

## In this issue

Letter from the President

What the host site carriers say

More on the six scenarios

Q2 Technical committee meeting

News from IMS 2.0 World Forum

Leading carriers sign up for GMI 2008

## Short takes

Alcatel-Lucent selected by Belgacom

## Members in the news

Any volunteers?  
We're still waiting

## Upcoming events

### MSF Technical Committee Meetings

Dublin, Ireland. July 8-10

Nassau, Bahamas,  
December 2-4, 2008

## Other events

**NXTcomm 2008,**  
June 16-19, 2008, Las Vegas

# MSF – We Make Next Generation Networks *Work*

## Letter from the President

Dear MSF Member,

GMI 2008 is rapidly approaching and I am pleased to be able to report that the MSF is well on course to deliver another standout globally significant industry event. This, our 4th bi-annual event will see many more technologies & services demonstrated in a networked distributed test environment comprising five host sites: Verizon, NCS and UNH-IOL in the USA, BT/Vodafone in Europe, and China Mobile in Asia. As this edition of the newsletter coincides with the formal press launch of the event, you will find short articles on the reasons why our major carrier members have chosen to invest in the MSF & participate in this event.



Conducting multiservice interoperability in “real world” scenarios distributed across a global network at test facilities hosted by major carriers is a significant achievement in itself. That we have the project management skills & industry leadership to do this and attract not just one but two new host sites gives us a great sense of pride. The fact that China Mobile has joined the MSF is important, not only because they are an important carrier in a huge market, but also because it is clear recognition of the value of our GMI Programme and our success in validating the core capabilities of IMS in GMI2006. That recognition of our work is also shared by the US Government National Communications System (NCS), our second new GMI 2008 host site provider – a clear testament to the ability of the MSF to help collaboration across globally distributed industry players.

What else? Well, our GMI 2008 programme incorporates test scenarios such as location-base services and IPTV that have media appeal. On Thursday May 15, we held a very successful Web-based press conference to formally launch the commitment of our carrier hosts to GMI2008. Next Generation Networks (NGNs) have been widely (and at times wildly) misunderstood by most of the media in the past: now we have a lot of very positive news to report on the work of the MSF. Our ability to demonstrate how key NGN network elements can be brought together in a globally distributed industry showcase is unique and the lessons learnt will deliver great benefit to the industry's ability to deliver converged services across a range of wireless and wireline access network technologies, from the traditional baseband to the emerging broadband technology such as WiMAX.

We've been working hard for the last 12 months and now all systems are go for GMI 2008. The carriers are on board. The test scenarios are being readied.

All that remains now is for vendors to sign up! The relevant documentation is available at:

[http://www.msforum.org/interoperability/MSF Participant Contract Final Revision.pdf](http://www.msforum.org/interoperability/MSF_Participant_Contract_Final_Revision.pdf)

and

[http://www.msforum.org/interoperability/GMI 2008 NDA FINAL 11Feb08.pdf](http://www.msforum.org/interoperability/GMI_2008_NDA_FINAL_11Feb08.pdf)

I look forward to seeing you all at our next meeting in Dublin, Ireland 8 – 10 July 2008. Best wishes,

Roger Ward, MSF President

Please continue to send your MSF inputs to [bob.emmerson@melisgs.nl](mailto:bob.emmerson@melisgs.nl).

## What the host site carriers say

### China Mobile

GMI 2008 is very important to China Mobile. Joining this event allows China Mobile to establish a test network with other host-sites and that gives us the 'real-life' roaming and nomadic environment that will help accelerate interoperability between different carriers.

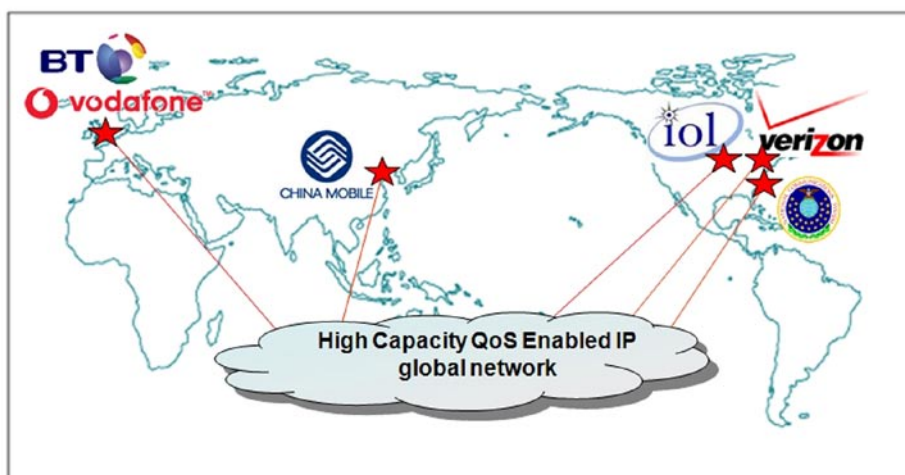
The most important difference between telecommunication networks and Internet is the guaranteed QoS. The end-to-end QoS test scenario in GMI is the best way to validate QoS solutions within an IMS Core network, especially under the demanding conditions of long-distance roaming environments.

