



Whitepaper:

Convergence Starts with Your Subscribers



About Blueslice

Blueslice Networks is the leading provider of multi-profile subscriber management solutions for the Mobile, VoIP, FMC, and M2M markets. Blueslice solutions allow mobile service providers to control their principal asset, their subscriber base, while delivering innovative and differentiated services and significantly reducing operational costs. Now, end-users can access coherent communication services seamlessly over any type of access with a single subscription and set of preferences.

The carrier-grade, open standard Converged Subscriber Platform 3000™ is the only converged HLR/AuC, HSS, SIP Application Server, and AAA Server, which, together, enable universal mobility across all access networks. Blueslice delivers solutions to the world's leading mobile service providers including wireless carriers, MVNOs, VoIP providers, and alternate carriers.

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CONVERGENCE STARTS WITH YOUR SUBSCRIBERS

Summary

Much has changed since the days when the only choice for telecommunications was a copper line from the incumbent operator. With the proliferation of access technologies available, subscribers now have a plethora of communications choices and are accumulating devices upon devices and identities upon identities. At the same time, operators are beginning to offer to their subscribers convergence solutions which will offer a multi-access communications service.

Convergence is getting a lot of attention, yet it can mean different things to different people. One needs to consider a view of convergence beyond the scope of fixed-mobile convergence, or FMC, which allows roaming between fixed and mobile networks. The general misunderstanding is that “convergence” and “FMC” merely refer to switching calls between networks mid-call, for example between a VoIP call over WiFi access to a GSM call over a cellular network. One needs to consider technologies that will consolidate the heart of a network’s operations, the subscriber base, and deliver a consistent end user experience. The reality is that subscribers are accumulating multiple devices and identities - convergence is not necessarily about a promise of a one-phone-world.

A growing and widespread concern for carriers is how they will manage subscribers and their identities moving forward into a multi-domain, multi-access, multi-device, and multi-dimensional world. With improved control over the management of their subscribers’ multiple profiles, operators can deliver a consistent user experience across all domains for their subscribers, leading to customer satisfaction and reduced churn.

Beyond that, convergence at the core brings reduced OPEX, simplified network operations, a platform for sophisticated, mobile-based revenue-generating services, and a smooth evolution to IMS. This is the grand benefit of convergence beyond the promises of FMC: convergence is about the user and starts with your subscribers.

The Promise of Fixed-Mobile Convergence

Fixed-mobile convergence provides great benefits to both operators and subscribers; however, a view of convergence that only includes fixed-mobile convergence with dual mode devices is a narrow one. FMC allows subscribers to roam between fixed and mobile networks, such as IP and GSM, accessing the benefits of each network, for example the expansive coverage of cellular networks and the lower cost, download speeds, and service opportunities of IP networks.

Subscribers can access incoming and outgoing calls on a dual-mode GSM/WiFi device or via multiple devices, no matter if they are within a low cost hotspot or within GSM coverage. As a growing number of handsets incorporate multiple wireless access options, users can take advantage of the exploding proliferation of hotspots, both public and private, to route lower cost voice calls. The era of fixed-mobile convergence promises simpler telephony administration, lower operating costs, and a flurry of sophisticated mobile-based applications.

For carriers, it enables the ability to offload traffic from expensive mobile networks onto cheaper and expanding IP and WiFi networks. A convergence play is an important step in the execution of a quad-play or multi-play service offering. Operators are bundling broadband or WiFi access plans and are further able to compete with the service, functionality, and price points of VoIP providers. FMC also acts as a platform to deploy high-bandwidth, revenue-generating services on a mobile device, including

multimedia, gaming, streaming video, email, web applications, and other rich collaborative applications, creating the opportunity for new business models and further differentiation.

For consumers, a converged offering can mean lower costs in their communications, as well as the convenience of more choices of network access resulting in faster and more pervasive connectivity. This emergence of converged service offerings also comes at a time when consumers are constantly seeking new features to enhanced their ability to communicate - they seek out VoIP for its lower costs, broadband for its rich media experiences, cellular for its mobility and convenience, and TV, internet, P2P, and IPTV for its content.

The Multi-Profile Subscriber

At the same time, because of all these choices, consumers are accumulating whole new pools of communication identities: multiple SIM cards that they pop into their phone when traveling for lower roaming charges, the use of separate Blackberry and voice-focused handsets, long distance service accounts accessed by mobile and fixed lines, virtual numbers in multiple area codes or countries, accounts for TV and online content, etc.

Beyond the capabilities of FMC for allowing operators to add another service to their portfolio and for reducing network operating costs, there is another dramatic benefit to deploying a centralized fixed-mobile convergence solution: the consolidation of subscriber profiles into a singular and logical platform.

Currently, a user has a unique profile in the database for each service to which they are subscribed. These profiles are siloed in disparate networks - in the HLR in GSM/UMTS networks, in the HSS for IMS networks, in SIP servers for VoIP networks, in AAA servers for WiFi networks, etc. Their identities are splintered, and the preferences for each user remain separated. This is not only painful to manage, but also prevents the delivery of coherent services, like single phone numbers, optimal routing, and consolidated voicemail, across access technologies.

