

# Changing The Game: Monthly Technology Briefs

August 2009

**Google, Salesforce.com, and Amazon: Enabling Key  
Technologies to Bring the Cloud to Life**

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# Google, Salesforce.com, and Amazon Show New Ways to Develop, Deploy, and Operate

A new group of technologies is emerging around how to deliver to Web clients connected by the Web, through the potential use of Cloud Services. Among the available options are:

- Google's Apps Engine and Gears;
- Salesforce.com's Force Platform (initially called AppExchange, and later Apex) in partnership with Adobe and its ubiquitous AIR Rich Internet Applications (RIA) platform; and,
- Amazon's range of services that can be used separately or together to provide a cohesive solution.

Together they represent a wide span of options for alternative development environments, and deploy and operate capabilities by employing the "on-demand" style services as opposed to the traditional PC, Client Server, and applications on local server ones. All capabilities come with some entry-level "free" offering to encourage trials, and pay-by-usage for ongoing operations to match the scaling up or down of any new services, without requiring any commitments in the form of on-premise equipment.

Google provides the Apps Engine, a self-contained environment to both build and deploy Web-based services. Developers may use either Java, or any Java Virtual Machine compatible environment such as Ruby, or Python to provide a real-time run environment. Also included is free access to 500GB of storage, and sufficient bandwidth and Central Processing Unit (CPU) to support up to five million page views a month. Charges based on usage are applicable above these limits. Access is allowed either via a company's existing URL, so that the brand and image can be maintained for supplementary services running on a Google App Engine, or through a generic URL supplied by Google. The latter option makes services and apps available generically for public access and resale. Various forms of additional integration Application Programming Interfaces (APIs) are provided that allow other Google services and even non-Google services to be accessed.

Google Gears acknowledges that full-time high bandwidth may not be present for users. Therefore, it provides a way to make online Google services, including those running on the Apps Engine, available offline. Gears is an open source project based on providing an effective extension of a browser that can be maintained in a client PC even after the Internet connection is terminated. Gears provides a developers' toolkit with over one million downloads and a set of JavaScript APIs that deal with the tasks to achieve all of this that is not found in a standard browser. Specifically, clients receive an SQLite database, a local application cache, and processing logic, together with data and logic synchronization to handle the on/off line issues smoothly.

Salesforce.com targets a different market, with their latest version being described as offering a Platform-as-a-Service (PaaS) under the Force.com brand. Here, developers are provided with more tools to suit the Force PaaS leading to a Nucleus Research that, on the basis of 17 cases studies, claims that development is on average nearly five times faster than its .Net or Java equivalents. Force.com allows one custom app with up to 100 users to be developed and deployed for free, beyond that it is

payment for capacity used. It is claimed that more than 110,000 apps have so far been developed. As it is based on identified users, the target market is of a conventional nature. This has encouraged Independent Software Vendors (ISVs), such as Coda, to use it for their products. A key element of the Force.com PaaS is the use of Adobe AIR to embed RIA capabilities.

The role of RIAs is to provide a highly interactive experience between the user and the Web-based service, or app, removing the awareness of the speed of the supporting Internet connection through a caching technique. The introduction of Solid State Drives (SSDs) in PCs and other devices boosts this capability by providing huge amounts of storage that can be accessed at the same levels of performance as in the PC's direct memory. With more than 100 million downloads by January 2009, Adobe AIR is regarded as the de facto choice of many. However, Microsoft offers an equivalent called SilverLight. For those developing in a .Net or Windows Azure environment, this is more likely to be their primary choice. In both cases, development tools providers have aligned to simplify development with familiar tools by providing a wide range and yet be able to use RIA capabilities.

Amazon takes a much broader view by positioning its Amazon Web Services (AWS) business as an "Infrastructure Web Services Platform in the Cloud" and claiming to offer support for any Operating System, Programming Model, or Configuration through its range of capabilities. These capabilities may be applied separately in the case of computational power or storage. For all services detailed below, a single published rate card is provided to cover the "pay-as-you-go" use, with payment options inclusive of credit cards.

