
- Will leverage any Microsoft cloud or non-cloud software entry point

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- Microsoft is considered to offer weak support for Linux apps or those with more complex security and networking requirements. Highlight SoftLayer's ability to create a truly single-tenant, highly secure app hosting environment
- **Proprietary Lock-In:** IBM can protect clients' current investments AND leverage new capabilities moving forward. Clients can embrace **open** tools, have **choice** and the **flexibility** of leveraging tools and extending into the platform layer. Clients choosing .NET/Azure will limit themselves to a Microsoft environment; portability will be more achievable with choice of Softlayer
- Microsoft is relatively new to the IaaS market, having started out only with PaaS. SoftLayer is well-established in the IaaS space
- Microsoft Azure currently lacks SOC 3, DIACAP, FISMA and US ITAR certifications (Note: Microsoft credentials vary by software!)

Use Case: Application Hosting



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Azure Mobile Services, Azure Cloud Services and Azure IaaS VMs allow for development and hosting of mobile apps; push notifications, single-sign on and auto-scaling all enabled. Others: Notification Hubs, Visual Studio Online, Service Bus
- Not an IaaS-only play! For example, offers db choice with SQL Server, Oracle, SAP, MongoDB

KEY VARIANTS OF USE CASE:

- Streaming media content to connected devices; consumer apps; business apps-connect to on premise data with Service Bus Relay; secure with Azure Active Directory, Windows Intune
- iOS, Android, Windows devices and HTML5

EXAMPLES & CASE STUDIES:

- Mobile case studies include Hogg Robinson, Wellmark Blue Cross and Blue Shield, British & Irish Lions, NBC News, Sly Fox, WeddingHappy, Making Waves, TalkTalk

VALUE PROPOSITION:

- **Targets:** Mobile app developers across companies and partners of all sizes and orientations (e.g., born-in-cloud), enterprise LOB
- **Messaging:** Flexibility to support any API, languages including .NET and Node.js, databases including SQL Server and MongoDB on device OS of choice
- Apps can be built on Azure as well as hosted on the backend on any combination of virtual machines, cloud services or mobile services. Simplicity of user authentication and personalization via Facebook, Google, Twitter or Microsoft accounts via SSO

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, "block" and object storage
- **Also promotes:** global reach and load balancing; GPU offering, robust CDN; Cloudant; message queue, Partner data stores (Mongo, Riak), BlueMix

IBM KEY VARIANTS OF USE CASE:

- Gaming and social applications

IBM EXAMPLES & CASE STUDIES:

- **Koram Games:** Chosen for low latency, fast disk I/O using SAS/SSD RAID-10, high bandwidth, redundancy/HA, low latency private network for web to DB server comms
- Others: **Bump;** **WhatsApp**

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** IT infrastructure roles; IT architectural roles; developer
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements, fine-grained control via APIs
- Global reach and network infrastructure for quality of experience
- Choice of DCs to best extend global reach to mobile endpoints

About this Use Case: Mobility

Cloud vendor provides the infrastructure and tools necessary to allow clients and partners to develop, test and deliver mobile applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- Ease of configuration and personalization of the user experience via single-sign on user authentication: opportunity to increase engagement and sharing via personalized experience
- Native SDKs for Windows Phone and store; also have capability to support Android, iOS, HTML5
- Azure-hosted apps can stream content to smart TVs and gaming devices, i.e. Xbox
- BizTalk Adapters enable connections to on-premises databases, Active Directory systems, Windows Intune and Oracle DB



IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Single pane management to for bare metal and cloud. Easily move assets between tiers, e.g., web front end on public and databases on bare metal and isolate them. Reduce costs/increase security
- Internal **private network** to enhance quality of experience
- **Open:** IBM has open tools, choice, and flexibility. Leverage clients' existing tools; extend into platform layer. Future of openness with SoftLayer and BlueMix, IBM/partner assets
- **Mobile workloads:** SoftLayer infrastructure provides the quality of experience for end users. No hypervisor tax. APIs for automation and scripting

SALES TACTICS & FUD:

