



Advisory Report

Global MSF Interoperability 2006: Does it Matter?

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■ Summary

Issue

Here's a philosophical question: If 26 equipment vendors sequester for two weeks in the labs of four international telecommunication carriers, bang on 197 separate devices to assemble 98 test cases and generate more than 900 pages of test specifications, does the event -- from a standpoint of furthering the advancement of the IP multimedia subsystem (IMS) specification -- make a sound? In other words, did the much publicized and promoted Global MultiService Forum Interoperability event of 2006 (GMI 2006) produce results that will help accelerate the adoption of IMS-based infrastructures, which in turn will accelerate the delivery of a new breed of blended applications for subscribers and associated reductions in operating costs for service providers?

That's the question standards bodies, the media and even participating vendors are asking in the post-mortem period of the most ambitious GMI test event to date, and one that was designed specifically to focus on interoperability and functionality of IMS-based equipment and software. As is the case with all philosophical conundrums, the answer to this riddle -- whether in the affirmative or the negative -- is dependent on perspective. While it still remains to be seen whether the event will impact the overall adoption of IMS, it is clear that the participants -- a large majority, if not all participating vendors and carriers -- found the exercise to be valuable in providing real-world experience.

Participating in the event, at the very least, allows them to sharpen their IMS initiatives through feedback on which interoperability and functionality issues have been largely solved and which still need attention. From the standpoint of the equipment makers and carriers looking for the opportunity to give their IMS products and initiatives a test run, the GMI 2006 event was an unqualified success.

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Whether they're called interoperability events, compatibility demonstrations or the clearly Woodstock-inspired "Plugfests," equipment vendors have been publicly gathering to prove the validity of multi-vendor solutions or their product's adherence to standards for at least the past couple of decades. If there is a universal truism that applies to interoperability demonstrations it is that the jury is still out on whether or not they provide any meaningful contribution to the advancement of a technology beyond providing participating vendors with fodder for another press release. The major knock on interops is that they usually involve the same small universe of participants and are most often carried out in a static, predictable lab setting. The biennial GMI 2006 event conducted by the MultiService Forum (MSF) is on many levels an exception to the norm. Though it's still too early to tell how the GMI 2006 event will impact the development of the various IMS specifications, the compatibility exercise, which was completed in November, was clearly beneficial to the equipment makers and carriers involved in the project.

The major distinguishing feature of the GMI 2006 event was the scope of the project, both in terms of vendor participation and geographical reach. In addition to involving more than 25 equipment suppliers, the GMI 2006 was conducted with the cooperation of four global telecommunications carriers, located in different corners of the world. While the participating carriers – BT, KT, NTT and Verizon – did not extend the test site to portions of their networks carrying live traffic, the compatibility testing was nevertheless conducted in settings that mimicked real-world deployment scenarios. For equipment makers, especially those that lack the financial heft of a top tier vendor, the GMI 2006 was a gigantic technology mixer that enabled competitors and potential partners to metaphorically – and literally – rub elbows, as well as interfaces and protocols, to their hearts' content, or at least until the two week exercise came to a close.

It could be argued that small-company participants, such as Leapstone Systems, Operax and Acme Packet benefited the most from the interoperability event and having access to testing facilities they could not begin to match in their own labs. However, participation in the exercise offered a variety of perks – both marketing and technology oriented – to large and small vendors alike. Leapstone officials used the term "sandbox" to describe the opportunity GMI 2006 afforded the service orchestration specialist to put its products through a barrage of compatibility exercises with a cadre of large and small equipment makers. The exercise enabled participants to identify and work out many of the kinks in their products, in terms of interoperability and their particular interpretation of the various IMS standards. Though the time and expense savings are difficult to gauge, some participants estimated that the GMI 2006 event advanced their individual IMS development efforts by several months. Moreover, these same participants cited the ability to impress potential customers with a product that is essentially ready to plug into a live network as being the most beneficial outcome of the GMI 2006 event.

