

Convergence within a Next Generation Network: the role of IMS

Key Messages

- Testbeds and software toolkits, optionally based on open source, represent a means to gain experiences and confidence in IMS.
- Research & Innovation are not linear, good ideas can come from any point in the spectrum, only by embracing all of the areas can one achieve real success
- Given the open-source tools and supports available, there is a real opportunity for SME's to benefit by exploiting Next Generation Networks (NGN) and IMS based applications.
- Ericsson Mobility World Centres offer a variety of supports for developers working with IMS.
- There is a movement towards free voice services over networks and revenues are likely to be driven by added-value services.
- Assistance with all aspects of licensing is available from Enterprise Ireland's TechSearch service www.techsearch.ie

Background on IMS

The Innovation Relay Centre at Enterprise Ireland hosted this Technology Roadmap Seminar where Prof Thomas Magedanz and other influential speakers presented an insight into the latest developments in next generation networks and the pivotal role IP Multimedia Subsystem (IMS) plays.

The IP Multimedia Subsystem (IMS) is based on the concept of an integrated network of telecommunications carriers that would enable the use of Internet Protocol (IP) for packet communications, such as wireless and landline communications. This includes telephony, fax, e-mail, Internet access, Web services, Voice over IP (VoIP), instant messaging (IM), videoconference sessions and video on demand (VoD).

The concept of IMS originated in the late 1990s as part of a plan for worldwide deployment of mobile

telecommunications networks that would interface with the public switched telephone network (PSTN). IMS is part of the Third Generation Partnership Project (3GPP).

IMS could offer the ultimate convenience for users - flexibility and expandability would allow vendors to bring new services online as they emerge, without the need for subscribers to change providers.

Driving Global IMS Developments

Prof. Dr. T. Magedanz of Technical University Berlin / Fraunhofer FOKUS was the key note speaker at the seminar and he spoke of IMS as an NGN (Next Generation Networking) platform and the role of the FOKUS Open Source IMS Toolkits and Open IMS Testbeds in facilitating global IMS developments.

Prof. Magedanz outlined the complexity of the IP Multimedia System (IMS), as it merges technologies from Telecommunications, the Internet, Entertainment and broadcasting and Information Technologies for programming services. While IMS may act on various IP-based bearer networks, interworking and migration from circuit switched networks is mandatory. Future business models for networks and services in the convergence market is unclear and as a result investments from vendors and Telco's are limited. Essentially IMS is not fully understood by the affected industries and Testbeds and software toolkits, optionally based on open source, represent a means to gain experiences and confidence in IMS.

The FOKUS Open Source SIP Express Router has paved the way for high performance low cost VoIP solutions while the FOKUS Open Source IMS (OSIMS) Core System represents an evolution of SER in face of the extended IMS scope compared to VoIP.

Also add-on modules enable the rapid implementation of IMS environments and applications. OSIMS forms the heart of the globally recognised "Open IMS Playground" at FOKUS.

Companies are invited to start their own Testbed by downloading the OSIMS core today from www.openimscore.org . Also for more information visit www.fokus.fraunhofer.de/ims

TSSG Overview and the IMS ARCS programme

Robert Mullins of the Waterford Institute of Technology Telecommunication Software & Systems Group (TSSG) outlined the structure of the TSSG and the activities it undertakes. TSSG is a large research centre with over 40 active projects, another 40 completed projects, 120 active staff and students, and over €40Million in funding (1996-2007). The TSSG's research focus is on the dramatic changes occurring in the telecommunications software industry, and indeed on the wider converged communications industry, particularly in managing networks and in developing innovative new services for those networks.

The organisation, with funding from Enterprise Ireland and EU eTEN, supports activities across the full spectrum of the innovation lifecycle, from basic research through to spin-out companies and IP transfer. It has had a major impact on the pre-product development and commercialization of a wide variety of product groups, research projects and innovations and ultimately between 7 and 10 spin-off companies have been formed. Robert says that one of the key learnings has been that "Research & Innovation are not linear, good ideas can come from any point in the spectrum, only by embracing all of the areas can one achieve real success."

Robert also outlined the IP Multimedia Subsystem Advanced Research Cluster for Services programme-IMS ARCS. This has 6 key objectives

- To develop Centrally Administered Market Intelligence
- To identify, prototype and develop new IMS communications services with complete business models & value propositions
- The development of service enablers and prototypes

- To develop a service enabling framework for specification, creation, development, discovery, delivery and retirement of services
- Market validation and industry input throughout the programme
- To offer a concentration of commercial and academic excellence
- To establish a National Centre of Excellence for IMS Services

Ultimately successful projects which are supported under the programme will generate IP and contribute to the technology transfer process. The TSSG Contact point is:

Kevin Doolin,

kdoolin@tssg.org

and the EI Contact points are:

Ray Richardson,

Ray.Richardson@dayshaconsulting.com and

Gearoid Mooney

Gearoid.Mooney@enterprise-ireland.com

Triple Play to Single Service – Voice, Video and Data

Santanu Mazumdar is Technical Director of 3PlayPlus Ltd, an Irish company

founded to provide Triple Play services to the Irish residential and business market. The company is working with CSICS (Circuit Switched IMS Combinational Service) and Santanu outlined the concept of CSICS, which is to combine simultaneously used CS call and IMS based services in such a manner that the subscriber will perceive them as single service. A simple example of the combinational service is the combined video and speech session in which the voice part is a regular circuit switched voice call and the video part is provided as an IMS based service.