- Existing relationships with many large enterprises (and dedicated sales/marketing personnel) could help to address enterprise LOB mobile developer
- Ties mobility offerings to large "One Microsoft" software and solution set, for example, attracting developers to write once for a number of different devices
- Strong supporting marketing programs around own mobile devices and mobile development with Azure
- Ties mobile capabilities to other offerings that are often needed in mobile development such as media content handling
- Microsoft's sales tactics, in general, quickly evolve from the IaaS level to PaaS, HOWEVER, Microsoft will on-ramp to use cases such as mobility using storage and db features
- Will leverage any Microsoft cloud or non-cloud software entry point

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- **Mobile services will include APIs**, application management and QA, and include integrated developer experience for both cloud and mobile application
- **Cloudant technology** enables HA, scale elasticity and mobile device synchronization. Optimized in the SoftLayer environment. Provides simple API for mobile data to mobile and web developers
- **Proprietary Lock-In:** Clients will become increasingly locked into the Microsoft cloud and software set. In contrast, IBM can protect clients' current investments AND leverage new capabilities moving forward. Clients can embrace **open** tools, have **choice** and the **flexibility** of leveraging tools and extending into the platform layer
- **IBM BlueMix:** mBaaS is a key element and function for BlueMix. Be prepared to discuss and promote BlueMix's ability to serve up the backend of a mobile app across geographies



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Core Azure IaaS and PaaS services with integration into Visual Studio and Eclipse environments. Web Sites specifically for creating web apps
- Variety of dev/test environments for apps on web sites, mobile and cloud services, SQL databases and Windows Azure storage; secure connection to on-premises data center enabled via Express Route

KEY VARIANTS OF USE CASE:

- .NET apps on Azure PaaS, and all apps on Azure IaaS, including Windows and Linux based

EXAMPLES & CASE STUDIES:

- Clients including NBC News, Hearst Corporation, LexisNexis, Avanade, PAR Springer-Miller, Telenor, Aviva, HarperCollins

VALUE PROPOSITION:

- **Targets:** App development teams and application owners within companies and partners of all sizes and orientations (e.g., born-in-cloud or migrating)
- **Messaging:** Speed of development at reduced cost and risk associated with hardware purchasing, with flexibility of deployment across public and private cloud and on-premises storage; easy onramp for enterprises already making extensive use of Microsoft environment

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- **Also promotes:** global reach and load balancing; GPU offering, robust CDN; Flex Images for easily creating test images
- BlueMix is a critical component of dev/test as clients move from simply using infrastructure for dev/test to the higher level PaaS capabilities that IBM can offer

IBM KEY VARIANTS OF USE CASE:

- None specifically noted-TBD

IBM EXAMPLES & CASE STUDIES:

- Intel

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally targets SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** IT infrastructure roles; IT architectural roles; Can be LOB execs, depending on application, such as CMO
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements

About this Use Case: Dev/Test

Cloud vendor provides infrastructure and tools necessary to allow clients and partners to develop and test web/SaaS applications.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- “Logical” transition from Microsoft environment to Azure, with extensive on-ramp features designed to attract enterprise
- Accelerated development when leveraging range of Azure services including Web Sites, Mobile Services, Cloud Services and Azure Storage
- Language and tool choice bridges Microsoft to non-Microsoft world: ASP.NET, PHP, Node.js, or Python; Deployment with FTP, Git, Visual Studio, TFS, and GitHub
- Built in AutoScale

IBM DIFFERENTIATION, SPARKLERS:

- **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Single pane management to for bare metal and cloud. Easily move assets between tiers, e.g., web front end on public and databases on bare metal and isolate them. Reduce costs/increase security
- Can **ease re-platforming and testing** of apps not entirely architected for the “cloud” - apps that need server resiliency
- **Open:** IBM has open tools, choice, and flexibility. Leverage clients’ existing tools; extend into platform layer. Future of openness with SoftLayer and BlueMix, IBM/partner assets
- **Performance-focused hosting workloads:** one panel mgt

SALES TACTICS & FUD:

