The Birth of BSSaaS

By Scott St. John

"Cloud" is probably best defined as what it is not. Cloud is not rigid, cumbersome, inflexible, high-maintenance, or particularly difficult to implement. In fact, cloud may be the antithesis of what most people think of when they think of traditional BSS. Cloud is the future. Cloud is the dawn of things to come; the new foundry for innovation.

But, to fully understand this paradox, we have to first define BSS--which might be as challenging as trying to define "cloud." So, I'll turn to our good friend, Harry Newton. According to the *25th Edition of Newton's Telecom Dictionary*, BSS is defined as "The system used by network operators to manage business operations, such as billing, sales management, customer-service, management, and customer databases." From a system (and IT) perspective, and for the purpose of this article, we're specifically talking about Customer Relationship Management (CRM) and Billing systems.

From a CRM perspective, cloud actually isn't anything new. Mixed on-premise/off-premise CRM solutions have existed, with rudimentary "synching" capabilities, from about the mid-nineties. These systems technically enabled "cloud-based" customer and sales information storage and sharing by enabling information from multiple users to be synchronized with a central server and database.

By 2000, Salesforce.com declared the "end of software" and ushered in a new era of completely hosted, software-as-a-service (SaaS) CRM applications that showcased an exclusively web interface that all but eliminated the need for a desktop application. These hosted SaaS solutions were simple and easy-to-use and continue to have remarkable user adoption and growth rates.

Billing systems, on the other hand, are remarkably complicated. Historically, billing has been used to orchestrate data from the network(s), customer care, and third-party systems, such as long distance and roaming providers, to provide customers with accurate call details and consolidated billing. These systems primarily provided communications service providers with historical information about their customers and automated invoicing and payment processes.

Today, however, billing has expanded dramatically and become more complex with subscription, real-time,

pre-paid, and third-party services and applications. This is exacerbated by the rapid adoption of mobile and IP-based services (e.g. VoIP), multiple device usage, regulation, and customers' expectations. Whereas customers may have been impressed by "one bill" for multiple, bundled services in the past, today's customers expect accurate and consolidated billing in real-time with self-service, universal multi-device access, and proactive billing notifications.

Today, CSPs are struggling and turning to their technology solution providers (e.g. ISVs) to keep up. This presents a significant opportunity for ISVs who can provide new, converged billing platforms and help leverage cloud technologies to evolve and integrate their operational and business systems (OSS/BSS).

i-wireless, a national wireless service provider owned by The Kroger Co, recently invested in a next generation billing solution.

"Data consumption by our subscribers exploded, which typically is a good situation to be in," Laurie Tappel, operations manager at i-wireless says. "But the existing system took much too long for rating. Since we were not billing accurately, we weren't getting the most out of our subscribers' growing appetites for data. With our converged billing solution, the organizational agility that we have achieved is the number-one benefit for us. The ability to be in control of our billing solution and have the power to launch promotions in a day--instead of the weeks or months that it used to take--has been a huge advantage for us. Already we have launched new services, such as the family/group plans, which have been very popular with our customers. We could not do that with the previous system."

Lucas Skoczkowski, CEO of converged billing specialist, Redknee (TSX:RKN), agrees that renewed investment in more agile, converged billing solutions

offer CSPs a competitive advantage.

"Advances in technology, devices and next-generation services are opening a renewed opportunity for CSPs to segment the market, to carve out niche offerings, run targeted promotions and differentiate," Skoczkowski says. "Service providers need a new level of agility based on deep subscriber insight and real-time subscriber interaction."

The Problems with Billing Systems

Many CSPs today seem to be grappling with major billing transformation projects in a herculean attempt to meet customer expectations and combat escalating costs. But, silo'ed network and service growth--as well as third party content, network, and application providers--has in many cases led to silo'ed systems that have been cobbled together with home-grown mediation, a little bailing wire, and lots of duct tape. In many ways, billing has become everything cloud isn't: rigid, cumbersome, inflexible, high-maintenance, or particularly difficult to implement.