Amazon Elastic Compute Cloud (Amazon EC2™) provides flexible computational power and can be accessed by loading work via an Amazon Machine Instance (AMI). Amazon Simple Storage Service (Amazon S3™) provides a simple Web services interface that can store and retrieve large amounts of data. Amazon CloudFront™ is used to integrate other Amazon services together to build and operate complete solutions. This includes Amazon services for managing common technology tasks including: Amazon SimpleDB™ — a Web service for running queries on structured data in real-time; and Amazon Simple Queue Service (Amazon SQS™) - a messaging queue service to store messages as they move between devices. In addition, Amazon provides standard commercial services such as Amazon Flexible Payments Service (Amazon FPS™).

Together, Google, Amazon, and Salesforce.com provide a wide number of options that can be used in different ways, all on "pay-as-you-go" commercial terms and with no upfront payment or commitments. If the business requirement is to develop and operate in a Web environment, usually an external one, then it is unlikely there is a case for "behind the firewall" development and operation with the additional costs involved. With a growing focus on using technology to drive business externally, as opposed to supporting administration internally, there is the clear understanding that some caution must be exercised in what and how these external services are used in conjunction with internal IT systems.

NB: Capgemini provides solutions tailoring the capabilities of all three companies to provide optimum solutions for our clients. For further information, please contact [steve.g.jones@capgemini.com](mailto:steve.g.jones@capgemini.com).

The impact of this and other technologies is discussed in the [Capgemini CTO Blog](#).

## Leading Company Results (Revenues)

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Full Year	<b>Microsoft</b> † 4% @ \$58.44bn		
Q4:	<b>Sun</b> † 29 to 32% @ around \$2.58 to 2.68bn – see Sun comments below		
Q3:	<b>Accenture</b> † 4% @ \$5.15bn	<b>Apple</b> † 3% @ \$8.34bn	
Q2:	<b>Intel</b> † 15% @ \$8bn	<b>IBM</b> † 13% @ \$23.3bn	<b>Google</b> † 3% @ \$5.52bn
	<b>AMD</b> † 13% @ \$1.18bn	<b>Yahoo</b> † 13% @ \$1.57mn	<b>EMC</b> † 11% @ \$3.26bn
	<b>Microsoft</b> † 17% @ \$13.1bn	<b>VMware</b> 0% @ \$450mn	
Q1:	<b>RedHat</b> † 11% @ \$174mn	<b>TCS</b> † 12% @ Rs72bn	<b>Infosys</b> † 13% @ Rs54.7bn
	<b>Wipro</b> † 6% @ Rs8.14bn		

### Movements by Industry Leaders

**Cisco focuses on security with consulting support and two new products:** the IronPort C660 Email Security Appliance and S660 Web Policy Security Appliance **Cisco Network Building Mediator** tracks energy usage and with other tools reports into the Cisco Smart Buildings suite. [www.cisco.com](http://www.cisco.com)

**Oracle Fusion Middleware 11g update now makes it “the most complete middleware” solution on the market.** It adds a wider range of integration across the Oracle product range including **updated SOA suite 11g**, which brings a comprehensive range of **updates to Oracle WebCenter Suite 11g and WebLogic Suite 11g**. The other part is the launch of a suite of tools called **Oracle Platform Security Services** that includes a federated ID capability. **SQL Developer Data Modeler is a new tool** with Oracle SQL developer that allows databases to be represented as diagrams or graphics. **Sun shareholders have approved** the takeover by Oracle. **Oracle Price Protection** automates price management with all associated tasks in the fast moving retail or distribution sectors. **Deloitte and Oracle** are to address the building of International Reporting Standards management software together. **Oracle Enterprise Manager** now has additional Application Configuration capabilities. **Oracle Advanced Security Transparent Data Encryption** will also cover a wider range of Oracle applications databases. A new licensing model, **SaaS for ISVs**, supports monthly payment-for-use of the **Oracle Platform for SaaS**. An addition to Oracle Business Intelligence Enterprise Edition is **Oracle Insurance Insight 6.0**, embedding specific out-of-the-box capabilities for the insurance sector. **Oracle Coherence in memory data manager**, part of the Oracle Fusion Middleware suite for managing the data between Web servers, has now been upgraded in size of memory supported and to add some new features. Oracle is **acquiring GoldenGate Software**, a vendor of real-time heterogeneous data integration. [www.oracle.com](http://www.oracle.com)