- Granular pricing features: “[Azure provides by-the-minute rather than hourly billing... You'll also benefit from no charges for stopped VMs](#)”
- On-ramp features such as Backup, Recovery, Virtual Network, Express Route and Active Directory to facilitate IaaS adoption at enterprise level
- Dedicated sales and marketing account managers at enterprise level; robust channel partner ecosystem of VARs/ISVs/SIs
- Sweet spot: Microsoft-familiar/friendly companies and partners
- Will leverage any Microsoft cloud or non-cloud software entry point

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- IBM should highlight its ability to provide a well-architected, ‘**price for performance**’ solution that leverages cloud flexibility as well as bare metal performance. Microsoft does not offer bare metal
- **Proprietary Lock-In:** Clients will become increasingly locked into the Microsoft cloud and software universe. In contrast, IBM can protect clients’ current investments AND leverage new capabilities moving forward. Clients can embrace **open** tools, have **choice** and the **flexibility** of leveraging tools/extending into the platform layer
- **Enterprise:** Clients, particularly enterprises, will require services in support of their architecting and re-architecting their apps. SoftLayer/IBM are uniquely capable of helping them. Microsoft has enterprise credibility, but IBM can bring years of services expertise and architectural support in heterogeneous environments
- “Born-in-the-cloud” SaaS companies – **AT SCALE** – are likely to require their own control over architecture and deployment, such as the unique combination provided by SoftLayer: for cost and control

Use Case: Dev/Test



COMPETITIVE OFFERING(S):

- **Typical Solution Components:** Standard infrastructure components with virtual machines, storage
- Offers a MapReduce service called HDInsight, along with SQL and NoSQL database options
- Microsoft continues to offer big data “solutions” that address more specific big data/analytics needs such as IoT with its Analytics Platform System

KEY VARIANTS OF USE CASE:

- Hadoop MapReduce jobs
- Standard QL and NoSQL analytics projects

EXAMPLES & CASE STUDIES:

- Big Compute: Towers Watson, GreenButton, Wellcome Trust
- Big Data: Halo, VirginiaTech, Ascribe

VALUE PROPOSITION:

- **Target Market:** Larger companies in Financial Svcs, Life Sciences, etc. Increasingly, smaller startups and SMBs leveraging analytics based on new, cost-effective capabilities, such as gaming companies analyzing player click data to increase monetization
- **Target Role:** App developers and business analysts
- **Messaging:** On-demand compute resources to run parallel and batch computes in the cloud, or as-needed extension of on-premises HPC cluster

IBM OFFERING(S):

- **Typical Solution Components:** SoftLayer bare metal, private and public VMs, “block” and object storage
- **Also promotes:** global reach, load balancing; GPU offering, CDN
- **Pre-configured Big Data Partnered Solutions:** MongoDB, Riak, Microsoft SQL, MySQL
- Nimsoft monitoring
- Aspera Extreme File Transfer

IBM KEY VARIANTS OF USE CASE:

- **BlueMix:** With BlueMix, IBM will support many variants of big data use cases, offering clients choice in processing, storing and analyzing big data with both IBM and partnered solutions

IBM EXAMPLES & CASE STUDIES:

- Blue Kai (acquired): consumer data/marketing analytics-Hadoop
- Church Media Group: high powered computing/data crunching
- Nexage: high volume transactions with low latency needs
- FitBit; Strug; Technicolor

IBM VALUE PROPOSITION:

- **Target Market:** SoftLayer traditionally SMB market; Will expand with BlueMix and PaaS
- **Target Roles:** LOB; IT infrastructure roles; IT architectural roles
- **Messaging:** Architect cloud infrastructure solutions combining bare metal and virtual machines to address performance/security requirements

About this Use Case: Big Data/Analytics

Cloud vendor provides infrastructure, software and tools to allow clients and partners to move, process, analyze, store, deliver big data/analytics.



