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Changing the Game: Monthly Technology Briefs

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**Business Infrastructure:
A New Generation of Technology**

Read the Capgemini Chief Technology Officers' Blog at
www.capgemini.com/ctoblog



New Technology Infrastructure for Business

Over the last five years, the majority of innovation has been in technology infrastructure rather than in traditional applications, though in turn these innovations have led to the ability to provide business applications (app) or services that are game-changing in their capabilities. The Internet, followed by the Web, and now the cloud have, between them, constructed a vast global infrastructure that is truly ubiquitous. This connects not just traditional PCs and servers, but a vast, and ever increasing, range of devices that has led to whole new possibilities for a new generation of business apps or services.

Moore's Law is now used as a mechanism to half the cost of the level of computation power every eighteen months at more than double the power. These new generations of chips need less power, enabling powerful smart phones, multi-touch Tablets, and a wide range of monitoring devices capable of using one or more of the wireless formats such as WiFi, Bluetooth, and more. Taken together this shift is defined as 'Mobility'. The generation of apps focusing on more personal value and location has led to the creation of the App store to support user self selection, implementation, and new charging models.

The App store exploits the concept of the cloud in hiding the technology complexity, represented by a simple cloud in a diagram, from both the developers who can take advantage of simple API-based environments; and from the users who can 'drag and drop' apps that they want to use onto their device. The provider manages the connecting 'in the cloud' computational capabilities alongside charging users and paying developers a slice of this revenue stream - a very different model to the licensed software model of traditional IT client-server applications, and much closer to Open Source arrangements.

The role of a PC, or its variants such as smart phones, or Tablets, has increasingly been extended by browser-based use of an increasing number of web services, mostly external, and almost all now shifting to embrace more than the traditional content and search model of the original Web. Over the last few years, Web 2.0 has steadily moved the PC in the same direction as the mobile device, namely towards more personalization of what to use, how to work, why to interact, and, of course, the use of externalized 'X as a Service' (XaaS) capabilities in support of these changes, which were by their very nature difficult, or even impossible, for an internally-oriented IT department to support. The adoption of 'XaaS' is an inevitable move in the supply and support of these new apps or services, being driven by the manner of their use.

Unlike IT, which is focused on the cost-effective and efficient provision of centralized internal operations and is therefore an overhead to be included in the annual budget of the enterprise for recharge/recovery, these new capabilities represent something very different. The term Business Technology, or BusTech, is often used to define this new combination of Business use of Technology, to emphasize this point. Business managers and users look to gain 'value' through increasing the capabilities to 'service' their market place better by creating increased revenues, and possibly margins. To match buyer, or market requirements, more closely means decentralization of the standard product/approach to create the agility to optimize geographically local or virtual communities, often with frequent changes.

In this dynamic decentralized edge of enterprise environment, BusTech emphasizes that payment is made from operational funds for the actual services used, and that these will be lightweight, fast, and simple-to-build, with the premium on time-to-market, and lack of commitment. In itself, this is a business model 'innovation', but the term is generally used to mean the introduction of new ways to 'service' a market, and there is a common business school reference model that

introduces nineteen different ways that technology is capable of changing 'go-to-market' models. At the high end of this, a CEO may drive a 'Digital Transformation' towards a 'Smart Business' model such as in utility markets with online smart meters, and the resulting flow of detailed individual customer information for real-time data analysis, and direct Social CRM.

The expectations of improved and personal customer service externally in a constantly changing environment defeat the traditional knowledge management model, and require the addition of Social Networking internally to face off to the external Social CRM market place. Social Networking allows people to find the latest information and news directly from those who know, rather than the limited set of knowledge that has been captured and indexed from past activities. It again emphasizes the decentralization of BusTech, as opposed to the centralization of IT, in creating a wholly different environment empowering people, powered by cloud-based services, and delivered through ubiquitous connectivity to a wide range of devices.