**Sun has not provided the final fourth quarter results** stressing the approximation shown prior to the final shareholders agreement to the takeover by Oracle. The shareholders’ meeting has **approved the takeover by Oracle**, ceasing Sun’s existence as an independent business. In a final set of product releases. Sun adds new faster processors based on their **own SPARC chip**, new Opteron-based **blade and rack mounted x64 Servers**, and a virtualization tool set **Logical Domains**. [www.sun.com](http://www.sun.com)

**HP Mini 5101 adds a high specification “business” NetBook** to the existing line-up with the ProBook 4310, adding a smaller lighter unit to the existing Business Probook range. HP will provide purchases of PCs between June 25 and October 22 with a **free Windows 7.0 update**. Virtualization capabilities for **HP StorageWorks** have been improved by adding support for **Citrix StorageLink provisioning** and managing tool. **The xw9400 Enterprise Work station additions** are claimed to be the first to use the new six core Intel Opteron processor. **HP Proliant Server Storage** has been extended around Serial Attached SCSI and

SAS, and now covers up to 6Gbits of storage. HP will acquire **file-serving software vender Ibrix** to add to the HP StorageWorks suite. [www.hp.com](http://www.hp.com)

**Intel believes that the next generation of the Web will be built around an “Immersive Connective Experience,” or ICE**, and that research is based on the automation of how various devices supporting video, location, and other factors can function together to create a “reality experience.” Intel claims a breakthrough in the design of **SSD** that will drop prices by up to 40%. [www.intel.com](http://www.intel.com)

**IBM Lotus Sametime 3D Virtual Collaboration** allows the creation of virtual meeting rooms and avatars inside the enterprise firewall and extends the other functions of the Lotus Sametime collaboration suite. **Lotus Foundations Reach** is a Unified Communications solution in a single appliance box intended for Small and Medium Enetrprises (SMEs). **Lotus Notes now provides integration with TripIT and LinkedIn** apps to extend the range of capabilities for users. IBM has signed Original Equipment Manufacturer (OEM) deals with Cisco, Juniper, and Brocade to provide them with a **complete IBM Networking product range** as the technology emphasis shifts towards Network-delivered services. **IBM Systems Director VMControl** has been added to the Systems Director suite to help deploy and manage virtualization in heterogeneous data centers. [www.ibm.com](http://www.ibm.com)

**Microsoft Security Essentials Tools beta is now available under the** codename Morro and the replacement for Windows Live OneCare subscription service will be available by the end of the year. The new MS search engine, **Bing, now covers and includes Twitter results** as well as standard Web-based content. **Silverlight 3 update** adds more media enhancements, animation upgrades, 3D graphics, and faster performance amongst a range of other new features. MS has said that the next version of **Office, codenamed Office 14**, will support most parts with reduced functionality as online versions, as part of the Microsoft Business Productivity Online Suite on subscription. **Microsoft Azure** will go live for business deployments with the first data centers opening in November in the US, Ireland, and Singapore. **Microsoft Mobiles App Store** is now open to developers to submit apps for resale to the millions of mobiles running Windows Mobile versions 6.x. **Microsoft Licensing terms are changing** in a number of areas with the goal of simplifying the structure. Microsoft **Popfly Mashup site** will close on August 24, with no official reasons being given for the move. Microsoft has released Service Pack 2 (SP2) for **Mac Office 2008 Suite**. With the official release date scheduled as October 22, **Windows 7** has been Released To Manufacturing (RTM). **European Windows users** will be able to download a plug-in that offers a choice of up to ten competing browsers for them to download and use as Microsoft’s answer to the EU charge that Microsoft was anti-competitive in bundling software. [www.microsoft.com](http://www.microsoft.com)

**SAP Business by Design Management Suite has been integrated with a number of Web-based capabilities** from different sources such as Business Wire and MapQuest as well as with Google Search to access both internal and external data. Upgrades in the SAP Business Objects range of Information Management products cover **SAP Business Objects Data Services** and **SAP Business Objects Data Federator** with integration to **SAP NetWeaver Business Warehouse**. SAP has publicly bid to **acquire SAF AG**, standing for Simulation, Analysis, and Forecasting, and focused on retail replenishment services. [www.sap.com](http://www.sap.com)