Santanu outlined the challenges for the business and the technology as follows;

The complexity of interaction with supplementary services

Impacts on other services

- Support of Teleservices(e.g. SMS) during a combinational service

- Support of Location Services during a combinational service
- Charging aspects—charging information on the CS call and IMS session
- Provisioning— there should be no additional requirement on the operator **www.3playplus.ie**

IMS – The Power to Innovate

Paul Savage of IMS Stream outlined the numerous innovations that IMS brings to the table. These include Cost innovation as IMS delivers existing services more cost effectively, Usability & accessibility innovation by overcoming the usability barrier, Sales innovation, by selling an existing service to a new market and True innovation, i.e. providing brand new services that IMS makes possible e.g.. Service Capability Interaction Management (SCIM).

SCIM functionality facilitates innovative, revenue generating services with enhanced usability, increasing subscription revenue and network traffic. It bridges the call-control to web gap, enabling web service integration and mobile-to-web mash ups. It breaks down today's barriers to service access. It allows web developers to create and deploy IMS services without the need for in-depth domain knowledge - creating richer, more compelling services enabling collaboration and social networks.

Paul outlined a variety of examples of the application of this technology including Mobile White boarding where you can illustrate an idea to a colleague remotely on a whiteboard which he/she can watch on a PC or mobile and Intelligent Conference Calling where the call only activates once all participants are logged in.

psavage@ims-stream.com

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Pedro Duque of WeDo Consulting, part of the largest Portuguese non-financial company Sonae Group, outlined how IMS is essentially the best of two worlds, merging the telecommunications world with the internet world, to converge to a single core network

based on IP. Pedro discussed the BEA WebLogic SIP Server, a standards-based Java platform for rapid development and deployment of Next Generation real-time communications applications/services. This offers real-time multi-media service creation and execution. The business benefits include a reduced per-application cost, increased speed-to-market, hosted applications offering high-performance, secure and scalable solutions and out-of-the-box compliance with most relevant standards.

Ultimately Pedro outlined his belief that IMS offers a real opportunity for SME's given that no specific hardware is needed and there are lots of open-source tools available - Ericsson's IMS Application Expert Centre is an invaluable resource.

www.wedoconsulting.com

IMS – Simplified Communication in a Complex World

Zak Sherlock, Business Development Manager (Multi-media and Convergence), Ericsson discussed the Success Drivers for those working with IMS in a recent survey (Attitudes to IMS, from IMS Insider) and the most critical of these was considered to be the identification of compelling IMS-enabled propositions i.e. Applications.

The Ericsson Mobility World Centres assist developers to create, verify and market applications in co-operation with existing BEA, Intel and SUN's ISV programs. Developer support available is comprehensive and includes

- Technology introductions
- Getting started
- Technical documentation
- Software development tools
- Technical training & education
- Newsletter with 65 000 sub's
- Discussion forums
- Development advice & support
- Seminars & events
- Case studies
- Test Lab facilities

Ericsson also offers access to IMS Service Development Studios, which can save design and deployment time.

To become an Application Partner to Ericsson, there must be a mutual business interest, a partner evaluation, a signed marketing co-operation agreement and the implementation of internal and external marketing activities. To date there are 37 contracts and over 80 trials in place. For more information, visit www.ericsson.com/mobilityworld

MySay has the last word

Sean O'Sullivan of Rococo outlined the services offered by the company which includes Telecoms, Handset and Voice/Web applications. Rococo works with Web 2.0 and Voice 2.0. Voice 2.0 is a Voice centric telephony service that integrates web functionality with the phone system to deliver new services. Rococo has leveraged off these technologies to launch a variety of services, including their own business, mysay.com - the website which allows callers to phone and leave a message which site visitors can listen to.

Other sites include jangle.com, where a visitor can get a number and control who calls that number – the visitor's real number is not revealed and chinswing.com which facilitates discussion fora through voice, instead of text.

Sean outlined the trend towards free voice services across networks, with added value services driving revenues. Operators can benefit from Web 2.0 momentum by innovating rapidly and creating services "from the web side". Partnering may help to accelerate this process. SOA and IMS will help to ease operator integration. www.rococosoft.com

Online Tools

Jim Cuddy, Manager for Innovation and Technology Transfer at Enterprise Ireland, concluded the day by re-iterating the supports available for companies eager to explore the technology licensing option.

- www.techsearch.ie is EI's licensing website which provides information and on-line tools to inform the licensing process.
- Technology searches can be performed on-line through the site using a simple keyword process, or companies can contact the TechSearch team for one-to-one assistance.
- Financial supports for licensing and technology acquisition are available through the RTI scheme (for R&D), the Productivity Improvement Fund (for market-ready new products and technologies) and Exploring New Opportunities (for market research and feasibility).