Convergence Begins at the Subscriber Level

It is the desire for operators to converge these profiles technologically into one logical platform, instead of having them separated into multiple silos, and this will lead to greater control over their subscribers and their subscribers' experiences. There is no need to build all the networks on one standard - it can be divergent networks with a singular platform for converged subscriber management. A sound FMC solution will enable operators to manage one logical node instead of multiple boxes, and all their subscriber information as one universal profile in one place, such as location, network authentication credentials, access preferences, services, identities, presence, etc. The ultimate result is to drive end user satisfaction and reduce churn as the operator becomes a converged service provider as opposed to merely a bill-stapler.

With greater control over their subscriber base, such a converged operator can deliver a consistent user experience across all domains, regardless if the subscriber wants to access their services from a dual-mode device or from multiple devices.

Centralizing Cross-Domain Subscriber Information

A sound convergence solution views the subscribers as a network's main asset and starts by centralizing cross-domain subscriber information into one, single logical place.

Such is the goal of IMS, the IP Multimedia Subsystem – to deliver a unified user experience. Operators are looking for these solutions pre-IMS, but which are still future proof with their eventual IMS rollouts. Such solutions must be standards-based and IMS ready – carriers do not need to be tempted by proprietary platforms which are not IMS compliant. Operators can have these solutions today and offer a full suite of telecom services.

The deployment of IMS infrastructure must not defeat its convergence purpose. This is a fundamental issue with standalone Home Subscriber Servers, which can manage a subscriber’s IMS (service) profiles, but cannot manage its “access” profiles. These profiles are still held in various HLRs, AAA servers, and other SIP servers. For the HSS to be the promised convergence savior, it must also be multi-profile capable – in other words, able to manage subscriber information that is not IMS related.

Operators Striving to Deliver a Consistent End User Experience

It is becoming evident in the market that being a multi-access player is absolutely critical to success. Especially recently, we’ve witnessed the challenges to pure play VoIP players and their ultimately critical additions of GSM services, the fledgling mobile plans from cable operators for quadruple plays, the network consolidation moves of the world’s largest carriers, the introduction of WiFi/WiMAX and VoIP from mobile carriers, and mobile offerings from fixed operators.

For these players and their networks, convergence starts with the subscribers. Fixed-mobile convergence can be implemented to reduce network costs and collate multiple services to the user. However, beyond that, the crucial consideration for a convergence deployment is the ability to deliver a consistent user experience across all domains, regardless if it is on a dual-mode device or on multiple devices. This results in increased customer satisfaction and reduced churn, as well as the operator’s ability to bundle services as a true converged service provider.

Such a convergence solution begins with creating network efficiencies. As a consequence, an operator can take advantage of its full communications service suite and the benefits of each access domain to deliver sophisticated, mobile-based revenue-generating services, to increase ARPU and differentiate in the market.

The Converged Service Provider: Not Just a Bill-Stapler

Operators that are striving to be converged service providers can include cable companies and quad play aspirants, VoIP operators, and alternate service providers.

Cable companies and quad play aspirants are consolidating their multiple networks in order to link two, three, or four unique services and offer a seamless user experience between all media. These operators are strong candidates for IMS deployments and are considering their rollout of these backend networks, but IMS deployments must not create yet another subscriber silo beyond the existing infrastructure. They are looking for an immediate solution to manage their subscriber profile platforms and simplify their networks before IMS. Unifying their networks allows them to deploy more easily services to all their subscribers, increase service stickiness, and deliver to their subscribers a heightened, end-to-end product, where their subscribers are committed not by contracts but by loyalty.

Many VoIP operators, facing the challenge in continuing only as a pure-play VoIP player, are adding mobile services into their offering. They already have an existing subscriber base and the brand of a communications player. They own the subscriber profiles, which they have worked very hard to accumulate. Limited by access tethered to subscribers’ PCs and possibly a WiFi device, these players are bridging the gap towards ubiquitous coverage by enacting GSM agreements with mobile network operators. They have the choice either to acquire their mobile subscribers and hand them over to provisioning on the carriers’ platforms, as a simple reseller, or to integrate those profiles with their

existing database as an enhanced service provider aware of their users' preferences. Many of these VoIP operators have expanded their market across multiple countries; as virtual mobile operators with next generation core equipment, they are also providing global services through multiple network agreements and advanced roaming solutions.

Alternate service providers such as next generation alarm companies are using multiple network interconnections to deliver time-sensitive information to their users. Subscribers can be alerted in real-time to any events of their alarm systems, such as when their kids come home from school, any activation or de-activation of the system, or detailed information about possible break-ins. Alarm companies are provisioning these alarm devices on cellular networks for two-way communication with their monitoring stations and for integration with their subscribers' remote access to their systems. They are able to unite these device profiles for seamless communication with the alarm owners over any access medium that is convenient for the user. Acknowledging the technological capabilities and demands of their customers, next generation alarm companies are leveraging the extended preferences of their subscribers to deliver a consistent end-user experience with their security systems.

Conclusion

With the proliferation of communication mediums and access networks, subscribers now have choices to make and communications identities to juggle. Users keep adding identities and devices for several reasons: for the sake of managing costs, exploring enhanced features, and improving the convenience of communicating anytime and anywhere.

It is up to innovative operators to deliver a converged user experience, starting such a convergence process at the level of their subscribers and leading to a new type of converged service provider. It is these operators that have the potential to be a true next generation service provider and differentiate in the market. The traditional definition of fixed-mobile convergence is only a small part of a full convergence solution.