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## **GMI 2008 validates IMS for superior user experience**

*IPTV, location-based services, SOA and performance management  
demonstrated over multiple access technologies*

**Fremont, California, December 10<sup>th</sup>, 2008-** GMI 2008 brought order to a world of competing communications standards – with WiMAX, 3GPP, 3GPP2 and China's TD-SCDMA mobile access devices all communicating in harmony together with fixed line broadband and PSTN services. The full results of this massive 'real world' global interoperability event were announced today by the MSF (MultiService Forum) and they amounted to a resounding endorsement of IMS as a mature Next Generation Networking (NGN) platform, and an enabler for superior user experience for demanding applications like IPTV, location based services and a Service Oriented Architecture.

"It is deeply satisfying to see two years of hard work by our members culminating in such a positive endorsement of the MSF's campaign to 'make NGNs work' in the real world" commented Roger Ward, President of the MSF, "but we must remember that the purpose of these GMI events is not to give us a pat on the back, but rather to provide industry feedback on what does and does not work in a real global network, and to point the way forward for development. The core IMS protocols proved their maturity; the issues that arose were more to do with the complexity of the architecture and the importance of rugged implementation agreements to facilitate multi-vendor interoperability, particularly in the area of local configuration and options".

The two-week GMI 2008 test event, held in October, involved five inter-networked lab sites - BT/ Vodafone in the UK, Verizon, NCS (the National Communication System) and UNH-IOL (University of New Hampshire Interoperability Lab) in the US and

China Mobile in China. It included 22 vendors, with 125 registered test engineers at host sites working round the clock to put 225 devices through a total of some 500 test combinations. It also required significant planning, as evidenced by the dedicated committee of some 14 people, who along with numerous volunteers, spent over 18 months in preparation for this multi-sited networked event.

A key focus of GMI 2008 was the practical deployment of end-to-end IPTV services and this led to the world's first successful demonstration of IMS-based IPTV. The tests, incorporating a soft client, video streaming server and IPTV applications server, included advanced user features such as video-on-demand pause and rewind and a network PVR. As well as validating key IPTV specifications and demonstrating good QoS in face of network congestion conditions, the event provided invaluable feedback on key emergent standards.

A unique feature of this year's event involved the co-operation between the MSF and the Alliance for Telecommunications Industry Solutions (ATIS) – the first time the MSF has formally partnered with a standards development organization. ATIS, through its IPTV Interoperability Forum (IIF), has long been a leader in the development of IPTV standards. This partnership allowed the IIF to test key base protocols for a scalable IPTV service in a realistic network context and gain valuable feedback to ensure the standards satisfy key carrier requirements.

The use of IPSec Virtual Private Networks (VPNs) to connect GMI 2008 host sites also broke new ground. GMI 2008 involved four major carriers based in China, Europe and the US, as well as a US Government agency test lab and a university test lab. The sites were linked using a mesh of VPNs, providing connectivity between all sites for the duration of GMI 2008. While previous GMI events relied on costly leased line connections, the use of VPNs provided increased flexibility, allowing the GMI network to be configured and quickly reconfigured, to maximize testing effectiveness. The use of VPNs also made it possible to provide secure remote access for vendors. This enabled each vendor to remotely manage their equipment, and provide direct test access for engineers back at their home labs as necessary.. Such flexibility also allowed the network to be quickly reconfigured to support ad hoc testing of security and robustness.

GMI 2008 demonstrated the maturity of the core IMS protocols, but it also identified issues such as limitations in roaming support. A number of implementation issues

were also discovered that complicated interoperability and were sorted by using the Session Border Controller to normalize protocols. In general, these problems did not lie with the underlying IMS protocols, but were related to incompatible use of private headers (IETF P-Headers).

One important test scenario addressed the interaction of web-based services with IMS. Carriers are increasingly focused on Service Oriented Architecture (SOA) since it will allow them to leverage the innovative services being created by the Web development community, and also allow the Web development community to leverage IMS capabilities. The Parlay-X API interfaces under test were found to be highly interoperable between vendors; however GMI results suggested that implementations of the ISC interface between the SOA Gateway and the IMS core still include vendor-specific restrictions. This reflects the maturity of the products, rather than the standards.

Summarizing the event's success, Roger Ward said: "Calls were successfully established across all access types and between most combination pairs. Roaming was also successfully tested for most relevant access types. Though essential standards are increasingly mature, the overall architecture remains complex, and requires significant local configuration. Events like GMI highlight such difficulties and prove the validity of the MSF approach to developing Implementation Agreements as an aid to achieving multi vendor interoperability."

### **About the MSF**

The MultiService Forum (MSF) is a global association of service providers, system suppliers and test equipment vendors committed to developing and promoting open-architecture, multiservice Next Generation Networks. Founded in 1998, the MSF is an open-membership organization comprised of the world's leading telecommunications companies. The MSF's activities include developing Implementation Agreements, promoting worldwide compatibility and interoperability of network elements, and encouraging input to appropriate national and international standards bodies.

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