### NCS

NCS (National Communications System) provides US nationwide prioritized emergency communications services. The organization participates in the MSF in order to help members understand the priority communications requirements for the NGN. NCS works with vendors at GMI events to demonstrate the interoperability of priority communications under congestion conditions and in GMI 2006 the organization successfully demonstrated priority voice and video sessions in the IMS core network.

The benefits of participating in GMI 2008 include understanding the QoS capabilities being demonstrated in the GMI 2008 access tiles and demonstrating ETS (Educational Testing Service) capabilities under GMI QoS scenarios. The resulting information will be used to refine the Industry Requirements (IRs) IMS Access Networks documents being developed by the NCS. The IRs will be then be fed into the appropriate SDOs.

## GMI 2008 Host Sites



*A picture is said to be worth a thousand words. In this case it's a visualization of the unique way that the MSF conducts multiservice interoperability in a "real world" global network.*

**A Global Networked Test Environment**



## UNH-IOL

The University of New Hampshire InterOperability Laboratory (UNH-IOL) sees GMI 2008 as an opportunity to help the industry foster and adopt quality, interoperable NGN and IMS solutions. We are excited about joining forces with the MSF and look forward to working with the other carrier and government labs that are hosting this year's GMI.

As part of the network design team, the UNH-IOL also views GMI as a chance to expose undergraduate and graduate students to the on-going technical advancements in the telecommunications industry through practical, real-world deployment scenarios. GMI 2008 gives us yet another opportunity to test today's networking equipment with the engineers of tomorrow and in that way help educate the next generation of industry professionals.

## Verizon

GMI is very important to Verizon. These events advance the implementation of industry standards and are very useful in assessing the maturity of IMS services and applications and other next-gen network technologies. With reference to GMI 2008 Verizon has provided input on a number of areas including IPTV, SOA, Charging, IMS transit network, QoS, and network and service management.

IPTV is particularly an important area of GMI 2008. Verizon wants to find out the additional interfaces and devices that would be required for evolution of the NGN to support IMS-based Video services. Verizon also wants to explore the architecture for and potential of SOA since it allows carriers to offer a wide range of services. SOA is an architecture paradigm that enables components from both IMS and non-IMS infrastructures to be used as part of new application/service developments.

The importance of charging is self-evident and we need flexible charging models. IMS transit networks are relevant from the wholesale traffic perspective. The importance of QoS is also self-evident: it provides a way of service differentiation and a good QoE is mandatory for multimedia services such as IP Video.

## Vodafone

The GMI Event provides something that other Test Events do not provide. GMI is structured to run in a "real-life" deployment strategy that takes place in multiple sites around the world. This gives us the ability to fully prove "real-life" roaming and nomadic scenarios that are not proven in other test events.

The combination of BT and Vodafone co-hosting a site within the UK proves that there is a drive for Fixed Mobile Convergence with two major carriers working together to provide interoperability within a single IMS Core Network solution.

## *More on the six scenarios*

Details of four of the six test scenarios were not available when the last newsletter was issued. In order to provide a full overview we have included a summary of scenarios three and five, which were covered earlier.

