


prepaid billing

Amid the hype surrounding 3G networks and the current glut of new technologies all promising to revolutionize the telecom industry at some point in the future, one could be forgiven for wondering if there are any trends concretely affecting the mobile market today.

Rest assured, there are – and one of the most significant of these trends is prepaid billing.

Once considered a low-tech option for the cost conscious, pre-paid is now appealing to a new breed of more sophisticated users, who view it as an intelligent way to retain their consumer independence and gain the freedom to avail themselves of the best deals on the market as they become available. In fact, uptake for prepaid subscriptions is growing at such a pace that prepaid customers are expected to account for more than 60% of all mobile phone users by the year 2003, compared with less than 40% today. In fact, in certain countries such as France and Germany, 80% of new subscribers are opting for prepaid.

prepaid for the full range of services

This new generation of prepaid customers is not willing to accept limited service options as the price to pay for the perceived benefits of prepaid. They expect the traditional advantages of easier budget management, flexible time purchase and the ability to control how much money their children spend on the phone in addition to, and not at the expense of, the full range of new and emerging mobile services – especially wireless data offerings such as short-messaging services (SMS), wireless Internet access and online content delivery. They also expect those services to be available to them whenever they go abroad, and to be as easy to use in foreign countries as they are at home.
From the mobile service providers' point of view, prepaid already offers a number of clear advantages, such as helping reduce the risk of unpaid accounts and allowing operators to gauge accurately future levels of network use and plan resources accordingly. However, prepaid does not allow them to collect meaningful, personalized usage information from billing records as they have no information on the user's profile – the prepaid user is effectively anonymous. In addition, service providers cannot easily lock in prepaid clients by offering personalized services, unless those clients also have a post-paid account and convergent billing across the rage of accounts they hold – for example, a family with postpaid bill, plus five prepaid card accounts, offered at a discount.

If they wish to use prepaid services to improve revenues and significantly increase their subscriber base into the future therefore, there is only one option open to mobile providers. They must find a way of providing their customers with the most up-to-date mobile services – be they voice-, data-, or combined voice-and-data based – on a prepaid basis.

This is easier said than done. If mobile operators wish to benefit from the prepaid trend both now and into the future, then they must deploy prepaid solutions that meet a number of key criteria.

content based billing

First and foremost, prepaid systems must to be capable of spanning both voice and Internet Protocol (IP) networks, as many of tomorrow's most promising services will be Internet-based. Indeed, as we move closer to network convergence, the bulk of voice calls, too, may eventually travel over the Internet, thanks to Voice over Internet Protocol (VoIP) technology.

Besides the obvious issues of connectivity this raises, it also means that successful prepaid systems have to be able to support more flexible tariffing models than is the case for most of them today, since many future data-based services are likely to be charged on the basis of content rather than simply time spent on the line.

The second key requirement that the next generation of prepaid solutions must meet is that of scalability. Many current prepaid billing systems – particularly those based on Service Node architecture – are not considered cost effective once subscriber numbers exceed 500,000. However, with the prepaid market set to grow exponentially in terms of volume, service features and subscribers, future-looking billing systems will have to be capable of supporting rapid expansion in a flexible

manner. Some mobile operators are actually considering moving their entire customer based to prepaid, meaning that some prepaid systems will have to be capable of supporting up to 20 or even 30 million users.

A third feature that mobile operators should be looking for in their prepaid solutions is integrated billing. Traditionally, prepaid systems are separate elements in the network that stand apart from core billing system. However, if both prepaid and post-paid elements can be integrated into one billing solution, mobile operators can centrally manage their subscriber bases and avoid having to maintain or upgrade two separate systems – with the obvious cost advantages this implies.

Finally, mobile service providers need prepaid solutions that respond effectively to the increasingly significant problem of fraud and, in particular, the issue of 'last-call exposure'. A number of current prepaid solutions – such as those based on Call Data Records (CDR), for example – are merely variations of the post-paid model and work by collecting information about a call once it has been completed, then passing it to a standard post-paid billing system for processing. Because such systems only retrieve information at the end of the call, they are powerless to act if the user runs out of credit while on the line, so any negative balance occurred by the time the consumer hangs up could turn in to a loss for the operator. This risk can only be negated by billing solutions that are capable of both monitoring and controlling call set up in real time.

hp opencall platform

Prepaid systems based on HP Opencall meet all of the above requirements by offering a real-time, integrated pre-paid billing environment for voice, data and IP-based services.

Based on the HP Opencall platform, HP's prepaid billing solution is an intelligent-network (IN) solution that features a multi-tiered architecture incorporating a front-end network platform and a back-end prepaid server.

The front-end platform provides an interface to the underlying service networks. Because the HP Opencall platform is built on HP's renowned SS7 signaling platform, it offers unparalleled connectivity to the Public Switched Telephone Network (PSTN), as well as featuring H.323 signaling for IP network connection. The result is that the HP Opencall media platform can handle service delivery in a number of configurations including voice, data, IP and VoIP.

Add on HP's unique HP Opencall Service Creation Environment, and the result is a fully integrated service stack which lets service providers can create, customize and test new, highly differentiated voice and data services easily and fast. Meanwhile, the HP Service Management Platform offers a flexible, centralized database that can be accessed and updated by both the prepaid tariff system and the customer-care applications.

integrate prepaid and postpaid

This means that, not only can mobile service providers develop and deploy new services with ease, but they can also integrate prepaid and post-paid billing systems on one database, making it possible to bundle prepaid and post-paid services – such as giving customers extra prepaid minutes as a reward for post-paid usage.

Because the back-end billing platform system is connected directly to the service infrastructure through the front-end, all services can be processed in real time – thus minimizing fraud. However, the modular nature of this IN-based solution means that services can easily and rapidly be upgraded to meet future demands for increased capacity or additional service features.

All HP Opencall platforms run on HP's state-of-the-art HP 9000 range of RISC-based UNIX servers, giving mobile service providers the assurance of carrier-grade robustness and service availability guaranteed to 99.999%.

In addition to providing one of the best hardware and software solutions for prepaid on the market, HP can also add consulting, support, technical training and other services to allow service providers to get maximum value from their HP Opencall prepaid solution.

And finally, all HP Opencall platforms come backed by a choice of HP's renowned service support packages, including round-the-clock hotline assistance and same-day, on-site repair options.

For further information on HP Opencall platforms, please visit our web site at:
www.hp.com/communications/opencall