In this environment, three principle elements of People, Process, and Real-Time Data Analysis are frequently defined as needing to be integrated or, in the case of services, orchestrated. The truth is much more complex and introduces the need for a whole new technology layer, sometimes called a 'Platform' to sit on top of the existing IT environment to provide a 'Business Infrastructure'. This new layer of technology is an 'infrastructure' as by definition it is common and shared but could not be more different from the use of the term in IT where it provides low-level connectivity between a known number of devices.

The new Business Infrastructure is a higher layer active function that manages the interactions between an infinite number of people, devices, services, content, resources, policies, security, etc. by providing the orchestrations that create the required connections and processes as and when required. The demand is driven on one side by CxO level business leadership to enable them to deliver their new business models and capabilities, and on the other by CFOs and CIOs who need to be able to manage the commercial activities to the satisfaction of auditors, as well as the control of the enterprise.

There is increasing recognition that the new Business Infrastructure will be as crucial to the enterprise and its coherent operation of a decentralized optimized business model enabled by the new technologies of the Internet, Web, and cloud as was ERP in enabling the change that the adoption of PC and Information Technology created.

Capgemini Immediate deployed to enable the UK Royal Mail Group is an example of a Business Infrastructure that is supporting a full business transformation, and this together with a deeper look at the technologies required will feature in the next Monthly Technology Brief.

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

Leading Company Results (Revenues)

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Q4	Adobe ↑ 33% @ \$1.0bn
Q2	Oracle ↑ 47% @ \$8.6bn

Movements by Industry Leaders

Cisco Internet Protocol Next Generation Network Video Optimized Transport provides a architecture for service providers to optimize the delivery of all kinds of video services. **Cisco Internet Routing in Space (IRIS)** moved forward with the completion of the first-ever Voice over IP call via a commercial satellite carrying a Cisco router. **BMC and Cisco Integrated Cloud Delivery Platform** brings together products from both companies in a strategic alliance to build a complete suite of capabilities to automate the building and delivery of cloud-based operations. Network Management Software vendor **LineSider Technologies is to be acquired** to add to Cisco cloud provisioning capabilities portfolio. www.cisco.com

Oracle SPARC Solaris-Exalogic Elastic Cloud T3-1B extends the previously released appliance style package of X2-2 towards very high-end and mission critical functions. **Oracle Sun SPARC SuperCluster** packages SPARC T3 Servers with supporting technology to create new high-end capabilities. **New blades for the Sun Blade 6000 chassis** providing both SPARC and Intel Xeon units. **SPARC Enterprise M-Series Servers** with the new SPARC64 VII+ processor are now available from both Sun and Fujitsu. **Oracle Cloud** is a fully hosted set of office applications based on Open Document Format (ODF) that also offers an onsite option. **Oracle VM VirtualBox 4.0** provides PCs with the capability to run multiple guest operating systems. **Oracle Documaker Enterprise Edition**, a packaged solution for managing all stages of the lifecycle of creating, managing, and replacing documents. **Oracle Insurance Insight 7.0**, an updated BI capability for insurance companies now including 'adaptive data modelling'. **Oracle Business Intelligence for Utilities** has been updated. **JD Edwards EnterpriseOne Apparel Management** is a new module for the management of 'multi-attribute items'. www.oracle.com

HP ALM 11 (Application Lifecycle Management) adds a fully integrated set of tools to manage every stage of development and operation to the HP Application Transformation portfolio. **HP Critical Advantage Program** provides tools and expertise to move mission critical applications onto virtualized x86-based servers. **HP Business Outcome Dynamics Assessment** is a new online interactive tool that takes CIOs' input on their operating issues and develops recommendations as to priorities. www.hp.com

Intel ATOM processor is now packaged with six specialized configurations as well as tools to allow individual development of its configuration for specialized applications. www.intel.com

IBM Rational AppScan Source Edition development tool has been updated with new capabilities to check for security flaws as well as make the process faster, **SAP have certified IBM Cloud Platform** as a hosted delivery model for SAP applications. **IBM Tivoli Live Service Manager Platform** acts as a service through which service requests and allocations can be managed against rules. **Lotus Notes Traveller** has been extended to cover Android devices and is free to existing customers. www.ibm.com

