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BSS Convergence and Future Infrastructure Needs
By Gabriel Matsliach

Convergence of all types: network, service, device, payment type – and even organizations – are both driving and supporting the evolution of the telecommunications landscape. As Internet and media companies enter the arena, the competitive landscape is pushing operators to re-evaluate their networks, service portfolios, and the way they manage their customers.

Three key market dynamics shaping the road to convergence today include: advanced devices, rich web usage, and new mobile data offerings. As end-users increasingly demand more 3rd party mobile applications, advanced handset sales have gone up as well as revenues for developers and OEMs. New applications are taking the mobile industry beyond voice and SMS. To succeed in the mobile application market, operators need to open up their walled gardens to Web developers to provide end-users access to rich personalized applications. Add to the application phenomena the ever increasing popularity in social media and networking sites - operators will for instance allow end-users to update their Facebook Message and send tweets to Twitter from their mobile phones. Consider also the revenue generation opportunities of making mobile applications available to users via the Web; this will enable operators to extend their reach and also to appeal to the Web 2.0 audience.

However, the above market trends call for the creation of the right conditions to be in place to enable a more seamless usage experience across different communication modes like mobile devices, laptops, and/or PCs --- also known as Rich Communication Services (RCS). The existing silos of

telephony and messaging no longer fit an evolving user experience looking to blend voice, video, messaging and file transfers. When charging for RCS services, operators will have to charge end-users for their communication and content through any means of access and payment type. Moreover , because RCS involves mixing communication and content sharing, bundling will play a pivotal role in operators' strategies.

The RCS Initiative & Beyond

IMS already plays a key role in the rapid deployment of convergent offerings with a single common service and control layer. In an effort to make the types of services mentioned above interoperable and available on a wide range of devices, operators, IMS vendors, device manufacturers and software developers have launched the RCS initiative. This is the first response in addressing the need to build applications and services that provide an interoperable, convergent, rich communications experience based on IMS. For the initiative to succeed, the following key success factors need to be met:

1. RCS applications need to be interoperable, allowing for an RCS service from one operator to work with the RCS offering of another
2. Mobile RCS applications need to work on a larger range of devices beyond the high-end smart-phones

The RCS feature set will allow for a blending of voice, video, and interactive messaging built into a comprehensive user experience. RCS in itself will not bring in new technologies but it will help in bringing existing communities and standards emerging from SIP/IMS and OMA. However, beyond RCS, operators realize the need to address the role that social media plays. The industry understands that this will require the building of technical interfaces between operator networks and Web 2.0 sites.

The RCS initiative and the call to action for integration with Web 2.0 will result in the complete evolution of the telecom market, where different types of players fight for wider-ranging value propositions. To succeed, operators will require the ability to smartly charge any service or content across any network or device regardless of payment type. In addition to bandwidth management flexibility, this will require more agility in service creation and provisioning.

Critical Success Factors

To support these new converged and high-bandwidth services, Long-Term-Evolution (LTE) coupled with IMS will play a key role. LTE is the reference architecture from 3GPP to support new high bandwidth services, providing greater bandwidth to the end-user as well as more efficient management of data traffic and faster service provisioning for operators. On the basis of existing mobile data growth rates, operator OPEX could increase exponentially if LTE networks are not in place to support the evolving market expectations.

With all this focus on the network, operators must not forget about the back office implications of delivering and monetizing these new services. To address these new challenges, BSS needs to play a critical role in operators' convergent infrastructure strategies. It's no longer just about the network; what's called for now is a single system that can intelligently accept an order, provision, rate, and charge all services, regardless of location, access point, and payment type. Requirements include:

Real Time Policy Management - Billing offers need to be tied to real time policy enforcement in the network

Real Time Charging Rules - To extract value from the network, the billing system needs to tell the network how to charge the customer's service regardless of account type, payment type, or device

Service(s) Provisioning - Service providers need a single provisioning point to ensure faster service roll out

Real-time Unified View of the Customer - A real-time view of customers' accounts (profile, usage, status) across all services will enable personalization and consistent customer management

Smart Charging - Flexible charging for any service or service combination, content, and any payment type whether prepaid, postpaid, or hybrid

An inability to smartly charge for converged services typically relegates an operator to proceed with the flat-rate business model, which adversely results in lost revenue. According to a recent Yankee Group report, 57% of operators (based on a worldwide survey) believe that the flat-rate business model is not sustainable for broadband value based services. (Banerjee, A. & Vorhaus, D. [January 2009]. Yankee Group. Thinking Beyond Flat-Rate and Stovepiped Business Models)

The Next Step: BSS Convergence

So while a fast, effective, and up-to-date network certainly plays its part in providing the subscriber with a "next generation" experience, converged billing and interactive customer management are vitally important factors that will ultimately determine how effectively operators will monetize network investments and RCS services. Carriers need to understand in real-time who is using which services and applications - across product families and devices - to personalize real-time offers based on profile and consumption levels, to tailor pricing, or even to monitor usage to limit financial exposure.

It takes a converged approach to BSS to achieve a complete real-time view of the customer and to have a single provisioning starting point for all services. This unification starts with a data model built

to support all aspects of convergence, with all relevant components - from call control, to customer management, through to financial management – built on a single architecture around that single data model. A converged BSS approach by definition cannot be created through a set of discrete parts – even if connected by a bus - it requires one unified whole. The unified whole must be supported by a single central product catalog and a unified operations and security approach across the entire architecture. In this way, operators can consistently and efficiently manage customers – from the network to the bank.

Moreover, only BSS convergence effectively supports convergent business models - a natural expectation of next generation networks and RCS services - by streamlining business processes across sales, marketing, care and fulfillment, and charging.

ONE Stop Shop

When planning convergent "next generation" investments, consider the entire services value chain: network elements, rich communication services and converged ordering, provisioning, billing and customer management. This approach truly leverages and monetizes network assets by dispensing with costly synchronization. When all pieces of the puzzle are integrated, and BSS convergence is leveraged, a myriad of benefits are uncovered:

Accurate and flexible rules-based charging – for any service type - to fully monetize services across all payment types

Ability to support seamless service or account changes for customers as needs evolve over time (e.g. convert prepaid to postpaid or add family members to an account)

Bundling flexibility and faster time to market of new products and services via a single product catalog for all services, applications, and product families
Targeted real-time promotions and marketing campaigns to promote the uptake of new services and applications, increase usage, and stimulate loyalty

Real-time financial management to reduce exposure both for the service provider and the subscriber

From a BSS perspective, this key strategic enabler is only possible with a unified approach: a single code base built around a single data model, and supported by a single product catalogue and open services-based framework. In short, ONE unified and complete architecture helps operators remove complexity and increase agility, enabling the effective implementation and execution of innovative convergent business models - required by RCS and beyond.