### 1) End-to-end session control

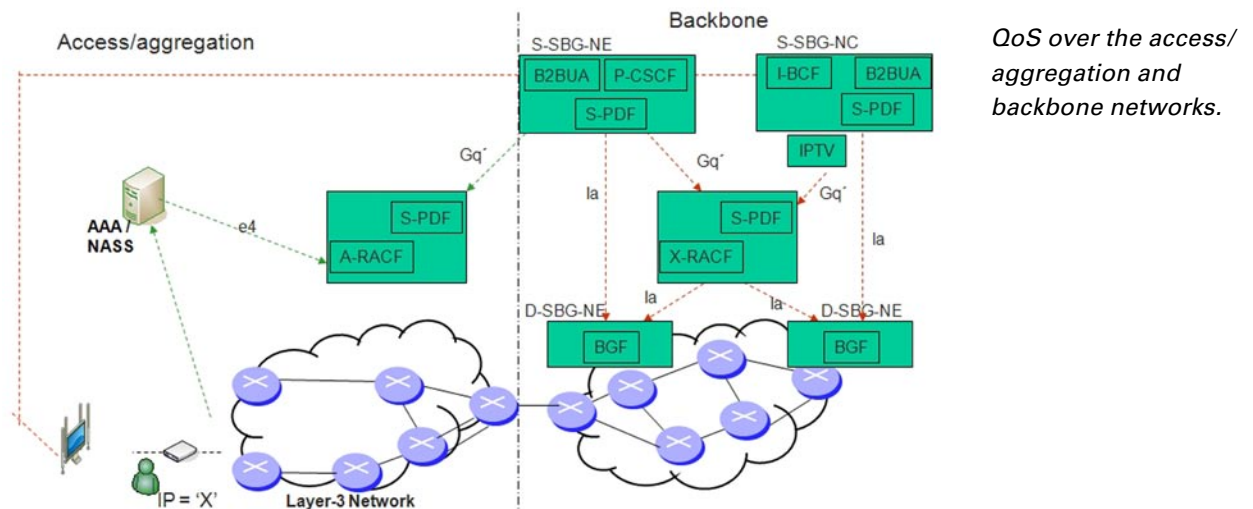
Information on this test scenario was not available at the time of publication. We hope that we shall be able to include it in the next issue.



## 2) End-to-end QoS

In earlier GMIs the requisite standards were not in place so we were limited to QoS tests based on a B/W Manager sitting in the SIP signaling chain. The current situation is different: ETSI TISPAN specs have emerged and the MSF has endorsed them and included them in S2. Because those specs are fairly new, most tests have focused on the SIP session signaling without worrying about the associated QoS signaling (based on DIAMETER & H248).

In the GMI 2008 scenario we are making these assumptions: (1) the access/ aggregation network is handled by an independent operator; (2) the access network is IP based and the access provider is responsible for DHCP and AA; (3) the P-CSCF is in the core domain; and (4) no BGF in the access domain. With respect to the QoS architecture the proposed scope is: (a) IMS and non-IMS services; (b) a multi-service IP network (no stove pipes); (c) QoS control over access, backhaul, core and interconnect; (d) unicast and multicast; (e) fixed and mobile; and (f) independent SP and NP.



The physical components and IAs for testing include: Network Attachment covering NASS; CLF, NACF, UAAF, PDBF, AMF, TC-7 (e2) Diameter, TC-8 (e4) Diameter. RACS (SPDF and X-RACF); TC-0 (Rq and Gq) Diameter, TC-9 (Gq/Rx/Tx) Diameter, TC-10 - XML/SOAP. And Split SBG; S-SBG (P-CSCF + SPDF), D-SBG (X-BGF), TC-1 (Ia) - H.248.

## 3) Adding IPTV

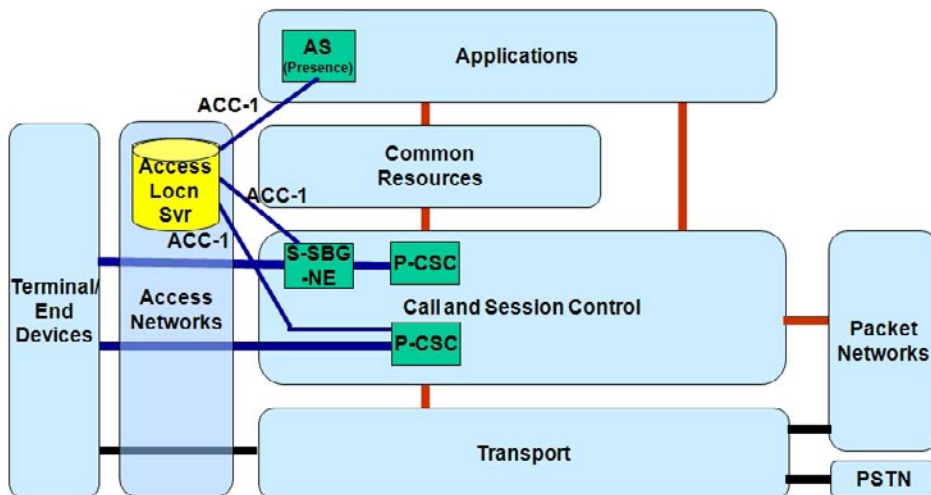
This is a short summary: see March-April newsletter for details. This scenario outlines the test plans for priority video services that employ the MSF QoS infrastructure. Seven service scenarios have been defined according to MSF IPTV UE authentication and registration