"In an effort to keep cost structures low and maximize operational efficiencies, i-wireless initially partnered with multiple external vendors to oversee its billing and rating platforms, information systems, back-office support and customer care operations," Tappel adds. "This organizational structure proved to be burdensome and costly, but also limited the company's ability to quickly and easily make changes to its rate plan offerings or loyalty initiatives in response to customer demand and changing dynamics in the marketplace. This concern facilitated the company's desire to pursue implementation of its own state-of-the art converged billing and rating solutions,"

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Some of the common problems associated with many billing transformation projects are:

1. **Organizational Transformations:** They can involve enormous, politically charged, cross-organizational transformation projects that are difficult and incredibly costly

2. **IT Encumbrance:** They create an enormous IT burden to implement that require considerable infrastructure investments and take valuable resources away from areas of innovation

3. **Deployment Timeframe:** They have incredibly long deployment time frames which extend the time to ROI

4. **Customizations:** They require extensive customization to fit into CSPs unique environment calling for added professional services and system integration costs

5. **Maintenance costs:** The ongoing maintenance requirement for the people, infrastructure, software licensing and maintenance continues to consume finite resources

That's not to say billing transformation projects are not worthwhile, create significant ROI, or that they are not right for CSPs. In fact, companies like Amdocs (NYSE:DOX) and Oracle (NASDAQ:ORCL) have made a perfectly good living managing these projects for some of the world's largest service providers and have had record growth as a result. The problem is, the costs are going up, not down. This poses a significant challenge for larger operators and may be a significant barrier for many smaller CSPs.

4 Underlying Market Drivers for Cloud-based BSS

#1 Cloud

Whether we're talking about the popularity of hosted (SaaS) solutions, the virtualization or sharing of computing resources, or the internet itself; cloud is a driver in its own right; largely because for what it is, and mostly because of what it isn't. Large enterprises are spending millions to develop their own data centers to enable private-cloud solutions and smaller enterprises need a scalable public-cloud solution

that grows with their business. The rapid adoption of cloud-based solutions and the underlying value propositions they provide are driving the demand for billing to evolve

