



SAUGATUCK

TECHNOLOGY

Strategic Advisor to Leading IT Vendors

Understanding the Cloud Taxonomy

Cloud Summit Executive
Computer History Museum – Mountain View, CA

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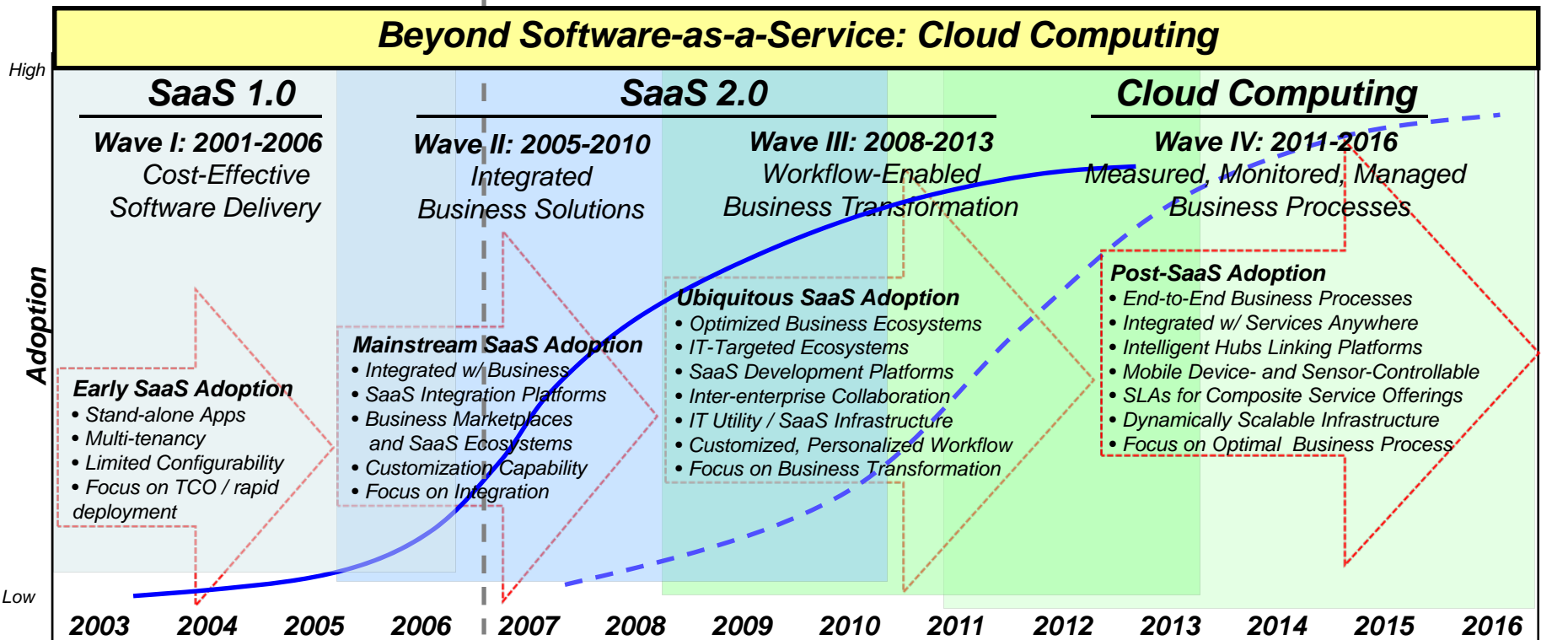
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Beyond Software as a Service

The focus of SaaS shifts over time from cost-effective delivery of stand-alone application services (Wave I), to integrated business solutions enabled by web services APIs and ESBs (Wave II), to workflow- and collaboration-enabled business transformation (Wave III), leading to measured, monitored and managed business processes (Wave IV).

By 2013, at least 20 percent of enterprise IT workloads – that historically would have operated on-premise – will be run in the cloud, providing significantly enhanced functionality, lower costs, fewer staff, and reduced carbon footprint.