CLAIMS, DIFFERENTIATION, SPARKLERS:

- Claims to be best-in-class for process performance: optimized A8 and A9 instances with low latency and high network throughput, including remote direct memory access technology for parallel MPI applications
- Commitment to matching AWS on prices for compute, storage, bandwidth and other commodity services
- Ease of data transfer in and out of the cloud with Direct Connect and Import/Export services
- Can use existing .NET knowledge to run language-integrated query with LINQ to Hive via HDInsight for Hadoop MapReduce
- Can use existing SQL knowledge to query and transform data through Hive

SALES TACTICS & FUD:

- Microsoft's cloud legacy began with PaaS, so it often raises the sales discussion to include PaaS elements, particularly in the big data and analytics space
- Existing relationships with large enterprises (and dedicated sales/marketing personnel) in target verticals will be of use in big data/analytics sales piece
- Will leverage any Microsoft cloud or non-cloud software entry point



IBM DIFFERENTIATION, SPARKLERS:

- Choice:** Provides tools to allow users to create their own big data solutions, as well as offering partnered solutions. Clients typically come to SoftLayer to build own server clusters. Pre-configured solutions still allow configuration by user
- Price performance:** Compared 'apples to apples' SoftLayer has an exceptional story for comparable systems – allowing clients to get their workloads finished more quickly and at less cost
- Bare Metal options and the surrounding systems, such as SoftLayer's private network facilitate the price-performance story for big data. Two key elements: **bare metal access and (free) DC-to-DC high-speed network.** **Unique ability** to build cloud solution with bare metal, private and public cloud for elasticity, rapid expansion
- Speed of deployment: sell big data solution sets rather than servers, e.g., Hadoop medium-size environment running in a day

IBM SALES TACTICS-PROACTIVE/DEFENSIVE:

- The SoftLayer **platform** is ideally suited to big data deployments, high I/O and latency-sensitive apps
- Determine the specific needs of the client to understand where IBM's additional "big data" **assets** could be leveraged for these workloads
- Scale** – certain "as a service" options may not operate well at scale and require more customized configurations ideal for SoftLayer
- Price for performance: Softlayer's **bare metal** servers ensure that CPUs are used to process data rather than power hypervisors
- Important to illustrate price/performance for the workload – will often be competitive or lower priced than AWS when compared with all inclusions on SoftLayer side-such as free inter-DC transfer
- Microsoft Azure currently lacks SOC 3, DIACAP, FISMA and US ITAR certifications (Note: Microsoft credentials vary by software!)

Use Case: Big Data/Analytics

Microsoft divides its “Big Data Analytics” use case into two categories: Big Data and Big Compute

Microsoft Use Case Focus: Big Data



Big Data Features – Go beyond IaaS and highlight integration with other Microsoft products

- **Blob Storage:** for logs, telemetry, social streams, other data types
- **HDIInsight:** Heavily emphasizes analytics of **HDIInsight**, “based on 100% Hadoop” and Hortonworks Data Platform; SQL
- **Data visualization and mashups** with Microsoft Excel’s advanced features including PowerQuery, PowerPivot, PowerView, Power Map
- **Programmability** with Java, .NET and other languages

Big Compute Features

- **High performance A8 and A9 compute instances**, low-latency and high-throughput network including Remote Direct Memory Access (RDMA) technology for efficient parallel MPI applications
- **On-demand scaling and bursting** for intensive simulations and jobs, deploying VMs and/or Cloud Services
- **HPC** pack of deployment, administration, job scheduling and monitoring tools for Windows HPC cluster environment
- **Industry:** Cross-vertical partner ecosystem
 - Microsoft cites financial services, engineering, oil & gas, life sciences and digital content creation
 - Provides pre-developed data libraries, applications and tools from ISVs

Applications for Big Data:

- Predictive analytics and pattern identification
- Telemetry
- Logs
- Social streams

Applications for Big Compute:

- HPC with auto-scaling
- Applicability to workloads in data-intensive industries

Microsoft promotes many features that address the mobility use case – again introducing platform features beyond IaaS