## 4) Location-based services

This is the issue that this test scenario addresses:

The terminal location in PSTN networks was traditionally determined by using the caller line identity (CLI) which has geographic significance and can also be cross referenced to the network provider's customer database. Within NGN networks, location identification becomes more difficult because the terminal can attach to different points in the access network and the IP address is lost in the first SBG. Because of mobility or nomadicity, the location is no longer linked to the CLI. Currently network applications have no information other than the CLI, which means the location cannot be determined without additional network information.

## Proposed Architecture



*Access Locations Server and Presence Server components have been added to the MSF architecture to facilitate the verification of the user location and allow this information to be utilized within the network.*

The solution adopted by the MSF will work synergistically with the work of other organizations such as NENA and will make use of the standards that are already in place: IETF (RFC 3455 and RFC 4119); ATIS/NENA (an architecture for location information for emergency calls); and ETSI TISPAN (RES/TISPAN-02045-NGN-R2).

### 5) Service oriented architecture

This is a short summary: see March-April newsletter for details. This Implementation Agreement (IA) defines a profile for the interface between the SOA gateway and Web Services Applications. The intent is for this interface to include a range of APIs, however the initial focus will be on Parlay X APIs.

### 6) Management

Information on this test scenario was not available at the time of publication. We hope that we shall be able to include it in the next issue.

## MSF Q2 Technical Committee Meeting



*Shanghai, April 1-3. The MSF Q2 Technical Meeting was sponsored by China Mobile. Roger Ward, MSF President is standing right of center; Zhang Hao, Project Manager at China Mobile, is standing on the left.*

## News from IMS 2.0 World Forum

### BT calls for a pragmatic approach to developing IMS services

Dave Elmendorf, Director of Voice and Multimedia at BT: *“Service providers should have a pragmatic approach to IMS by putting services and not networks at the centre of their attention.”*

Elmendorf described how BT is entering the 21 CN era by completing its transition from network operator to service provider. *“IMS has become the key enabler for a universe of communication applications together with an enhanced service delivery framework.”* The 21CN Approach comprises a standard based development with pick and mix reusable software components, services formed on specific customer segments (the long tail) and the BT service design. To achieve this, 21CN is bringing Web 2.0 into telecoms and it is undergoing a radical transformation from a legacy approach to a platform/software approach and from system integration to service design and software assembly as the company’s core competency.

Elmendorf believes that service providers do not need to build all services and should work with third parties by opening up their network resources to external development. *“We have our service delivery kit (SDK), which is used by 7000 registered users. They are the service creators. Our SDK provides an environment in which all users are using the same component for the same network. We are developing a rapid service implementation model and in this environment the evolution towards IMS is a pre-requisite to have a rich service portfolio.”*

Many times IMS has been described as a technology in search for a killer application but Elmendorf does not agree. *“The killer application is ‘change’. You must have the ability to evolve very quickly and develop the components that you have just built. Agility is a key factor”.*

### IMS is alive and well but still needs a few fixes


Despite apparent setbacks in the past six months or so, all appears to be well with IMS vendors.

Announcements made at the end of 2007 that major IMS proponents, such as KPN and France Telecom, were scaling back their IMS strategies to varying degrees seemed at the time to be the sound of nails being hammered into the IMS coffin.

Even before those announcements were made, it had become clear that, in common with most other technologies in the telecoms space, the embryonic IMS architecture had been grossly overhyped by vendors and that its importance, in the short-to-medium term at least, was going to be far less than had been anticipated, and certainly in the case of KPN, more immediate competitive concerns have taken precedence.

Also, it is now an accepted fact that not every service in the all-IP, NGN world of the future will need to have the full might and versatility of IMS behind it to deliver the goods, and the business case for full-scale implementation might not add up for every operator. However, the general mood at IMS 2.0 World Forum, put on in Paris by Informa Telecoms & Media, was one of pragmatic optimism.