Source: Saugatuck Technology

Cloudy Language

- WALL STREET JOURNAL BIZTECH BLOG
 - “*Overuse of the Term 'Cloud Computing' Clouds Meaning of the Tech Buzz Phrase*” (September 23, 2008)
 - “*Microsoft Comes up with Yet Another Meaning for 'Cloud Computing'*” (October 2, 2008)
- Cloud Computing is “creating a lot of confusion in the market,” according to Gartner
- “There is a clear consensus that there is no real consensus on what cloud computing is.”
 - Irving Wladawsky Berger, IBM

CIOs on Cloud Computing

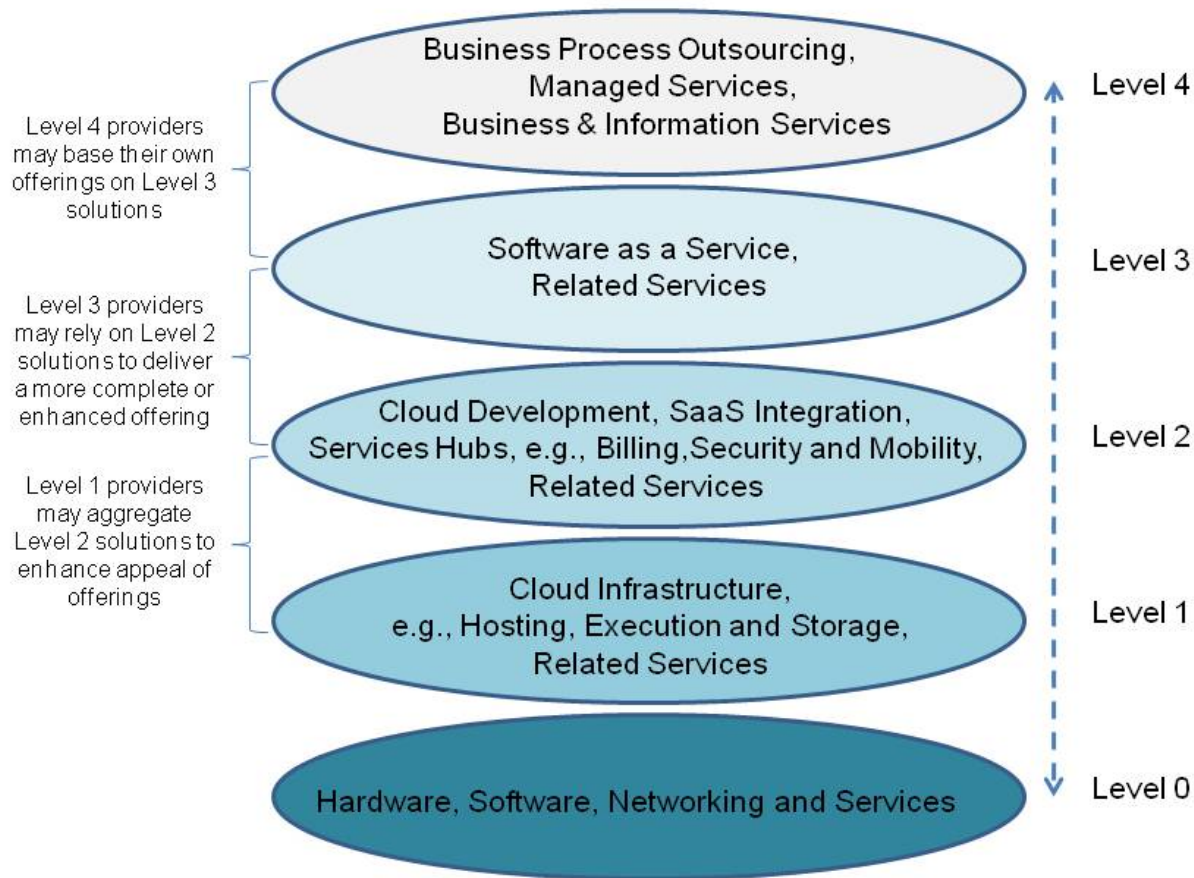
Recent Saugatuck interviews with CIOs revealed:

