1st FOKUS FUSECO Forum
on Future Seamless Communication

Berlin, October 14 – 15, 2010

PROGRAM
Welcome to the 1st FOKUS FUSECO Forum

We hope you have two inspiring days and enjoy the event!

Words from the Chair

Dear FOKUS Family and Friends, Ladies and Gentlemen,

The famous IMS workshop series is history. Looking back at five very successful editions of this workshop we carefully reviewed the growth of the content areas and the status quo of IMS technology and services.

We could have easily continued this workshop series as IMS technology is going to be deployed globally these days. But we have a mission at FOKUS considering us as pioneers and missionaries for emerging technologies.

We at FOKUS have started to work on EPC (Evolved Packet Core) two years ago and we are proud to provide today the OpenEPC toolkit to implement EPC-based testbeds, such as the Future Seamless Communication FUSECO Playground.

So we feel it is time to start again a corresponding workshop series to spread the knowhow about this promising technology, its potentialities and open issues. In this regard, we are going back to the roots of the IMS workshop series, by setting a clear technical workshop focus on an emerging key technology and enable a technical discussion among operators, vendors, integrators and researchers. We believe strongly, that many IMS researchers and developers will soon work on EPC and EPC-based applications, thus attendees of previous IMS workshops may also consider this event as the sixth edition. However, as we start something new, we call this new event series the FOKUS Future Seamless Communication (FUSECO) Forum.

Whether you are already part of the FOKUS family or whether you are visiting us for the first time, I am convinced, that you will enjoy two interesting days, where you will gain new insights, have interesting expert talks and make new friends from all over the world.

Yours sincerely,
Prof. Dr. Thomas Magedanz and the TU Berlin/FOKUS team
SESSiON 1 – Future Mobile Network Over Convergence: Network Evolution towards all IP
Mobile Network Evolution
Requirements as defined by the NGMN Alliance
Potential mobile broadband services
Related Fora and Standards
Service Architecture Evolution (SAE) – Evolved Packet System (EPS) Overview
Comparing future fixed and mobile network concepts

SESSiON 2 – E-uTraN: Long-term Evolution (LTE) Overview
LTE Motivation und Basics
LTE Standards Overview
LTE Air Interface
LTE architecture: components, interfaces, and interactions
LTE comparison with other access technologies (UMTS, WiMAX, WLAN)
Outlook: LTE Advanced

SESSiON 3 – 3GPP Evolved Packet Core (EPC) Overview
EPC Motivation and Basics
EPC key capabilities (QoS, charging, handover, security, IP connectivity)
EPC architecture for LTE (MME, S-GW, PDN-GW, PCC, etc.)
EPC architecture for other access networks (3GPP and non-3GPP)
EPC operations

SESSiON 4 – Applications over LTE/EPC: Telecommunications / IMS vs. ABC OTT
The Challenge:
Voice over LTE/EPC architectural options
IMS vs. always best connected (ABC) over the top (OTT) Internet
IMS as LTE/EPC common service platform: Standards and Service Examples (VoIP, RCS, IPTV)
Potential Over the Top Internet Services (Mobile Clouds, Telematics, Logistics, etc.)

SESSiON 5 – Enabling Future Seamless Communication Application Prototyping today
Motivation for open testbeds to accelerate future mobile network adoption and application prototyping
Experiences from the Fraunhofer FOKUS open technology testbeds and tool kits
The Berlin LTE advanced testbed
The OpenEPC testbed toolkit: The OpenEPC
The Future Seamless Communication Playground

SESSiON 6 – Summary and Questions & Answers

SOCiaL EvENT – Deutsches Technik Museum
Deutsches Technikmuseum
Trebbiner Straße 9
10963 Berlin-Kreuzberg
The Deutsches Technikmuseum is the place to find out about the history and science behind the appliances and things we use every day.
There are aeroplanes and ships to look at, and real railway locomotives. Watch a suitcase being made, or find out how jewellery is manufactured.
The shuttle for the social event departs from the front of the FOKUS building.
Pre-workshop 9:00 Registration

9:30 Opening Welcome from Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS

9:45 Session 1 – Competing Mobile Broadband Access Network Technologies
- Chair: Prof. Dr. Hans Schotten, University of Kaiserslautern
- VoIP Market Developments from an US perspective
  HP Baumeister, Fraunhofer Digital Media Technologies
- Remaining Challenges with LTE/EPS
  Franz Seiser, Deutsche Telekom AG
- LTE/EPC Rollout Challenges
  Peter Zibaren, Swisscom
- The Challenge of EPC and IMS Interoperability
  Giulio Maggioni, Telecom Italia/ETSI TC INT Chairman
- Questions & Answers

11:00 Session 3 – Vendor Panel: Standards, Products, and Business Cases for Future Seamless Communication
- Chair: Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS
- Panelists:
  Robert Stumpf, Accenture
  Sven Akesson, Ericsson
  Wolfgang Hummel, HP
  Cornel Pampu, Huawei Technologies
  Bernd Wunderlich, IBM Deutschland
  Thorsten Robrecht, Nokia Siemens Networks
  Alain Dabroux, Telekoc
- Questions & Answers

