



Enabling subscriber profile and data management with HP Integrity NonStop platforms



Today's mobile communications subscribers engage with their wireless devices in a way very different from the way they did even a couple of years ago.

The personal experience

The bar has risen and it will continue to do so as subscribers embrace mobility in their lives.

They are savvier and more engaged with their phones on a minute-by-minute basis—and they have a very high expectation of their overall experience.

We are witnessing the next era of mobility as subscriber usage extends beyond the current abilities of voice and data to connect with the world at large. Mobility is becoming a presence, a personality, a connection to a social network, and a unique way of engaging with people around the globe.

The key building block for service providers (SPs) to deliver the required next-generation services to their customers is a unified profile, a data services layer that allows SPs to unify user information from multiple sources into a single,

logical view. They have the critical subscriber data assets in their network today to construct one. They need to leverage that data and make it available to the systems necessary for them to roll out personalized communications services. The right approach is to create a unified profile view of their customers.

Many of the data management challenges and service creation opportunities facing service providers today can be addressed with a strategic unified profile approach. When service providers focus on managing their customer data, enriching the customer experience and capitalizing on their customer relationships, they'll be able to reduce the operational costs of complex networks, deploy extremely personalized services that subscribers demand and grow their revenue as innovation and technology evolves.

The data challenge in most communications, media and entertainment (CME) companies is that critical service and subscriber data is scattered across multiple, siloed databases and repositories and in various formats and structures.

Investing in customer data

In a July 2008 report, communications market research firm Infonetics Research predicted increasing numbers of mobile and fixed-line operators around the world will invest in subscriber data management (SDM) software and integration services to help them roll out new services to customers, reduce the cost of providing these new services, and deploy revenue-generating mashup services.

Cost-effective subscriber data management

The primary drivers for implementing this key data management benefit are cost reduction and data quality improvements. Now is the time to establish a solid, cost-effective foundation for future network evolution. Managing subscriber data in a service provider network is the key preparation stage to build a centralized view of customer data.

Candidates for data management include the real-time subscriber profile, call and service authentication, and device and location updates. In many networks, this data is segregated in siloed databases dedicated to Home Location Register (HLR), Authentication, Authorization and Accounting (AAA), Equipment Identity Register (EIR), presence and location applications. Commonly, service providers have evolved a network of multiple, siloed databases for each instance of each application. They may have 40 databases for their 40 HLRs, which by itself can be a maintenance nightmare. By reducing these 40 databases to one mated pair, SPs can reduce maintenance time, increase accuracy, reduce the complexity of syncing the databases, and simplify their network footprint. Further advantages are derived by creating a central access means for all databases.

The HP approach

HP can help service providers manage their subscribers' data from a business perspective in three key ways:

- HP offers a solution that consolidates all subscriber data on one mated pair. With a consolidated view of the data, operations and management of the data are less complex and less expensive.
- HP can help SPs create a common data layer to gain a centralized view of the subscriber and profile data that will position them to cost-effectively manage their subscriber data. This defined data layer can be propagated and leveraged by the rest of the network.
- HP also offers a solution that extends the unified profile by tying in social data. In addition, SPs can open that unified profile to Web Services

with an architecture that allows data to be dynamically added. This will reduce time to market as well as protect the subscriber's data and identity.

These three capabilities translate into solution choices that can be targeted for SP immediate or strategic needs, providing a solution that optimizes the expense of preparing to manage current data systems while readying for a more personalized network.

Reduce HLR databases to one

The Home Location Register is a critical element in any carrier network. It provides revenue-generating features and cost-saving functionality, and enables service availability while the subscriber is roaming. With a centralized HP OpenCall HLR, HP delivers lower total cost of ownership and reduces many of the complexities challenging SPs as they manage a multivendor network.

This enables SPs to easily manage their subscribers and simplifies interaction with switching equipment. The mated-pair provides a unified view of the heart of the network maintained on fewer systems. Contrast this against the process of managing multiple versions of HLRs from many different vendors. The comparative costs saved from consolidating more than justify the investment.