- “Cloud computing is anything the user wants it to be. OK, that's probably more facetious than you wanted to hear. But it really is true – cloud computing means the availability of IT, delivered as a service, from a provider unknown to or unseen by the user. It can be us in house; it can be IBM; it can be SalesForce.com...” *Divisional CIO, Top-5 US brokerage / financial services firm*
- “Cloud computing is the outsourcing of IT infrastructure. I see the cloud including SaaS and computing, Storage, etc. I don't know that we would outsource IT management to a cloud provider...” *CIO, mid-sized US manufacturing firm (with 7 small subsidiaries)*
- “When I think of “Cloud Computing, *I think of it as the ability to dream software solution dreams.* I then think of rendering it in a language of my choice. And finally, being able to somehow magically "push" code into the "Internet Cloud", without fore-knowledge or regard for any of the layers underlying my code (DBMS, OS, connectivity or Computer)... The leading vendors are *Google, Facebook, Amazon.com, and Salesforce.*” *CIO, Global Retailer*
- Cloud computing is about on-demand infrastructure that can be flexibly deployed based on my computing needs. Longer-term, it is all about building and deploying new apps in the cloud – as we shift the way we deploy IT from internally-managed datacenters to centralized utilities... *Amazon and Google are the early compute-focused players, but Cloud Computing will cross the entire ecosystem of providers within a short time...* *SVP Fin/HR Apps at Top-5 US Bank*

Source: Saugatuck Technology

Saugatuck Cloud Ecosystem Model

Saugatuck Cloud Ecosystem Model



Cloud Ecosystem Model - Drill Down

- **Level 0 – Suppliers** of hardware, system software and utilities, data center management software, networking equipment, hardware and software, and associated services. These offerings are the underpinnings of Cloud Computing offerings for both Public and Private Clouds.
- **Level 1 – Cloud-based On-Demand Infrastructure providers and platforms** that host SaaS and other on-demand solutions and provide service offerings to manage infrastructure platforms (collocation); these solutions may rely on partnerships with Level 2 providers, such as Cloud Development (Platform as a Service), SaaS Integration and Services Hubs – e.g., SaaS billing, Cloud-based security and Mobility-as-a-Service providers – to provide a more complete offering and attract SaaS vendors or ISVs migrating to SaaS.
- **Level 2 – Cloud Development (Platform as a Service), SaaS Integration, Services Hubs** (e.g., billing, administration, aggregation, security and mobility solutions, systems and infrastructure management, data warehousing, data access and analysis, and related professional services). These solutions are platform-targeted, as enhancements to Level 1 platform offerings or Level 3 SaaS solutions. In the case of Cloud Development, the resulting application many run on a Level 1 platform or in conjunction with a Level 3 SaaS solution.
- **Level 3 – Software as a Service** (Waves I-III) and related professional services. These are business solutions delivered from the Cloud, typically in a multi-tenant architecture, and billed by subscription, units of consumption, size of enterprise or other metric on a recurring, periodic basis.
- **Level 4 – Business Processing Outsourcing (BPO), Managed Services, Business and Information Services.** These services are based upon the specialized expertise of the provider and typically delivered in conjunction with a Cloud-based solution, e.g., SaaS, Mobility as a Service, Cloud-based security, sourcing, data warehousing, etc.

Saugatuck Planning Positions (SPPs)