**Google has posted a blog entry with descriptions of a Chrome-based Operating System** detailing their view on what an operating system for Web-based services should be and promising to deliver open source code in the second half of 2010. Google will be extending its **support of OpenID**, the industry-wide federated login program, to cover Google business users under a single enterprise Login to other services. **Google Apps Migration for Lotus Notes** provides a migration

with all Lotus data preserved and translated into the Google Apps equivalents. **Google Voice** has been extended to offer BlackBerry and Android mobile users the ability to make outgoing calls direct from their mobiles. Google has made two new services available for the **Apple iPhone: Google My Location on the iPhone** offers location-based services by using Google Search to find nearby facilities such as the nearest branch of a fast food restaurant; and **Google Latitude** location service to keep track of your friends. [www.google.com](http://www.google.com)

#### Open Source Update

**Intel has released an updated Moblin 2.0 Cell Phone Open Source Operating System**, adding a new User Interface called MyZone using a Mozilla-based technology for its new Web browser. [www.intel.com](http://www.intel.com)

**RedHat Premier Cloud Provider Certification Partner Program** aims to provide support to any of its partners who want to build or use Cloud computing. [www.redhat.com](http://www.redhat.com)

**Symbian Foundation** (Nokia, Sony Ericsson, Samsung, NTT, DoMoCo, LG, Sony Ericsson, Motorola, Texas Instruments, Vodafone, and AT&T), have released an open source package covering the Security elements under the Eclipse Public License. In addition, a developers' program called Horizon was launched to ensure that software produced is tested and certified. [www.symbian.org](http://www.symbian.org)

**Microsoft has released three Linux device drivers** that support virtualization on Windows Server 2008 Hyper-V under the GPL license, a license type that it has been adamantly against in the past. [www.microsoft.com](http://www.microsoft.com)

**Adobe Open Source Media Framework (OSMF) and Text Layout Framework (TLF)** will both be freely available for developers as open source software of elements of the Adobe commitment to making the core Flash platform available. [www.adobe.com](http://www.adobe.com)

#### Standards Watch

**The Mobile Phone Industry has provided a Memorandum of Understanding (MOU) to the European Union (EU)** as their formal response to the EU requiring them to cut needless electronic waste by reaching an industry-wide agreement to a single common charger specification. Based on the Micro-USB connector format, this universal charger will be introduced with new products from 2010 onward, preventing the need for multiple chargers, new chargers for every new device.

**Oasis, the Open Group and Object Management Group have co-operated on Service Oriented Architecture (SOA)** producing a combined white paper called Navigating the SOA Open Standards Landscape around Architecture. It outlines reference models, architecture, ontologies, and other necessary elements and can be downloaded from [Oasis](http://www.oasis-open.org)

#### More Noteworthy News

**Digital River Rover Limited Edition extends their Global eCommerce Platform** to add the capability to handle short run, limited edition stocks that can be dynamically traded as offers and clearance. [www.digitalriver.com](http://www.digitalriver.com)

**The EU is creating a single central agency to manage all its IT systems for security and justice** built around three major systems: The Schengen Information System, Visa Information System, and Eurodac plus all other supporting systems. <http://www.techcentral.ie/article.aspx?id=13592>

**Yahoo Search Pad has moved out of beta** and is now added to the Yahoo Search to allow results to be noted and have notations added before forwarding them by email, etc. A major reworking of the **Yahoo homepage** has been introduced, aiming to improve the customization of the favorite sites into the homepage plus upgrades to **Yahoo Mail** integration. [www.yahoo.com](http://www.yahoo.com)

**Apple Final Cut Studio** has an expanded video codec library and a host of new features including project sharing and iChat software. **Logic Studio** audio toolset has more sound modeling tools and a new tool called Flex Time to manage tempo. [www.apple.com](http://www.apple.com)

**Cordys Business Operations Platform 4 (BOP4)** adds more Web 2.0 collaborative tools and online deployment, fully hosted or a hybrid of the two, according to which business processes will be priced. [www.cordys.com](http://www.cordys.com)