"At Redknee, we see the move to real-time billing on the cloud will depend on the level of agility that different segments require," Skoczkowski says. "The obvious benefits in terms of reducing hardware and maintenance costs as well as delivery time and risk is extremely compelling, especially for Tier 3 carriers, MVNO/Es and Tier 1 second brand operators. We see these as the segments that will look to the cloud over the next few years. For Tier 1 and 2 CSPs, we believe that they will continue to opt for on-premise solutions
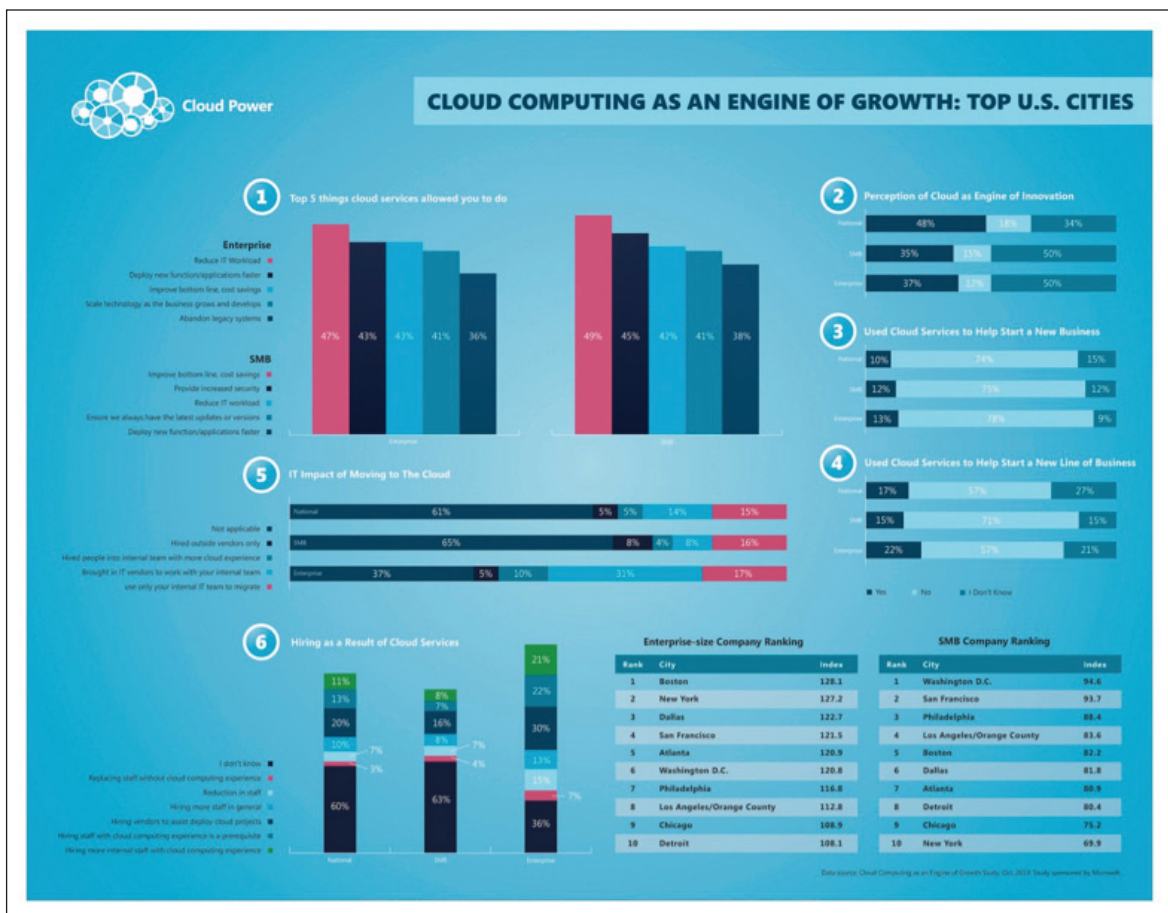

Fig. 1 – Cloud Computing and an Engine of Growth

as they will want to maintain control and have the ability to customize their solution."

At the end of 2010 Microsoft (NASDAQ:MSFT) sponsored a study, that measured six areas of impact where cloud is seen as a major "engine of growth" (Fig. 1).

This study revealed "Reducing IT Workload" and "Improv(ing) bottom line, cost savings" as the top things cloud enables enterprises to do. Over 70 percent of respondents said they had used cloud services to start a business and nearly 50 percent saw cloud as an "engine of innovation."

"We are definitely seeing a growing need by CSPs in competitive and fast-growing markets to invest in a real-time, converged billing and customer care solution based on the open and scalable public cloud." Skoczkowski adds. "With *Microsoft Windows Azure*, it will bring greater agility and flexibility while reducing capital expenditure, enabling service providers to scale as required with a 'pay as your grow' model and to minimize risk."

#2 Integration

The sophistication of hosted CRM and browser-based CSR portals are compounding the need for a cloud-based BSS as well. In fact, the trend to browser-based-everything is a significant factor. As web connectivity becomes more ubiquitous and the popularity of mobile device usage continues to penetrate enterprises--the need to integrate with other hosted solutions and provide a scalable SaaS solution is driving the demand that billing evolve to a hosted environment.

#3 Virtualization

The virtualization of business is also driving the demand for hosted BSS. The growing availability of wholesale networks is creating new market opportunities for mobile virtual network operators (MVNOs), where margins are smaller and IT resources are more limited. Other key trends like mobility, outsourcing, and telepresence impact both large and small enterprises alike and are driving the need for a comprehensive, but easy-to-use browser based Billing solution provide multi-tenant access to a central application from many locations.

