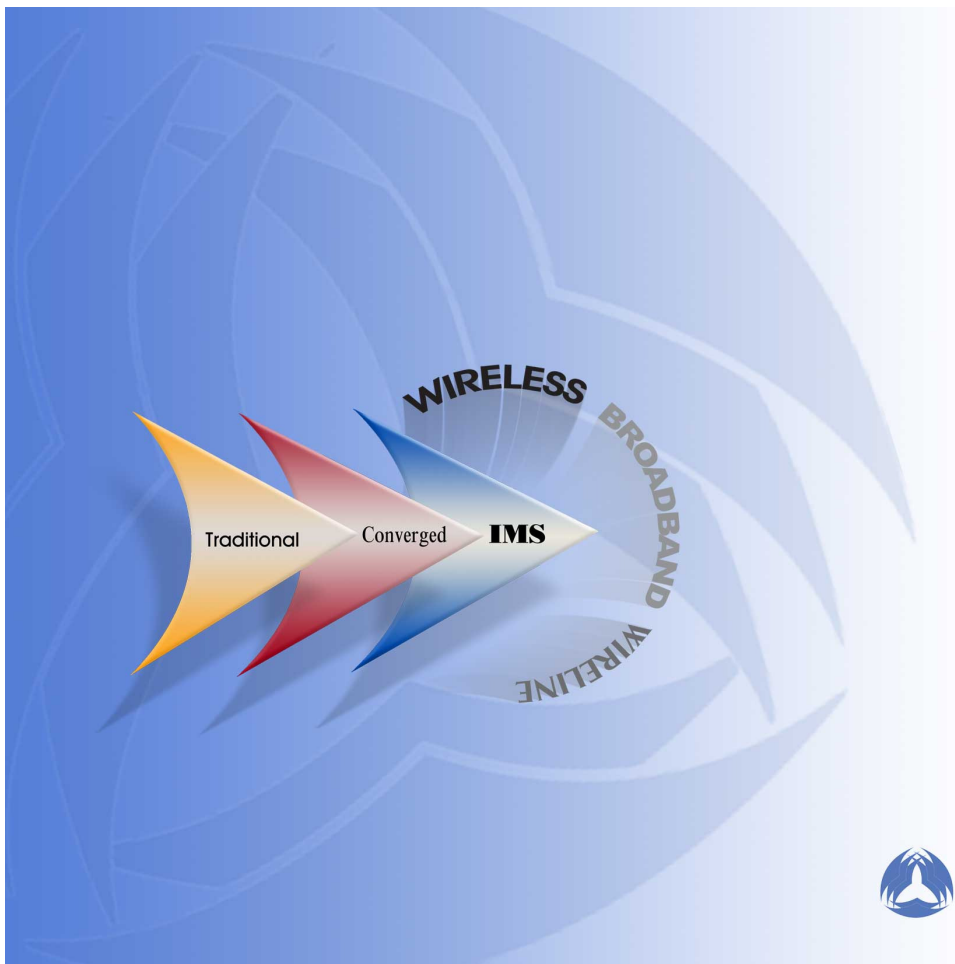


# Importance of True Interoperability if IMS is to be Deployed in 2007

Fierce Wireless Friday Feature  
Published May 12, 2006  
[www.fiercewireless.com](http://www.fiercewireless.com)

By Arun Handa  
CTO



## Importance of true interoperability if IMS is to be deployed in 2007

At a casual session with some friends from the wireline VoIP network side, an interesting remark came out. “We have already borne the brunt of setting up SIP networks, why do you wireless folks have to worry about interoperability issues with SIP based IMS networks. You have a well defined architecture based on best of breed solutions, working now with Push-To-Talk and Video. It should be easy sailing for your deployments”. Having returned from a recent interop event, I could not help thinking how true in fact the opposite is.

While I truly give credit to the VoIP industry that put together solutions based on de-facto standards that were spurred by innovation in evolving an ad-hoc network. Further, it is true that the IMS is a standards based approach that has been harmonized and blessed across various standards bodies. Nonetheless interoperability continues to be a paramount issue especially if we are looking for a fruitful completion of the currently ongoing trials into deployments next year. I can give ten good reasons for why interoperability will be critical in successful IMS deployments.