The most efficient manner in which to assess the overall value of the MSF-sponsored interoperability event is to contrast it with similar exercises. For the most part, the GMI 2006 exercise stands out from the traditional "plugfest" for three reasons. First is the inter-carrier nature of the event. In addition to interoperability between

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infrastructure products, the MSF event included interoperability and compatibility for roaming between two or more networks. MSF leadership rightfully recognizes that one of the distinguishing features of the IMS concept is its scope and its ability to provide features and functions across multiple networks. A byproduct of the geographical reach of the GMI 2006 event was the opportunity for regional vendors to increase their mind share and gain attention in regions where their brands are not as well known. North American vendors, for example, had the opportunity to get in front of Asian operators, while Asian players, such as Huawei, were presented with the chance to improve awareness in Western countries.

A second distinguishing aspect of the GMI 2006 event was the inclusion of existing architectures and the focus on backward compatibility. The MSF Release 3 Architecture is unique in that it blends the IMS architecture with the existing softswitch – or Call Agent – architecture, which marked the first phase of the TDM-to-IP transition of carrier networks. The Release 3 architecture spells out in clear detail how the two worlds coexist and offers guidelines on constructing networks that blend the two technologies in a way that preserves past investments but also fully utilize IMS/SIP-based additions to the network. The third and final “above and beyond” attribute of the GMI 2006 was the focus on implementation, which, of course, is the whole point of the GMI events. Traditional compatibility operations are often nearly as theoretical as the standards they purport to validate. Instead of conducting GMI 2006 in what amounts to a static vacuum, the MSF purposely simulated a real world environment in order to glean helpful information about where the IMS specifications fail to hold up to the realities of actual implementation conditions. The MSF’s deliverables in this area are Implementation Agreements (IA), which are essentially guidelines for navigating the particulars of a deployment of a standard-compliant product and designed to provide feedback to standards bodies for consideration in future work.

While it’s safe to conclude that the majority of participants in the GMI event benefited from their participation, the interoperability event was not without its flaws. The biggest shortcoming is that the resulting MSF Release 3 Architecture creates yet another set of guidelines for equipment vendors and carriers pursuing IMS goals to follow. There are at least three juxtaposed IMS-oriented next-generation architectures – ETSI TISPAN Release 1, MSF Release 3 and PacketCable Release 2.0. Forgetting for a moment that the 3GPP also offers a fourth IMS “viewpoint,” vendors and carriers are currently confronted by an overwhelming array of roadmaps, all promising to lead to network nirvana, but all taking different routes to get there. The MSF Architecture does its share to add confusion by using a different set of acronyms to describe functional modules that have now nearly become part of the lexicon. The MSF has its reasons for its naming scheme, but it seems unnecessary to refer to CSCFs as CSCs and to speak of a “Bandwidth Manager” rather than a fairly well accepted concept of a “Policy Manager.”

A related shortcoming has more to do with the overarching aim of the MSF rather than any particular GMI-related procedure or resulting architecture. The MSF Release 3 Architecture, after all, is primarily a roadmap or a set of guidelines for the implementation of an IMS-based infrastructure. While the multi-vendor nature of the GMI 2006 event distinguishes it from Verizon Wireless’ summer 2006 release of its Advancement for IMS (A-IMS) initiative, which was largely an implementation-oriented document, some carriers (apparently not those involved in GMI 2006, however) view technology implementation as something unique to each carrier. These

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operators view A-IMS, as well as the MSF Release 3 Architecture, as an attempt by one or a few carriers to influence the standards in a manner that works to their benefit. The preference for these carriers is to work with standards that are bereft of carrier-influenced implementation instructions. They see standards more as a set of raw ingredients, rather than a set of blueprints, that can be shaped and molded into a form that best fits the carrier's network or requirements.

