



Towards a Personalized Mobile Experience:
How converged subscriber management
will impact the life of end-users

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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INTRODUCTION

The advances to come in personal communications in the next few years will be amazing.

In the five years to come, we will be far along in the interaction between the devices of our life. Many have considered how convergence would reduce the number of personal communications devices; however, the reality is quite different, as more and more “connected,” purpose-built devices are being added to the standard household. We will inevitably still use and manage and interact with more devices in our life, as we will finally be able to connect with many pieces of information in our home and daily life that remain to be untapped.

This article will elaborate fully on the hyper-connected world of 2015, the role of operators, and the importance of mobile personalization and converged profile management. It will evaluate current practices and future opportunities for operators to offer mobile personalization for their subscribers, as well as how end users will interact and live in an evolving and resulting hyper-connected world.

TRANSFORMATIVE GROWTH

The size of the globally connected community is continuing its transformative growth. We have seen the four billionth mobile subscriber in 2009ⁱ, and yet “data” connections are projected to attain a 300% to 500% penetration rateⁱⁱ. These data connections will make human subscriber numbers pale in comparison: they will allow consumers to lead a rich, informative, and hyper-connected lifestyle.

If we are able to link all the devices in your life, and not just most of them, we are slated for an amazing way to communicate and live, having access to exciting new services, anytime and anywhere. By harnessing subscribers’ historical data to predict their behaviors and converging information from all “connected” devices of their life to enhance and personalize their mobile experience, converged subscriber data management will be the key cornerstone of the 2015 end user experience.

A DAY IN THE LIFE

A day in the life of a typical connected person in just a few years time could sound something like the following:

The day would start with an interactive experience in home. REM sleep monitors, alarm clocks, lights fading on, and climate control are all connected to start your day in the most soothing way. As you pick up your mobile device, the phone emerges from

quiet mode, and you are actively presented with the applications you're most likely to use. You are presented with relevant information for your day, preferred information from news sources and other interests, and personalized streams from your social media networks. You have also formulated customized responses to any queries that have come into your real time inbox (finally now with short, two sentence messages!) and are prepared for your review. Through your real time inbox, you have access to all your documents, personal files, media libraries, and control over your devices. Fully integrated is your schedule interactive with maps, direction visualizations, and automatic timings for your meetings.

As you move through the house, you notice your picture frames with photographs from your most recent weekend getaway and your highest rated oldies. You pass your home PC, which knows to remain dormant on these mornings. Your kitchen alerts you about the groceries that are low in the fridge.

As you leave your house, your car is alerted to your meetings and offers visualizations of your directions. Your mobile device presents you with an update on your home electricity usage and automatically enables energy consumption mode while you're away from the house.

At the office, the tasks underway on your mobile device are transferred to the PC, calls are routed to the office device, and your customized responses are ready for your review.

Arriving home at the end of the day, your calls are optionally routed to your home system, your reading tablet gives you suggestions for new books based on recent topics of the day and your friends' recommendations, your DVD-less movie player gives you film suggestions, and you are connected to your relevant social network news.

What was previously known as Machine-to-Machine, or M2M, is now simply any embedded wireless devices that are increasingly part of your day-to-day life. They are all united under a centralized profile, so that they can interact in smart ways with you based on previous behavior, usage data analytics, and the centrally converged profile information. What makes this work elegantly and interactively is a cohesion in connectivity, devices, identities, and applications, all underpinned by a centralized view on all the information of a subscriber.

CONNECTIVITY: BRINGING ABOUT UNIFIED TRANSPORT

We are witnessing the emergence of many forms of access: HSPA is followed by 4G/LTE, WiFi, WiMAX, broadband, cable, DSL, Bluetooth, NFC, etc. each varying by data rate, mobility, and reach, and reflecting the requirements of the applications that use them. Access technologies are increasing, not reducing.

However, end users are generally unaware or do not care about the multitude of access networks and technologies. In the next few years, users will continue to buy more and more connected devices, such as the Amazon Kindle, without really thinking about how or why it is connected. In the case of the Kindle, they will just want it to buy books whenever they want.

DEVICES: TWO WAY INTERACTIONS

Some devices will continue to accumulate more and more access technologies, increasing their ability to access the network and unified profile anywhere and at any time. However, many devices will actually only use one or two, and that will be sufficient. Many devices will not be used as pervasively across different locations like some mobile devices.

The network will know how a user wants to be reached on their devices, where and when calls and messages are routed to a specific device, or that all devices should ring simultaneously. You will be able to connect with the devices that surround you: you will watch your video and audio library across multiple devices without physical storage drives, share multimedia with your picture frames, control home lighting, and manage your energy consumption and conservation. Any one of these devices can be actively accessed or passively through alerts of predefined behaviors.

IDENTITIES: SINGLE SIGN ON

As consumers continue to accumulate devices and applications, they are very quickly acquiring new identities. Many of the identities across different services are interacting with each other, so providing a trustworthy single sign-on will not only be convenient and leverage the different services, but it will also allow for the network to learn more about how and when the user wants to use their applications.

For example, today a user will post a thought, image, or video to multiple services at once, e.g. YouTube, Flickr, Twitter, Facebook, their personal blog, Posterous, etc. Based on the type of media, they may want to spread it differently.

Many of today's users can still manage several social applications, but as industry influencers continue aggregating multiple streams to simplify their communications, and as people will find different value to different services, all consumers will, by 2015 absolutely need to aggregate their streams. Their operator is the organization in whom the consumer has trust and a direct connection at all times. A smart operator will be able to offer a single sign-on and actively prompt the user for the applications they will want to use in certain situations.

By analyzing information about the subscriber, such as service preferences, usage, and personalization, an operator can further create an inconspicuous social network for each user. It is not one that rivals the very well established Facebook, MySpace, or Twitter, but one built around their real connections: who they call, who they message, who they interact with constantly. Based on frequency and degrees of separation, this data-mining can create an intelligent network for the user, allowing automatic prompts of certain people's location or behavior, predetermined sharing of information such as photographs, day-to-day scheduling and routine, and tracking of their social graphs.

APPLICATIONS: INNOVATION AND OPEN MODELS

No longer fighting Internet innovations, the operators' walled gardens are coming down. Instead, operators are embracing innovative Internet applications, which are becoming less device and access reliant, and more contextual and location-based. Applications are prompted based on your previous behaviors and where you are now. You are encouraged to interact with your local environments and see what's going on around you, such as businesses, attractions, and people nearby.

The progression from walled garden to an open model will continue further to open up opportunities with third party service providers. An operator could open up an API towards the converged subscriber profile databases, which would give innovative players the ability to build applications around the operator's data. This also opens up new business models and revenue sharing between the user, third party services, and the operator.

CONCLUSION: WHAT IS SUBSCRIBER DATA?

An operator offering mobile personalization reduces the likelihood of an end-user changing service provider. The information they have and can mine to promote a better user experience will lead to improved customer loyalty and reduced churn.

Subscriber data is changing. It is no longer just a collection of relevant routing information, such as a phone number and phone identity, enabled and disabled services, and current location. It connects multiple networks, multiple user devices, multiple applications, and multiple access networks into an intelligent heart of a network, and it is the diving board for connectivity and innovation of the future. The greatest tool to lead us to a hyper-connected world lies in this intelligent layer of subscriber data.

ⁱ <http://www.researchandmarkets.com/reports/328567>

ⁱⁱ <http://www.fiercewireless.com/story/preparing-embedded-wireless-impending-growth/2009-05-29> ; <http://www.andrewseybold.com/blog.asp?ID=139>