It was acknowledged by a number of delegates that the business case for IMS rests on predicted, long-term OPEX savings derived from the availability of reusable components for as-yet-unknown services. There was also some discussion about where in the NGN environment IMS will eventually rest, but there were clear signs that faith in IMS is stronger than ever. Even leaving aside the large increase in the number of delegates attending the event compared with previous years, signs of progress were obvious, not least in the topics being discussed.



There are still some formidable challenges to be overcome if the development of IMS is to reach fruition, but, significantly, the debate has shifted away from structural and component issues. Interest was high, even in the final hours of the three-day conference, in issues such as the availability and form factor of IMS terminals.

## **Leading Carriers sign up for GMI 2008**

### **BT/Vodafone, Verizon, China Mobile, NCS, ETRI, and UNH-IOL join forces to create global, multi-vendor test environment**

**Fremont, CA, May 14, 2008** This is an edited version of the press release.

The MultiService Forum (MSF) today announced the full list of carrier, government, and academic laboratories that will host the latest Global MultiService Interoperability (GMI) 2008, a worldwide interoperability test event for next generation networks (NGNs). In Q4 this year, Verizon, NCS and UNH-IOL in the USA will work with BT/Vodafone in Europe and China Mobile and ETRI in Asia to create a “real world” global network to verify the interoperability of critical NGN elements in a range of practical scenarios. Building on the success of GMI 2006, this year’s event includes additional test laboratories, enhanced test scenarios and a wider range of service capabilities including end-to-end Quality of Service (QoS), Location Management, IPTV, and Service Oriented Architecture (SOA).

“We are delighted to welcome onboard China Mobile and the USA’s National Communications System (NCS) for GMI2008” commented Roger Ward, Office of the CTO, BT Group and President of the MSF. “As NGN technology matures, carriers are increasingly focused on the details of multi-vendor interoperability and GMI 2008 will provide a unique opportunity for suppliers to demonstrate their ability to develop products that meet this challenge in real world networks”.

Building on previous GMI events, GMI2008 is based on the MSF R4 architectural framework that encompasses an IMS network along with NGN components such as call agents/softswitches for handling earlier VoIP infrastructures. The open interface reference points within the MSFR4 architecture are documented as MSF Implementation Agreements, which are based on, and are endorsements of, the relevant specifications from 3GPP and other international standards organizations.

Six key scenarios, defined by the MSF Technical Committee, will be validated in the event. Scenario one will focus on end-to-end session control across all supported access networks. Scenario two will test end-to-end QoS in both the access networks and across the core architecture. In scenario three, IPTV is added as a highly demanding IMS based application – the first such industry demonstration of its kind. Scenario four builds on Scenario two by adding location-based services and incorporates work done in TISPAN NASS and IETF to enable precise location information to be used with emergency calls, location based routing and prioritized call queuing. Scenario five adds a Service Oriented Architecture (SOA) service layer to demonstrate how a SIP/IMS-core would interoperate with Web based services. The sixth and final scenario focuses on the performance management of IPTV services and remote management of the IPTV CPE devices.

As successful deployment of IPTV services is dependent upon the network providing end-to-end QoS, the ability for the operator to be able to deliver and monitor QoS related metrics in a multi-vendor environment is essential. As Jack Douglass, Director of Video Technology at Spirent Communications pointed out: *“A comprehensive system for analyzing IPTV quality should take into account both video and audio quality and should have a close correlation to perceptual quality. It is essential that the system measure IP network impairments, content metrics and ETSI TR101-290 parameters and include these attributes when calculating the video and audio MOS scores.”*





## *Short takes*

**Alcatel-Lucent** has announced it has been selected by Belgacom as its technology and network integration partner to design, integrate, and deploy an end-to-end multi-vendor IMS solution. The platform will enable Belgacom to support and further develop a variety of fixed and mobile services including VoIP and multimedia communications for both residential and business customers.

The company will deliver a complete IMS applications and core network solution, based on a standard architecture, incorporating products from Alcatel-Lucent and partners. These include application servers, session controllers, home subscriber servers, session border controllers and network/service management functionality.

## *Members in the news*

In future issues of this newsletter we shall be doing short interviews with MSF members who have made a particularly significant contribution to the program. So, watch this space and get in touch with Bob Emmerson if you would like to be included.