**Zoho, the online office productivity tools provider, has released Project 2.0**, a fully collaborative capability for sharing all aspects of project management. [www.zoho.com](http://www.zoho.com)

**McAfee ePolicy Orchestrator 4.5** is upgraded to cover more complex and larger scale systems and adds improved graphics representations of attacks. McAfee has moved several of its capabilities to be supplied as **Enterprise Software as a Service (SaaS)** including Web filtering and Vulnerability scanning. [www.mcafee.com](http://www.mcafee.com)

**Citrix Essential for Hyper-V Express Edition** is available as a free download for limited use and allows IT departments to experiment with introducing Microsoft Hyper-V virtualization in Citrix environments. [www.citrix.com](http://www.citrix.com)

**Check Point Endpoint Security R72 protects browsers** by extending the previous version to include new features including a virtualization of the browser to stop any malware being loaded. [www.checkpoint.com](http://www.checkpoint.com)

**Software AG has acquired IDS Scheer, thus combining the second and third largest German technology companies** and providing a comprehensive approach to Middleware and Modeling for business processes. [www.softwareag.com](http://www.softwareag.com)  
[www.ids-scheer.com](http://www.ids-scheer.com)

**Accenture is acquiring Nokia's Symbian Professional Services Business Unit.** [www.accenture.com](http://www.accenture.com)

**Facebook is improving the ability to manage personal privacy** by offering an access rules approach for users to establish the conditions under which access is allowed. [www.facebook.com](http://www.facebook.com)

**Palm Mojo Software Development Kit** has been released for all developers' use after being made available to a limited number of developers. [www.palm.com](http://www.palm.com)

**Twitter is providing a Business Guide that entitles Twitter 101** to help enterprises understand how to use microblogging successfully as a business tool. [www.twitter.com](http://www.twitter.com)

**EMC Ionix software suite provides all the tools for a move from physical to virtual** centric provisioning of infrastructure supporting storage and content, and is based on the various elements assembled from recent acquisitions. EMC will be **acquiring Data Domain, a data deduplication software** vendor, after a bidding war over recent weeks with NetApps. [www.emc.com](http://www.emc.com)

**OpenText Web Solutions 10** provides rich editing for Web content based on Microsoft .Net while updating earlier versions. [www.opentext.com](http://www.opentext.com)

**PayPal** will offer a **Software Developers Kit** in November to allow their service to be embedded into any app requiring a payment capability. [www.paypal.com](http://www.paypal.com)

**Avaya** is to acquire Nortel's Enterprise Solutions Business Unit. [www.avaya.com](http://www.avaya.com)

**Adobe** has created full **Flash 10** support for the **HTC Android-based Hero SmartPhone**, claimed to be a breakthrough as the first native support on a cell phone. **Adobe Cold Fusion 9** and **Confusion Builder** have been released as upgrades to the Rich Internet Application suite and matching Software Developers Kit. [www.adobe.com](http://www.adobe.com)

**VMware vCenter Lab Manager 4** is the latest version and now integrates with VMware Stage Manager for a more cohesive approach to administration of virtual environments. [www.vmware.com](http://www.vmware.com)

**Dell Vostros** are a new range of **all-in-one desktop PCs** aiming to minimize the footprint on a desktop in line with reducing sizes of desks. [www.dell.com](http://www.dell.com)

**Ericsson** is buying bankrupt Nortel Networks' CDMA and LTE assets, beating rival consortium Nokia with Siemens. [www.ericsson.com](http://www.ericsson.com)

**Jobs Watch:**

Cisco – 600 in USA – claimed to be part of the long-term target of 2,000 cuts.



### About Capgemini and the Collaborative Business Experience

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working, the Collaborative Business Experience™. The Group relies on its global delivery

model called Rightshore®, which aims to get the right balance of the best talent from multiple locations, working as one team to create and deliver the optimum solution for clients. Present in more than 30 countries, Capgemini reported 2008 global revenues of EUR 8.7 billion and employs 90,000 people worldwide.

More information is available at [www.capgemini.com](http://www.capgemini.com)

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