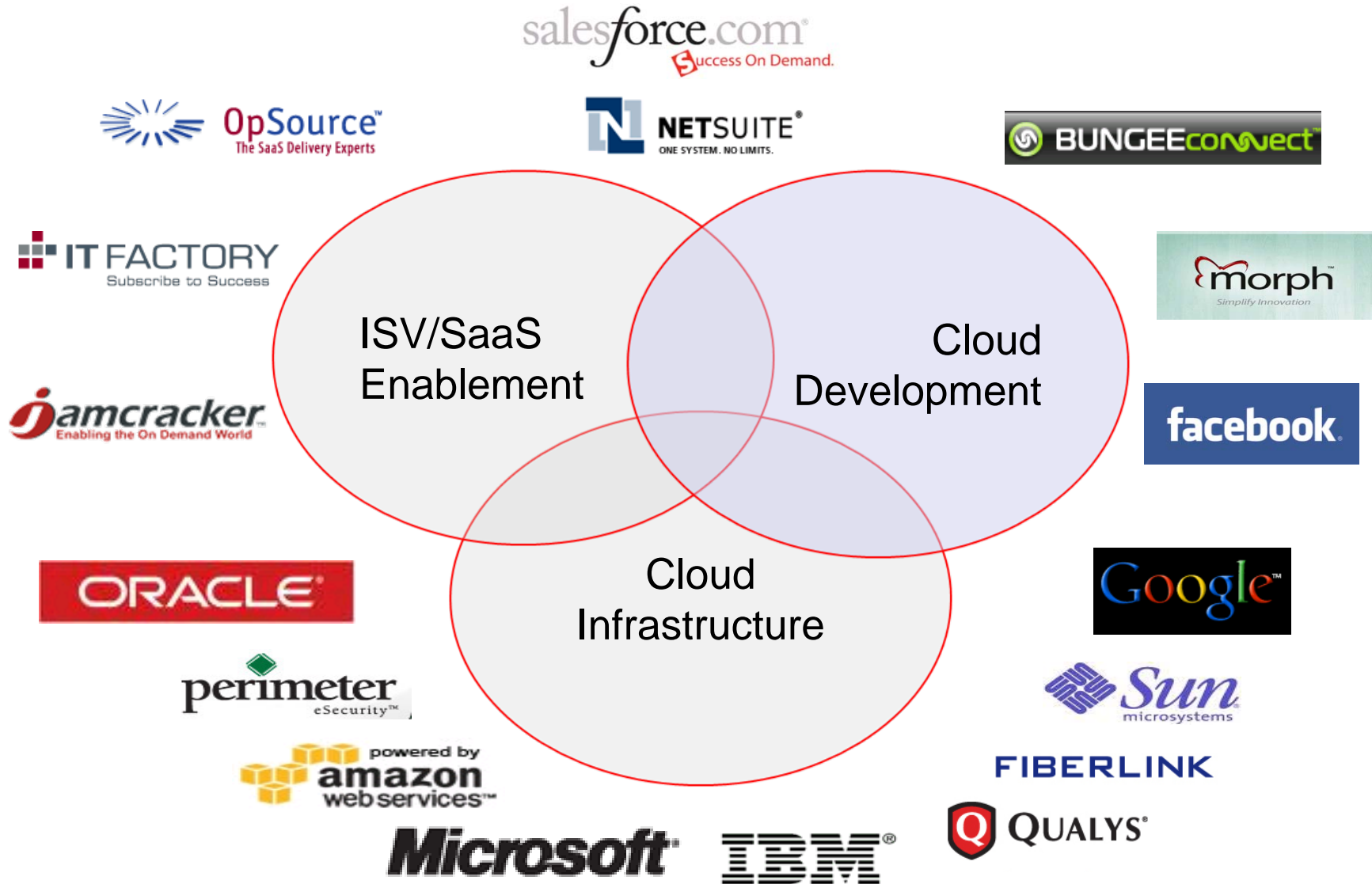
- *By 2013, at least 20 percent of enterprise IT workloads – that historically would have operated on-premise – will be run in the Public Cloud, providing significantly enhanced functionality, lower costs, fewer staff, and reduced carbon footprint.*
- *Through YE 2012, Private Cloud deployments by enterprises will equal or exceed enterprise adoption and utilization of Public Cloud infrastructure solutions.*
- *Up to 60 percent of mid-to-large size enterprises will invest in Private Clouds by 2013.*
- *Cloud-based security and mobility solutions will be broadly accepted in the mainstream and by enterprises of all sizes by 2012.*
- *By YE 2012, several countries and geographic markets, including India, Malaysia, and Northern Europe, will build on advancements in telecom and business practices to leapfrog from Wave I-style SaaS to “Wave III” and “Wave IV” Cloud Computing.*

Source: Saugatuck Technology

Cloud Business

- Cloud Computing will evolve to into a series of converged platforms for the delivery of on-demand infrastructure services, SaaS enablement and cloud-based development.
 - This vastly increases the range of opportunities for SaaS providers as well as software developers, code firms, and IT services providers.
- “Cloud Computing” actually becomes – in a very short time – “Cloud Business.”
 - It is the natural progression of SaaS, the IT utility concept, and business process outsourcing and transformation.
 - It enables the delivery (and refinement) of optimized IT and business simultaneously, in real-time and on demand, or more likely, as parts of selective outsourcing strategies in a hybrid IT and business environment.
- Its important to note that the “cloud” can be on- or off-premise (and either public or private).
 - Many larger firms will utilize both on- and off-premise clouds for a variety of IT services, resulting in the need for increasingly complex IT management. SaaS and cloud computing, in such cases, will add to the complexity and costs of IT management.