Microsoft Windows Phone Developer Tools now includes Visual Basic in addition to the more up-to-date development tools. **Windows Azure Virtual Machine Beta** allows migration of SaaS built Apps to run on a Platform as a

Service model thus adding the ability to increase policy and governance management with integration to other aspects of the enterprise IT.

www.microsoft.com

SAP High Performance Analytic Appliance (HANA) a new approach to data analytics by using in memory computing to hold the data in RAM as columns to make it faster to access for online real-time decision support. **SAP StreamWork upgrades and integrates** earlier SAP tools with Novell Technology to provide a full set of people-oriented capabilities to share, collaborate, and use information in a dynamic Web 2.0 style manner. **Business Analytics at SAP EcoHub** introduces a collaboration site for SAP customers to find information on, and share views around different analytical solutions. **Business All-in-One suite** gains a set of pre-built analytic tools that will determine new value and insights from the other activities running in All-in-One. SAP will **acquire Disclosure Management Solutions**, a provider of Financial reporting software.

www.sap.com

Google Chrome Browser 8 is now available with a claim to more than 800 individual improvements as well as massive speed of download boosts, graphic presentation upgrades, and new APIs to support developers making use of the features. **Chrome Browser Flash Player** sandbox development function has been added thus underwriting support for Adobe in their battle with Apple. **Android gains Google Reader** providing the desktop PC functionality for mobile devices. **Google is acquiring Widevine**, a Digital Rights Management and Video Management software vender and is also **acquiring Phonetic Arts**, a speech synthesis expert. **Google Nexus S smart phone** running Android 2.3 and manufactured by Samsung is now available. The **new Google Chrome Operating System** is now available as a public beta to download and includes in memory fast booting from a secure in-memory kernel and optimization for web-based apps. **Google Message Continuity** brings Microsoft Exchange and Gmail together through its synchronization process. **Google Maps 5.0 for Android** dramatically changes the way the map is drawn on the users screen to make it faster and dynamically reactive to change as well as adding multitouch and 3D graphics.

www.google.com

Open Source Update

RedHat is to acquire Makara, a provider of developer tools to assist in building Cloud-based apps and will use its tools to extend the RedHat Cloud Foundations portfolio. **RedHat JBoss Enterprise Business Rules Management System V 5.1** has been upgraded for policy management plus gaining new tools to help assess productivity. www.redhat.com

Apache Foundation has quit the Java Executive Committee due to the terms under which Java SE7 was released prohibiting the Apache Foundation Project Harmony from being released. www.apache.org

Oracle MySQL 5.5 for Windows is available as a free download with claimed major performance and ease of integration improvements with a paid for professional version coming later. www.oracle.com

Standards Watch

BS 8878 Web Accessibility Code of Practice from the globally respected British Standards Institute provides a detailed set of standards to make websites easier to use by disabled or older people and is a first standard in this area.

www.bsigroup.com

The Java Community Process (JCP) has passed two new Java Specification Requests (JSR) covering the next two releases of the Java SE platform under requests numbers 336 and 337. www.jcp.org

More Noteworthy News

Gartner has updated its predictions of PC sales in 2010 stating that slower rate of growth in the PC market (down from 18 to 14 percent) will occur due to delays in replacement as PC software refreshes no longer create automatic updates/ upgrades and that Tablets and smart phones are taking an increasing share. Gartner predict Tablets to take 10 percent market share from PCs by 2014. Gartner claims Enterprise **Social Networking Software sales** will be approximately \$664 million for 2010 and they expect a 15 percent rise for 2011 as more and more companies move to adopt their employees informal use. www.gartner.com

Salesforce.com DreamForce event saw a cluster of new announcements. Now paid users of its Chatter Social tool set can invite colleagues to use a free version to work with them though the free version lacks many of the features. **Ruby Applications on a Platform as a Service provider Heroku** to so be acquired by Salesforce.com. **SiteForce** enables unskilled people to build websites without needing to do any coding via a content management system to edit how the page will look. www.salesforce.com

