Emerging IMS: Charting a New Direction

By Timothy E. Young

The road to true convergence is long and winding, as has been painfully obvious over the last few years, in particular. With the massive acceleration of technology new niches of interoperability are giving rise to questions, such as: How will IP Multimedia Subsystems and the challenges associated with them impact providers?

The good news is that IMS platforms are geared toward tackling the complexities service providers are experiencing, resulting in what Lucent Technologies has dubbed a “Blended Lifestyle.” Lucent is pushing this lifestyle through their new innovations in IMS, including a highly inclusive unified phone directory and peer-to-peer streaming video. Sprint has contracted Lucent to develop its IMS platform in a deal that has remained relatively quiet since its inception. Sprint is far from alone in buttressing its system with IMS. BellCanada, British Telecom, Cingular, and BellSouth have all begun the push for IMS in earnest, with most major telco's hot on their trails.

Strategic Development

The groundwork for this element of IMS interplay is well-laid. Motorola has been working publicly on an interoperability program with Brooktrout, IPeria, and Ubiquity since 2004, and press releases relating to the companies impart that "this program is designed to provide wireless operators with a broad selection of multimedia applications that interoperate with the Motorola IMS through standards-based interfaces." In fact, Motorola and its partners have been active at 3GSM, SuperComm, and beyond, touting the advances of Motorola IMS.

Service Providers are catching onto the vast flexibility of IMS systems. While the basic IMS architecture was originally intended for Next-Gen mobile services, the framework can be expanded to accommodate any number of IP-based networks, as well as increasing the possibility of seamless wireless to wireline transitions. Essentially, IMS Infrastructures use SIP or Parlay/OSA to establish connections between terminals and networks. In the short term, this allows for connections between wireless and legacy systems, and increased inter-operability throughout specific networks.

Both the tech specs and the possible implications and applications for IMS are relatively complicated, and the true potential of the infrastructure will probably not be fully realized for some time. “One of the things IMS originally started out with," says Scott Sobers, Director of Solutions Marketing for Micromuse, "was to build a platform upon which all services would be able to communicate, hopefully, across networks." However, according to Sobers, "it caught on in the telco/ip world because it's not just about trying to get a text or MMS message across, but it's also about being able to deliver any content over any network to any device." Sobers also points out that the initial challenge in IMS is to get a set of agreed-upon standards in place.

Further out, the potential for IMS broadens and deepens. According to Ulticom, who has been particularly vocal about its IMS solutions, “There is a long-term need to create a ubiquitous service delivery architecture that abstracts and hides the complexities of underlying networks and end user devices. Full-scale IMS deployments including 3G Radio Access Networks and 3G wireless devices will offer end-to-end service transparency, but this network will not be realized overnight." That is, like any convergence technology, the goal of IMS is to be virtually invisible, with seamless transitions between complex systems.

Added Incentives

IMS is also a possible platform for major service providers that do not have wireless subsidiaries/ branches to develop MVNOs (Mobile Virtual Network Operators), and can help any service provider deliver varied services in a way that is easier, cheaper, and less risky than previous technologies. The ultimate future of IMS remains to be seen, but there is no doubt that IMS is the future of telecom. Ian Cox of ABI Research recently made the oft-quoted statement that "every Tier 1 service provider in fixed and wireless networks will announce SIP-based services running over IMS in the next six to twelve months. Any who don't will be like airlines that missed out on the jet engine."

IMS has another aspect beyond interoperability that is being explored extensively by SP's like British Telecom, whose long-awaited 'BluePhone' has finally been unveiled, and retagged as 'BT Fusion'. This handset, developed by Motorola, possesses the ability, ostensibly, to make seamless transitions between wireless networks and local Bluetooth connections as the operator moves from one area to another. That is, a user can operate his handset in his or her home or office over a Bluetooth link to a VoIP connection, walk out the front door, and continue the conversation on a wireless network, all without dropping the call. This aspiration of maintaining a true convergence of wireless and wireline connectivity is among the Holy Grails of convergence, and BT maintains that it is here.

Front-line Challenges

SP's now are not even limited by medium, and often need to outsource to maintain QoS on widely varied services. Benjamin adds, "One of the challenges to supporting true converged services is having systems that are flexible enough to define and manage the full range of services that broadband carriers need to provide." Some specific challenges that arise out of IMS are granular bandwidth and session control, support for xVNO, outsourcing, and supply chain management, and maintaining the level of service abstraction.

Issues like QoS have yet to be addressed as they relate to IMS services. Therefore, OSS vendors, who often serve less as asbestos and more as firemen, may have their toughest IMS battles ahead of them. "IMS can operate over a legacy system too, and that brings in a whole other set of challenges," says Sobers. Todd Benjamin of Rodopi agrees that "One of the challenges here is that legacy systems generally assumed a closed environment in which an SP designed, developed, and delivered its own set of services." Clearly, IMS only moves the situation further away from that previous reality.

Can these challenges be overcome? Certainly. It is difficult to find a problem that the industry has not been able to solve, bypass, or render irrelevant. Given time, solutions will certainly come. The question is not 'if', but 'when', and that question may not be answered until IMS fully moves beyond the drawing board and into widespread use. Some, like Sobers, are optimistic. "From our point of view, [Micromuse] can support it today. We have the probes, the monitors, and the links to monitor all of the different devices." Other firms have equally optimistic outlooks.

However, optimism is somewhat easier to grab onto on the front end of a challenge. As IMS grows and changes, the true ability of firms to stay ahead of the curve will be tested, and it will be positive results that adorn the firms that display the most accurate vision of the future of IMS.