1. **Truly disruptive:** While IMS is not a technology and a lot of principles have been embodied from best of breed approaches in wireless and IP networks, it is disruptive in terms of a complete operational profile. A new paradigm of the signaling and control-plane, charging methods, subscriber identity and trusted network needs to interoperate with an existing traditional operations model.
2. **Multi-Vendor participation:** The trend in the telecom industry has been towards migrating from vertically integrated solutions from a single vendor to a horizontally integrated solution across multiple elements and vendors. This has given the service providers the leverage over cost and getting a best of breed solution. Since IMS fits into this continuing model of evolution, with lowered capex/opex being significant drivers, the multi-vendor environment is an accepted norm. More so, the major players in the traditional network have been looking to innovative startups to fill the gaps in this new IP architecture. A multi-vendor ecosystem now needs to be well qualified to make it work.
3. **Multi-technology – beyond SIP:** While the IMS is purely a reference architecture, it is coalescing a bunch of technologies. This is the first leap to multimedia realization. In contrast to the incremental build up of VoIP to Quad-play, IMS is integrating voice, data, video, wireless and mobility with a set of converged technologies. Not all technologies however, have been proven to work together.
4. **Not all protocols have been interoperated:** While SIP has been fairly weathered now with sizeable fielded implementations and a history of multiple interop events, the peer protocol - Diameter is fairly in its infancy stage. The protocol that performs the pivotal functions of subscriber access, charging and

policy lacks deployed product installations and interops have just started since its acceptance by 3GPP almost two years ago.

5. **Semantic gap between researchers and implementers:** True the IMS has been based on standards, but one thing to realize is that the standards are mostly put together by ace researchers. While these smart folks have figured out the nuances of putting things together and making them work, when it comes to deployment, there is a different set of challenges.
6. **Interpretations from different camps:** This is where the fun begins. IMS is the ultimate paradigm of convergence. This opportunity for convergence brings in the players from different networks. Folks from the IP world are converging with wireless, traditional telco, cable services. Everyone has a different interpretation of standards based on which ever camp, they come from.
7. **Introduction of convergence boundaries:** Interoperability has been traditionally viewed to be solved at the functional element level. IMS introduces the concept of multiple levels of convergence.
8. **Reuse of existing infrastructure:** Few vendors have implemented the blobs shown in the IMS network architecture from scratch. In other words vendors have evolved existing HLRs to HSSs, Call agents to CSCF, Web servers to App servers and SBCs to P-CSCF. With reshaped elements, it becomes essential to make this interworking real.
9. **Orchestration of new network elements:** In an existing network replacing an existing class-4 switch for example with a softswitch or setting up an SBC for edge access was a contained task. This becomes fairly intense now that a complex orchestration of several new functional elements needs to be put into place to deliver a complete service
10. **Service interaction:** Another challenge that IMS brings, relates to service convergence. Inter-working between legacy, VoIP, internet and new IMS services now needs to be done seamlessly. So how does a simple service like SMS work in conjunction with an IMS network? Unfortunately that is not articulated in the standards.

To summarize – Interoperability in the IMS goes beyond in just making two network elements communicate. It traverses across convergence boundaries, service interaction and a new operational paradigm. While the current set of IMS trials highlighting a particular application has been successfully demonstrated by a closed vendor ecosystem, to realize the full potential of IMS services, innovation from multiple vendors an interoperable ecosystem is essential. We are looking at interoperability cycles of 12-18 months, so if deployments are planned for 2007, then interoperability testing starts NOW.

## About IntelliNet Technologies

Headquartered in Melbourne, Florida with offices in Bangalore, India, IntelliNet Technologies is a leading provider of next-generation network convergence and application development solutions for PSTN, cellular, wireless and IP Multimedia Subsystem (IMS) networks. Major equipment vendors, application developers and global operators currently use IntelliNet's products for prepaid, location services, messaging and fixed mobile convergence. Additional solutions include: mobility, fraud management, and network bridging applications including SS7/IN, SIGTRAN, DIAMETER, SUPL, SIP and other emerging signaling protocols. For more information please visit: <http://www.IntelliNet-tech.com>

Copyright 2006 IntelliNet Technologies, Inc. All rights reserved.  
IntelliNet Technologies, IntelliSS7, Accelero and Convero are registered trademarks of IntelliNet Technologies, Inc. United States and or other countries