Microsoft Use Case Focus: Mobility



Features Promoted by Microsoft

- **Mobile platform-agnostic:** RESTful API; native SDKs for Windows Phone, Windows Store, Android, Apple iOS and HTML5
- **User authentication** via single sign-on enables easy integration with Facebook, Google, Microsoft and Twitter accounts
- **Azure store** provides choice of additional add-ons, though selection is presently shallow
- **On-demand scaling of apps** with high availability SLA for hybrid environments; access to global supply of Microsoft managed data centers
- **Push notifications** enabled by Notification Hubs to Windows Phone/Store, Android and Apple iOS. Microsoft touts Bing News app which “delivers breaking news to millions of devices in minutes”



Additional features include an emphasis on integration and identity access & management:

- **Service Bus:** messaging management connects cloud apps to on-premises services, systems and apps
- **Azure Active Directory:** monitors/controls access to cloud apps ranging from Azure to Office 365
- **Multi-factor Identification**
- **Azure SQL Database**
- **Azure Media Services:** cloud-based versions of ingest, encoding, format conversion, content protection and on-demand and live streaming capabilities

Azure's Media Services offering is a corollary to the mobility use case intended for multi-device, cross-platform media distributors

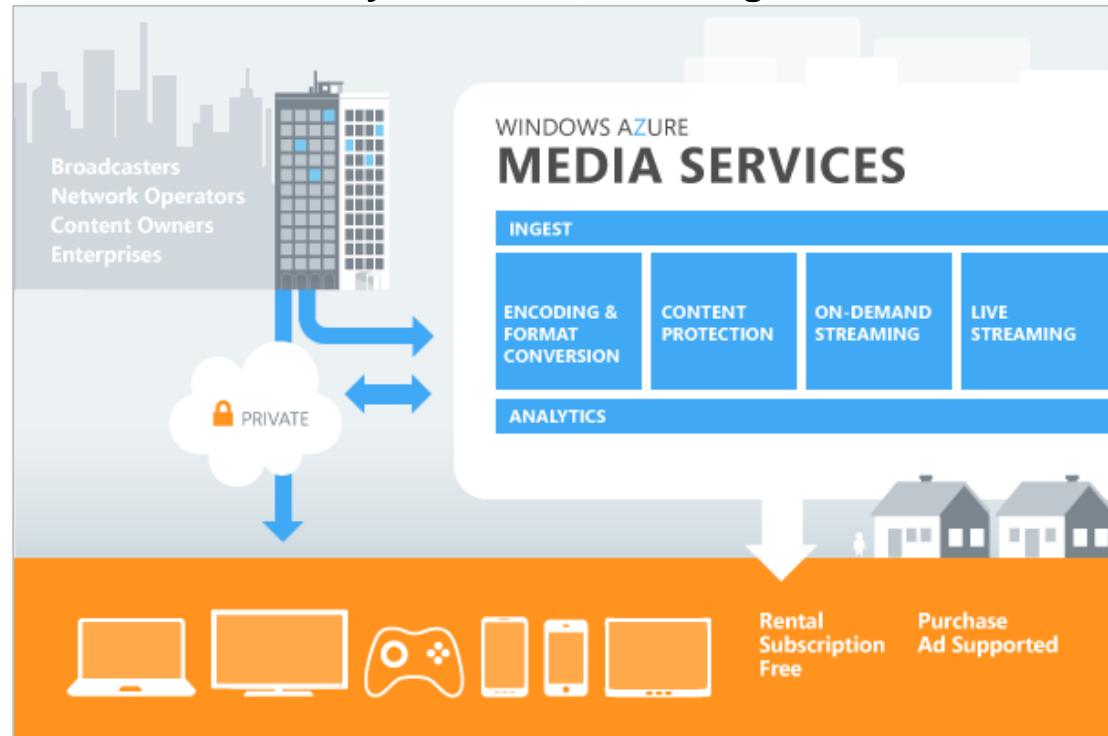
Microsoft Use Case Focus: Mobility



Mobility

- Microsoft addresses the media content developer and distributor use case with its Azure Media Services offering
- **Media Services:** cloud-based versions of ingest, encoding, format conversion, content protection and on-demand and live streaming capabilities: can be used for end-to-end and hybrid workflow development, also provides cross-platform and multi-device cloud support (Xbox, PCs, Macs, Android)
- **CDN:** Azure CDN delivers web content ranging from text, images, audio and video via lower latency and higher availability for large-scale media content delivery