#4 Extinction

We may also be at the precipice of a fundamental shift in how software is delivered. The days of on-premise installations may be going the way of the dodo. It may not be what the Mayan's were predicting for 2012, but there is a strong current driving on-premise software and applications to move to browser-based solutions. This is evidenced by big moves from companies like Microsoft--with the introduction of *Microsoft Office 365* and, perhaps more specifically, *Microsoft SQL Azure* and the recent *Microsoft System Center 2012* announcement.

"IT leaders tell me that private cloud computing promises to help them focus on innovation over maintenance, to streamline costs and to respond to the need for IT speed," Satya Nadella, president of *Microsoft Server* and Tools Business says. "We are delivering on that promise today. With System Center 2012, customers can move beyond the industry hype and speculation, and progress into the here and now of private cloud."

And, probably most telling is that Microsoft is backing their cloud play with a reported $8.64B R&D investment.

"As the great Gretzky said, a good hockey player plays where the puck is, but a great hockey player plays where the puck is going to be," Dewey Forrester, Microsoft senior director says. "Microsoft is bringing that same approach to our cloud strategy. Our goal is to help customers focus on their core business by providing Windows Azure as a robust and agile platform so partners such as Redknee deliver industry-specific applications and create business value for our mutual customers."

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Platform providers like Microsoft are leading the way by providing a platform to help ISVs with deep billing expertise to develop vertical, cloud-based BSS solutions and they are investing in their partner ecosystem to accelerate time-to-market for partner solutions. Microsoft also brings a pre-integrated IT portfolio to the party as well--including *Microsoft SQL Azure*, *Microsoft Office 365* and *Microsoft Dynamics CRM*. And their ISV partners seem to be taking full advantage of the opportunity too.

Redknee, a leading provider of convergent billing and charging solutions recently announced it has expanded its strategic relationship with Microsoft to support their strategy their cloud strategy. The release announced the integration of Redknee's convergent billing platform with *Microsoft Windows Azure*. This recently development illustrates how leading ISVs like Redknee are taking advantage of the Microsoft platform to create a full arsenal of deployment options for their customers. For Redknee, this means they are now able to offer on-premise, private cloud and public cloud deployment models enabling their customers to choose the option that best suits them.

In a newsletter article last November, Chris Newton-Smith, Redknee's vice president of marketing projected cloud-based billing solutions will reach $1.5B by 2015 and, by the looks of it, they are positioning themselves to fully capitalize on the opportunity with their partner.

"Redknee's commitment to invest in *Microsoft Windows Azure* reiterates our common goal with Microsoft to deliver solutions for communication service providers that empower them with greater business agility," Redknee's Skoczkowski says. "This joint solution provides exceptional flexibility for service providers that lower the barriers to entry for next generation, converged billing solutions by taking advantage of the benefits of the cloud."

Redknee isn't the first billing solution provider or Microsoft partner to take advantage of the Azure platform either, and they're not likely to be the last. In June of last year, Metratech announced its cloud-based billing solution on Windows Azure, Metanga. By September, Metratech was notably recognized by analyst firm, Gartner's in their 2011 "Hype Cycle for Communications Service Provider Operations" report.

The Winners

The most obvious winners will most likely be the ISVs who are able to harness the enormous momentum of cloud and demand for advanced BSS. The market demand and business drivers are carving a wide

opportunity for those that come to market with a reliable and secure solution.

According to *BusinessWeek*, Microsoft's managed software sales breached $1B - two years ago. Billing vendors, like Redknee are achieving double-digit annual revenue growth and the party is just getting started.

CSPs stand to benefit a great deal as well. Having a low-maintenance, easy-to-use, cloud-based BSS architecture that's pre-integrated into their IT environment can enable CSPs to significantly drive down costs and emancipate valuable IT and computing resources to enable them to better focus them on areas of innovation and operational efficiency.

The enterprise is also a winner. Cloud-based BSS enables enterprises of all sizes to receive best-in-class IT solution that are pre-integrated, sophisticated, and can help them grow at a time where growth is imperative.

But, probably the most important winner is the source of the demand: the customer. Cloud-based BSS enables digital consumers around the world to experience the "always on" connectedness and consume content on the go, anywhere, and at any time.