Platform as a Service



Key Platform Players Evolving from SaaS

Platform Provider	Cisco	Jamcracker	Microsoft	NetSuite	OpSource	Salesforce
Name of Platform	WebEx Connect	JSDN PivotPath	Connected Services Framework; Dynamics CRM	NS-BOS	Opsource	AppExchange, Force.com Apex
Strategic Purpose	Enable Partners to Collaboration Platform	Aggregation/ Distribution, SaaS Enablement For ISVs	Syndicate Exchange to Telecoms	Capture SMB Customers, Enable SaaS Partners	SaaS Enablement	Establish Platform for Cloud Computing
Integration Approach	Platform	Platform	Platform, .Net, WS APIs	Platform, WS APIs	Boomi, Cast Iron, X-ESB	Platform, WS APIs
Customize, Develop	Unknown	Limited	Unlimited; Visual Studio	SuiteScript SuiteTalk	Limited	Force SDE APIs for UI, Data, Workflow; Apex
Develop and Runtime	No	No	No	Yes	No	Yes

Saugatuck Insight: These platform players differ in their strategic purposes. Only Salesforce with Force.com has attracted cloud development independent of its SaaS solution, e.g., Japan Post, EA, Dolby Labs, etc. Netsuite has vertical solution partners that leverage and extend the core Netsuite SaaS suite, but all of the above host and enable SaaS solutions. BEA in particular, together with Oracle tools, could mount a competitive PaaS offering.