Determining the overall success of the GMI 2006 event, like most interoperability exercises, is highly dependent on who you ask. While vendors and carriers that did not participate in the exercise are likely to downplay the significance of the event or even point out a few of its shortcomings, those that participated, for the most part, will claim to have been made the richer (in terms of furthering their IMS plans) for their efforts. In terms of a thumbs up/down final reckoning, however, GMI 2006 comes up on the plus side. With 26 equipment makers and four influential carriers participating in the event, GMI 2006 was successful in assembling an adequate number and type of participants to influence in some measure the future direction of IMS adoption. What form that influence will take has yet to be determined.

Recommended Actions**Vendor Actions**

- All equipment vendors that participated in the event – and even those that didn't – should examine the preliminary report from MSF officials that provides a quick snapshot of the major surprises (both positive and negative) that the GMI 2006 produced in terms of component readiness. Vendors should make adjustments to development efforts based on a key technical finding that lists the IMS interfaces that were further along than anticipated and those that were found to not be as mature as anticipated and require additional enhancements.
- All equipment vendors developing IMS hardware and software should work toward establishing conformance with the MSF Release 3 Architecture. Though it represents an additional framework for IMS implementation, joining those offered by TISPAN, 3GPP and PacketCable, the MSF approach is closely aligned with existing frameworks and equipment makers would need to dedicated only modest resources to reach compliance and expand the flexibility of their solutions.
- All vendor participants in the GMI 2006 event should continue to maintain relationships with manufacturers of complementary products. These vendors, all 26, should continue to exchange interoperability information and consider developing formal business relationships that will enable multiple vendors to package IMS components into a turnkey solution that guarantees interoperability out of the box.
- Asian equipment makers that participated in the test event, primarily Huawei and ZTE, need to nurture relationships established with Western service providers, especially Verizon in North America. ZTE in particular played a significant role in Verizon's test lab, where its equipment was installed as part of the subscriber management and session control portions of the exercise. The company needs to direct resources at increasing its product portfolio's awareness among Verizon's key technical staff.
- Nortel needs to use the GMI 2006 event, where it also supplied technology for use in the

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subscriber management and session control segments of the test (as well as supplying media gateways, media gateway control and break out gateway function), as a springboard for the commercial release of its IMS portfolio. Nortel should use the GMI 2006 event as evidence that its IMS solution is ready for prime time and that the company has not lost a significant market opportunity.

- Acme Packet should highlight the exercise to demonstrate that its Net-Net product is equally adept in managing IP-to-IP connections at the access portion of the network or as a peering device between carrier networks. This will assist the company in refuting claims from competitors that the Net-Net SBC is optimized for the access portion of the network only.

User Actions

- All four carriers – BT, KT, NTT and Verizon -- participating in the GMI 2006 event should continue to maintain IMS interoperability facilities and should continue to work together to solve issues related to roaming and inter-carrier interoperability. The four service providers should consider creating an IMS compatibility certification program around the GMI testing.
- All carriers involved in the two-week test should use the event as sort of an audition by the 26 equipment makers for deployment in their respective networks. Just a BT leveraged much of the work from the GMI 2004 event to audition vendors for its 21st Century Network project, KT, NTT and Verizon should look to the roster of participants as a starting point for figuring out a short list of suppliers for IMS infrastructure build outs.
- All carriers, participants in the GMI 2006 event or not, need to figure out which side of the raw standards vs. implementation instructions debate they fall on. Carriers that believe that implementation issues should be left to the discretion of the individual carrier should express objections to recommendations from the GMI 2006 event on implementation being fed into IMS standards bodies, such as the 3GPP.
- Carriers in the process of evaluating IMS portfolios should not automatically dismiss equipment makers that did not participate in the GMI 2006 event for consideration as a solution provider. Carriers, however, should insist that non-participating vendors demonstrate a level of interoperability that is at least equivalent to that demonstrated by participating vendors.
- Similar to equipment vendors, carries (both participating and non-participating) should closely evaluate the key technical findings of MSF officials in regards to interface and protocol work that is falling behind the implantation curve. Carriers need to pressure equipment suppliers to redirect development efforts in order to focus additional attention on these potential trouble areas.