Consolidating on a single system could cause concern for the availability and integrity of the data on the system. With the HP Application Database Synchronization (ADS) feature, data integrity is intact and secure from technical failure or disaster. The HP OpenCall HLR is deployed in a distributed active-active mated pair. This means all subscriber data within the network is stored on both sides of the mated pair—and both sides are in constant communication with the external network and with one another. ADS synchronizes the data between the systems while the systems process communication with the network.

As mobile networks grow exponentially, the scalability for the HLR to handle both the growth in frontend signaling traffic as well as the backend subscriber database is absolutely critical to delivering the personalized subscriber experience. HP OpenCall HLR supports an advanced database architecture that scales to support 100 million subscribers.

Enrich the subscriber experience

Subscribers want an enriched experience—one that is fun, reasonably priced, and tailored for them. Federating data from legacy application databases, including IN services, charging and

voicemail—and unifying their view with the consolidated core—allows SPs to offer unique solutions and give subscribers a more personalized experience.

HP advocates uniting these profile assets across the network by pulling in data from legacy value added services into a unified profile environment through federation. Federation is a process where the application's local data model is mapped to the profile manager data model in order to open access to the legacy data without impacting the way the application operates.

This approach makes siloed legacy data and makes it available across the network via HP OpenCall Profile Manager interfaces, while preserving the business model for legacy services—expanding the impact of the application on the network without completely rewriting and redeploying the application.

The alternative to federation is consolidation—or the storage of all data in one physical location. With the access HP provides to this consolidated data store, service providers can build dataless value-added services that access the data, making it easier to create new services as well as to integrate and provision them in the network.

Accessing the data

The HP OpenCall Profile Manager is a set of data management tools and capabilities that help establish an environment where a service provider can consolidate, federate, replicate, and synchronize data. The flexibility of the HP OpenCall Profile Manager is crucial as it offers service providers an option to retain existing databases and access needed data through federation, or migrate and consolidate data on a new database, or adopt a combination of the two.

HP OpenCall Profile Manager introduces a data management layer, making it possible for a service to access the data without detailed knowledge about how or where the data is stored in Enscribe, NonStop SQL, or other formats, but the application will access it exactly the same way, regardless of the southbound data storage protocol.

Keep your systems up and running

IT-based systems are at the heart of all modern networks—from mobile core networks for CDMA, GSM, or UMTS to the most advanced IP-based communications networks with IMS at the core. These networks have powerful and reliable compute-based systems performing the most critical functions, and HP has been a leader with its Itanium-based Integrity NonStop servers.

Today, many service providers run their applications on the HP NonStop S-series platform, which is based on the previous hardware generation. Even with the success of the newer Integrity NonStop product line, the workhorse NonStop S-series platform is still widely deployed.

In this industry, downtime is not an option. Subscribers will not tolerate unreliable service. That's why service providers today rely on the HP Integrity NonStop platform to run their mission-critical applications. Not only does the HP Integrity NonStop platform offer the best continuous availability on the market, it does so at the lowest total cost of ownership (TCO).

Managing risk is essential, but so is having a system that has the power and scalability necessary to accommodate explosive and unpredictable growth. Exchanges and social networking are increasingly complex, interconnected and growing exponentially. The growth of SMS systems today is a real-world example. With HP Integrity NonStop servers, SPs have the scalability needed to handle temporary surges in demand as well as long-term growth.

The Integrity NonStop family includes both commercial systems and the NEBS-compliant carrier-grade Integrity NonStop servers that provide SPs with performance and cost benefits as well as meeting stringent telco requirements to support a broad mix of real-time solutions.