EMC Atmos Cloud Delivery Platform is to be used to offer Storage as a Service to EMC customers either directly or via EMC partners who will resell and use the Atmos Platform/Service. www.emc.com

Samsung Galaxy Tablet has sold one million in two months showing that there is a Tablet market beyond the iPad (the iPad sold double this number in the same period). www.samsung.com

Amazon Web Services Route 53 is new Domain Naming Service (DNS) that on a pay-per-use basis will route end-users to any of their services such as Elastic Cloud Computing (EC2). <http://aws.amazon.com/>

BMC is acquiring GridApp, a vendor of databases and application provisioning tools to extend its moves to provide a complete portfolio of tools for 'business services' platforms. www.bmc.com

Acer have introduced the innovative Iconia Tablet/Laptop, which features two tablet style screens hinged together with one capable of being a virtual keyboard or of running a separate media app to the other screen or offering a split screen for reading a book with a separate page on each side. www.acer.com

Opera Mobile Browser 10.1 for Android, which has no release data yet, has been announced as being able to support both Adobe Flash and HTML5. www.opera.com

Novell Unix copyrights will be retained in a further separate subsidiary of Attachmate as more details of the acquisition become available as to how Novell will be broken up into product groups. **Novell Cloud Manager** has had its capabilities extended to include all aspects of a private cloud from HyperVisors to Operating Systems. www.novell.com

Dell Vostro V130 updates the existing range with a new more powerful ultra lightweight laptop PC. Dell Kace Business Unit **K2000 Deployment Appliance for Windows 7 migration** planning provides the previous tool set preloaded on a Dell server as an appliance. Dell is **acquiring Compellent, a data storage vendor**, as a replacement for losing its first choice 3PAR to HP. www.dell.com

VeriSign DNSSec Signing Service on the Cloud allows Registers of Domains to allow root signing on their second level domains as a new addition to security of web services. www.verisign.com

Zenprise MobileManager 6.0 Enterprise Mobility Platform update focuses on improved security around three zones; device, network, and app being controlled to ensure end users are correctly policy managed in terms of data access. www.zenprise.com

Juniper Networks Junos Pulse Mobile Security Suite has been extended to cover Apple iPad via a free download from the Apple App Store. www.junipernetworks.com

RSA SecurID Software Token for Android takes the existing RSA two-factor authentication based on a hardware or software token with a one-time password generator and applies it to the Android platform. www.rsa.com

Toshiba MK4001GRZB is a new 400GB SSD for Enterprise use offering very high read/write speeds to suit multiple multi-media streams as direct attached memory. www.toshiba.com

Symantec Data Loss Prevention 11 update includes new 'vector machine learning' technology to provide dynamic self learning document sampling to determine their value and risk. www.symantec.com

Atos Origin is acquiring Siemens IT Solutions and Services business and as part of the deal Siemens will acquire and hold for five years 15 percent of Atos Origin. www.atosorigin.com

Capgemini is acquiring CS Consulting, a German specialist in financial services. www.capgemini.com

Opera 11 Browser claims more features than rivals by creating new user capabilities around managing tabs, shortcuts, and widgets. www.opera.com

Kaspersky Labs Password Manager has had a minor update to cover increasing use for mobility requirements. www.kaspersky.com

Symantec Data Insight for Storage 2.0 is claimed to manage high amounts of unstructured data in enterprises by associating stored data with business areas or individuals in ways that make it more understandable and usable. www.symantec.com

Rackspace has acquired Cloudkick, a provider of a consolidated management console for controlling hosted services. www.rackspace.com

Wyse PocketCloud for Apple iOS is available as a free download to allow Mac and iPad users to access their desktop files and applications when mobile from a centralized resource. www.wyse.com

Citrix is acquiring Netviewer, a provider of desktop SaaS services from its own product set which will be added to the Citrix product range. www.citrix.com