What's Coming Down the Road? Selected PaaS Players

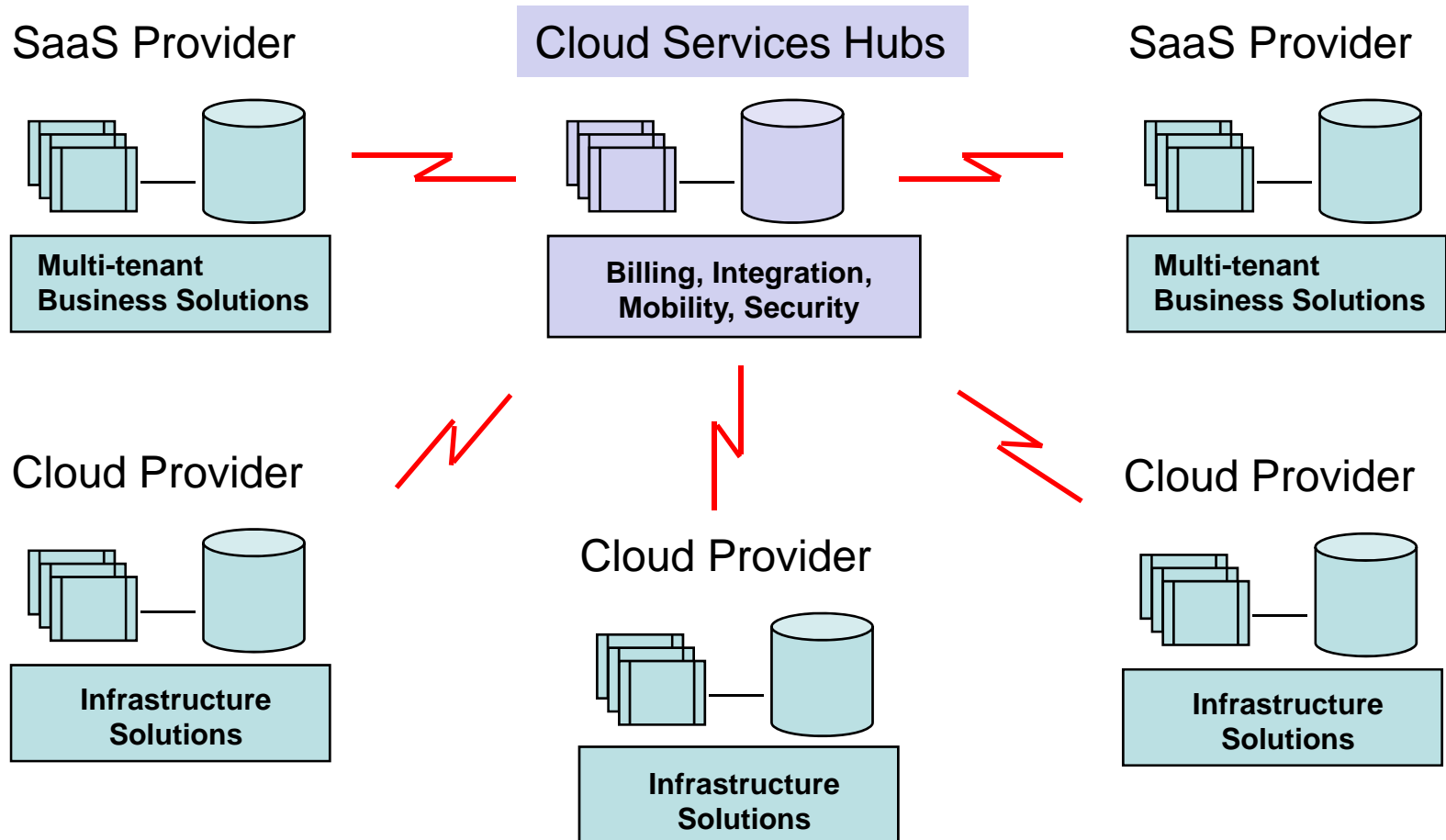
PaaS Players Target the Cloud

Platform Provider	Amazon Web Services	Bungee Labs	Engine Yard	Facebook	Google	Morph Labs
Name of Platform	EC2, S3	Bungee Connect	Engine Yard	Facebook Platform	Google App Engine	MorphXchange
Development	Any	Bungee Builder, WSDL	Ruby on Rails	Client Libraries, MS Dev Tools	Python, webapp, Django	Morph Application Platform and Morph AppSpaces
Runtime	Linux, Storage	Bungee	EngineYard	Joyent, Amazon	Python/Google	Amazon Web Services
Target	Cloud Developers	Cloud Developers, Integrators	Ruby on Rails Developers	Social Networking Developers	Cloud Developers	Ruby on Rails Developers
Status	<i>In business</i>	<i>Beta</i>	<i>In business</i>	<i>In business</i>	<i>Preview</i>	<i>In business</i>

Saugatuck Insight: Emerging PaaS players target cloud developers with technical languages like Ruby on Rails or Python, and either offer runtime services or resell cloud runtime services such as Amazon Web Services or Joyant or host the applications in the cloud, e.g., Bungee and Engine Yard



Hub Services Delivered to SaaS and Cloud Vendors



Saugatuck Insight: Services can be provided direct to SaaS vendors via a Cloud Services hub, an outsourced service subscribed to by the SaaS vendor.

Summary

- Saugatuck takes a very broad definition of Cloud Computing, and its ecosystem:
 - *Cloud Computing encompasses on-demand infrastructure (compute, storage, networking), and on-demand software (operating systems, applications, middleware, management, and development tools), customized dynamically to fit current and immediate business process requirements, along with the ability to deliver and manage those business processes.*

Saugatuck Technology Overview

OVERVIEW

- Saugatuck Technology provides management consulting and subscription research services to senior executives, information technology vendors and investors – with a focus on emerging technologies and markets impacting the enterprise, such as SaaS, Cloud Computing, Web 2.0 and Open Source
- Marketing and strategy experts in traditional and next-generation enterprise software and business / IT services, and IT infrastructure / platforms.
- Headquartered in Westport, Connecticut with regional offices in Santa Clara, CA and Frankfurt, Germany (with regional staff in Australia (Asia/Pac))
- Deep industry experience – averaging 25+ years with leading vendors / think tanks such as Gartner, KPMG, Accenture, IBM, HP



STRATEGIC CONSULTING SERVICES

- Market Assessment / Strategy Validation
- Opportunity Analysis
- Positioning / Messaging
- Scenario Planning
- Competitive Analysis

THOUGHT-LEADERSHIP PROGRAMS

- Custom research programs targeting key business/IT investment decisions of CIOs, CFOs and Sr. Business Execs, delivered as research reports, position papers or Webinars.

CONTINUOUS RESEARCH SERVICES (CRS)

- Subscription research & advisory services providing ongoing access to Saugatuck's published research and inquiry into our team of senior industry analysts.
- Research agenda focuses on emerging technologies and market (such as SaaS), as well as new and disruptive market forces at the business process layer

VALUE-ADDED SERVICES

- Competitive and market intelligence
- Investment advisory services (M&A support, venture fundraising, due-diligence)
- Primary and Secondary market research.

For more information, go to our website at www.saugatech.com, or contact Chris MacGregor at 1-203-454-3900, or via email at chris.macgregor@saugatech.com.

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