Microsoft's Media Services is tied to its mobility use case through the distribution of content to a variety of devices, including mobile



Microsoft attempts to attract developers with the promise of faster and simpler development – and migration – processes

Microsoft Use Case Focus: Dev/Test

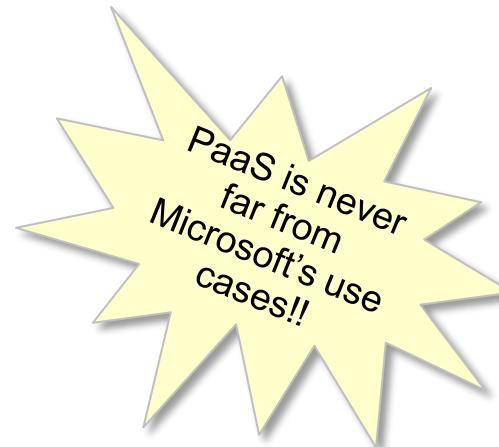


“Dev/Test” is a hallmark use case for Microsoft – one where its PaaS assets are featured

- **Speed** is the major theme of Microsoft’s Azure claims: “spin up a VM from a single core to eight cores, from less than 1 Gb to 56 Gb in less than 10 minutes”
- **Easy to Get Started:** Microsoft encourages developers to create and upload a virtual hard disk to Azure via “Get Started.” Special perks and allowances are available to MSDN subscribers
- **Automation:** Can use scripting to fully automate creation of VMs or VM network using PowerShell scripts, with ability to stop and start VM machines to automate costs
- **Hybrid Enablement:** Touts choice between production in the cloud on Azure or via VM, with on-premises or hosted deployment

Features Highlighted:

- **Azure Web Sites**
- **Azure Mobile Services**
- **Azure Cloud Services:** “you can just work on the code – the part that matters”
- **Azure SQL Database**
- **Azure Storage:** Block Blobs, Page Blobs and Disks (optimized for random access and frequent updates), Tables and Queues (NoSQL)



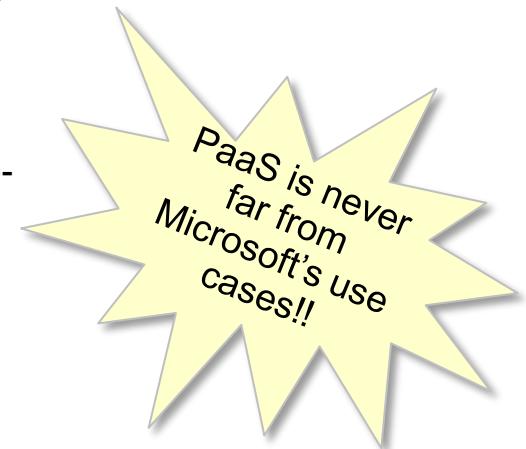
Microsoft offers App Hosting capabilities but positions them under infrastructure and web app building use cases

Microsoft Use Case Focus: App Hosting



App Hosting

- Microsoft does not specifically address the App Hosting use case PER SE. App hosting is subsumed in other use cases and services
- Microsoft's "**Infrastructure**" feature includes on-demand scaling, pay-as-you-go support for Windows Server and Linux VMs
 - Microsoft has a key focus on media-related use cases that exploit its CDN and Azure footprint
 - Highlights speed of dev/test/extensibility of DC with System Center, Active Directory, Visual Studio
 - Touts "seamless" integration with existing Microsoft apps and end-to-end support from infra to OS to apps - touted as a differentiator
 - Free of penalties for changing VM configurations
- Microsoft's "**Web**" feature lists customers (Skype, Office, Murally, Accuweather and Webstation) hosting HA web sites on Azure
 - Touts automatic load balancing, updates and security patching
 - Azure **Cache Service** for high throughput, low-latency data access while providing complete isolation of a cache; no transaction limits on changes in user load
 - Claims openness with choice of languages and databases
 - Web App Gallery of frameworks and template websites, e.g. WordPress, Umbraco, Drupal