Performance rockets upward

With the introduction of the Integrity NonStop BladeSystem, the story only gets better, because the performance increase of the new NonStop BladeSystem is phenomenal. NonStop S-series customers that move to the NonStop BladeSystem will quadruple their performance in half the footprint, all the while maintaining a 100% NonStop environment that those users are currently experiencing today. In addition to a stunning increase in raw CPU performance, the NonStop BladeSystem features a new I/O infrastructure that leverages industry-standard components called Cluster I/O Modules, or CLIMs. These ServerNet-attached CLIMs provide the next generation of networking and storage subsystems to reduce I/O and storage costs.

Protecting important data

Given the importance of subscriber data, HP StorageWorks is committed to meeting the full range of service providers' storage needs—whether it is enterprise-class disk arrays, data protection products, or intelligent management software that enhances hardware potential.

For HP Integrity NonStop servers, the StorageWorks XP disk array family is an enterprise-class storage system that delivers state-of-the-art reliability and around-the-clock availability for mission-critical applications such as HLR, where downtime is not an option.

Capitalizing on the relationship with the subscriber

In concert with reducing costs and increasing subscriber satisfaction with an Integrity NonStop infrastructure, service providers can capitalize on the wealth of subscribers and profile information leveraging it to reduce the cost of experimentation, and quickly delivering new network services—an inexpensive method for trial and error of sticky applications. The integration of community data allows SPs to add user-generated social data to complete their view of the subscriber, while integrating a service-oriented architecture opens this profile in a secure manner to Web-based services and collaboration with Web 2.0 applications.

An open social profile

Service providers can build on the momentum of social networking by adding the social identities to the unified profile. This allows them to leverage the power of the mobile community to enable rich, personalized services through an open social profile.

Ownership of a unified subscriber profile can be rewarding. Many advertisers would like to know that their advertising dollars are spent to attract the right customer. With the informed and consolidated view of the subscriber in the open profile, SPs will become a more precise conduit for advertisers.

Why HP?

By bringing their subscriber data together in a unified profile, service providers can more effectively and centrally manage the subscriber data within these highly scalable social networks to limit their high potential for adding expensive complexities to their network. There are many ways to begin, but HP is here to support service providers on their path to personalization. The CME industry requires a system at the heart of their infrastructure that enables them to meet current and future goals—to provide reliable

24/7 processing without a glitch, to bolster performance in faster speeds and throughput, and to reduce costs across the board.

With the power and flexibility of the HP Integrity NonStop platform—from entry level, midrange, and high-end NonStop-series systems to the new and innovative Integrity NonStop BladeSystem—service providers can lay the foundation upon which to upgrade and expand operations, where they can capitalize on new growth opportunities such as IMS; where they can grow profits while providing premium subscriber service; and where they adopt next-generation technologies quickly, take advantage of existing data and integrate it with new data to provide a complete, personalized subscriber experience.

HP Services

HP's end-to-end service solutions, built on the Solution Lifecycle (SLC) process, offer consistent quality and service levels for the Integrity NonStop servers. The SLC process helps to achieve rapid productivity and maximum availability by examining specific needs at each of five distinct phases (Plan, Design, Integrate, Install, and Manage) and then designing solutions based upon those needs. We offer three different service solutions designed to meet customer requirements:

HP Critical Service Solution

- Startup and Deployment Services—build the solution to the users exact specifications, complete the installation, and make the solution application-ready
 - Assessment and Design Services—define requirements and translate business and technical needs into a solution that melds the necessary hardware and software
 - Deployment Management Services—up-front project coordination from HP
 - Education Services—training curricula relevant to needs and existing expertise based upon a needs analysis
- HP Critical Service—comprehensive, ongoing support designed to help minimize the business impact of downtime on mission-critical applications

HP Proactive Service Solution

- Startup and Deployment Services
- HP Proactive 24 Service—integrated hardware and software support, including proactive and reactive services to improve stability and availability throughout the IT environment

HP Foundation Service Solution

- Startup and Deployment Services
- HP Support Plus 24 Service—integrated hardware and software support services designed specifically for the customer's technology

For more information: www.hp.com/services/nonstop

Technology for better business outcomes

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