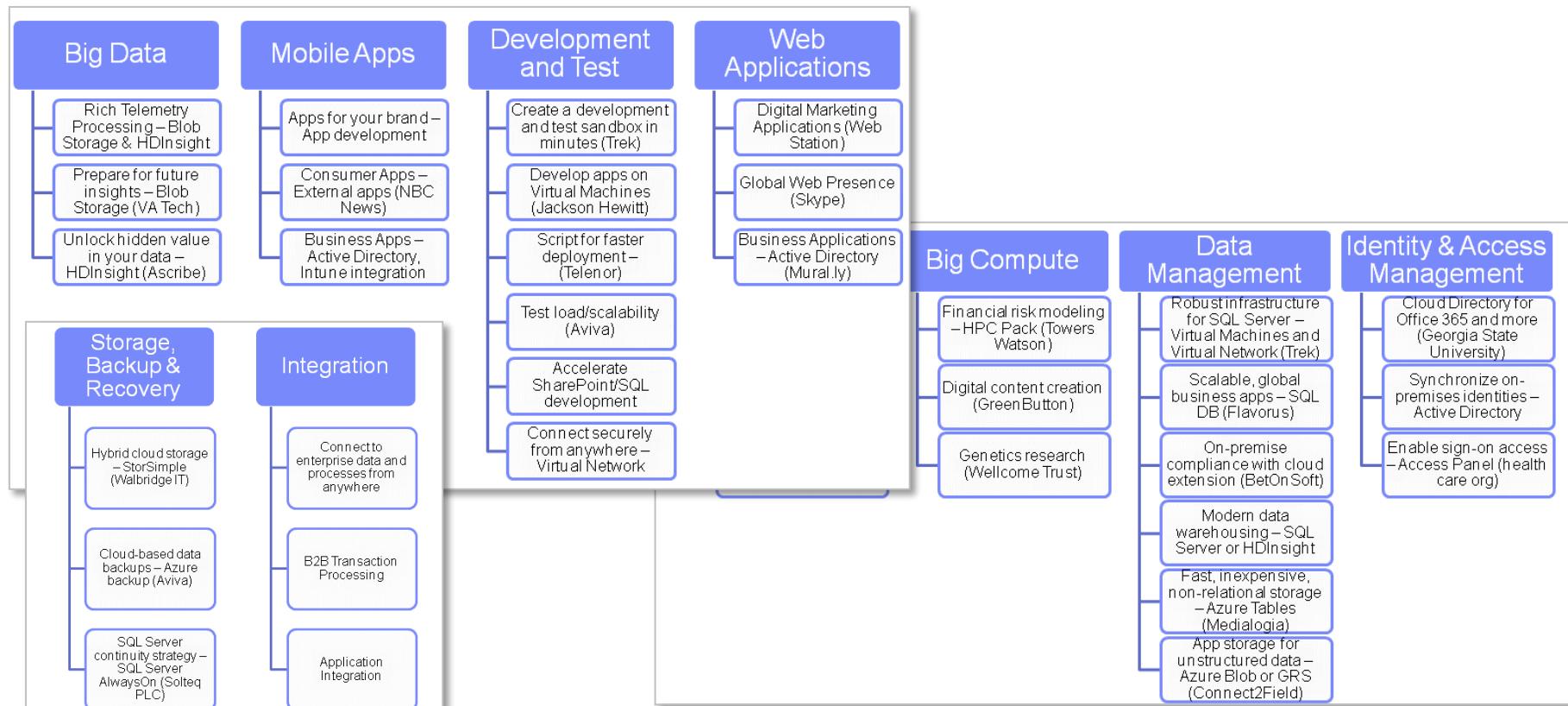


Throughout its solution offering pages, Microsoft gives examples of scenarios, but does not simplify search by PaaS or IaaS

Microsoft: Case Studies (1 of 3)



Without differentiating between PaaS and IaaS engagements, Microsoft divides its case studies into specific, use case-based implementations – and emphasizes work with high-profile clients wherever possible



Sources: SAI interviews and analysis; Microsoft case studies

50 April 2014

SoftLayer Sales Tool Development

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