12:00 Lunch break and demos

13:30 Session 4 – FUSECO Telco Applications: Voice, RCS and More
- Chair: Hans Joachim Einsiedler, Deutsche Telekom Laboratories
- Mobile Broadband Services – First RCS Experiences from Japan
  Kazuyuki Kozu, DOCOMO Communication Laboratories Europe GmbH
- M2M Opportunities – Lessons Learned from the US Market
  Ronald M. Jubainville, Sprint
- LTE, PON/FTTH, DOCSIS 3.0 and the Business Opportunities for Service Convergence in Latin America
  Alfonso Ehijo, Telmex International/University of Chile
- Application Challenges for Operators
  Roberto Minerva, Telecom Italia
- Future Multimedia Services – Beyond Voice and RCS
  Eugen Mikoczky, F-Corn, Slovak Telecom
- Questions & Answers

15:00 Session 5 – FUSECO OTT Applications: Beyond Smart Bit Pipes
- Chair: Thomas Michael Bohnert, SAP Research
- LTE Enabling Over the Top Players
  Prof. Marc Drüner, trommsdorff + drüner
- Mobile Broadband Bitpipes for OTT Services
  Boaz Zilberman, fring
- Opportunities for Wholesale and Enterprise Operators
  Sebastian Krems, ITCom GmbH
- Cars and LTE: Beyond the Obvious
  Dr. Ralf G. Herrtwich, Daimler AG
- Monetizing Mobile Connectivity in the Collaborative Economy
  Philipp Freudenberger, SAP
- Questions & Answers

17:15 Demos

Closing and farewell Prof. Dr. Thomas Magedanz, TU Berlin/Fraunhofer FOKUS
Demonstrations

During coffee and lunch breaks, three different demonstrations will be available to forum guests. Please register for one of these demo slots at the reception desk. (All demonstrations run concurrently.) The meeting point is close to the reception desk.

Demonstration 1 — FOKUS building, foyer ground floor
Mobile Broadband Data Transport and Seamless Handover between LTE-A and WLAN
Future LTE-Advanced mobile communication systems provide for the first time efficient high speed broadband connections with low delay packet-based data access over wireless. Since frequency spectrum is limited, a combination of heterogeneous wireless access technologies is favored to provide QoS IP data traffic. The EPC allows connection of different access networks to provide seamless handovers between heterogeneous access technologies, e.g. LTE-A and WLAN handovers. In a second show case the Service Broker will use the ANDSF in order to receive knowledge about available access networks of customers. Furthermore, it will show how the user mobility between the access networks can be controlled by the service layer.

Demonstration 2 — FOKUS building, 2nd floor, foyer
QoS enabled Service Environment
The Internet of Content, Services and Things characterize the Future Internet. This will produce a new dimension of high data traffic, from less significant services (e.g. entertainment applications) towards high reliable and secure eHealth, eGovernment etc. applications. A prioritization of traffic is a common method to deal with such problems. But what could be done additionally? In our demonstration an interconnection between the IP connectivity layer and the application layer will be shown. The first demo scenario will show how the Service Broker is able to control the QoS of multimedia sessions by using the Rx interface in order to set certain requirements on the FOKUS OpenEPC environment.

In a second show case the Service Broker will use the ANDSF in order to receive knowledge about available access networks of customers. Furthermore, it will show how the user mobility between the access networks can be controlled by the service layer.

Demonstration 3 — FOKUS building, 1st floor, room 1008
Previewing OpenEPC Rel. 2
The OpenEPC Rel. 2 brings a set of new components and features, especially in the LTE area. As a part of joint project between Fraunhofer FOKUS and MERA, OpenEPC has been extended by MERA to contain prototypes for the MME and eNodeB nodes, extensions at the SGw and support for GTP and S1AP protocols and NAS procedures. Additionally, the FOKUS team introduced new improvements to the established OpenEPC components, like for example O-packet-loss truly seamless handovers between Access Networks and significant reduction of delays in attach- ment procedures. Capabilities of OpenEPC and new additions and improvements will be demonstrated. Attendees will be provided with a look under-the-hood and direct contact with the developers. LTE attachments and Video/Voice call via EPC and eNodeB simulator will be demonstrated and network traces will be shown.

Vendor Exhibitions

- **HP** (Gold Sponsor)
  - 4G Subscriber Data Management / Communications as a Service

- **HUAWEI** (Gold Sponsor)
  - Enhancements of Mobility Management for the 3GPP EPS – Smart Mobile Devices in a dense wireless network environment

- **IBM** (Gold Sponsor)
  - IBM Software Strategy for CSPs – Start planning and implementing smarter communications systems

- **Nokia Siemens Networks** (Gold Sponsor)
  - Smart networks for user centric broadband

FOKUS Exhibitions

- **OpenEPC/FUSECO Playground**
  - Visit the booth of FOKUS competence center NGNI (Next Generation Network Infrastructures) and retrieve first hand information about the LTE ready OpenEPC Rel. 2 (Evolved Packet Core), the enhanced NGNI platform for prototyping broadband mobile applications based on 3GPP standards, and the Future Seamless Communication Playground (FUSECO) at: www.openepc.net | www.fuseco-playground.org

- **myMONTER TCS**
  - Visit the booth of FOKUS competence center NGNI (Next Generation Network Infrastructures) and gather information about myMONTER TCS (Telco Communicator Suite), the client framework for providing services from the Telecommunication and Internet domains. We demonstrate convergent services which target the Evolved Packet Core (EPC) network at: www.opensoapplayground.org/tcs
Information for Participants

Reception Desk
In case you need information or assistance, please contact the reception desk.

Reception desk hours are:
Thursday, October 14: 08:30–18:00
Friday, October 15: 07:30–18:00

If the reception desk is closed you may contact us by phone at: +49 17 04 52 77 82

Venue
Fraunhofer Institute FOKUS
Kaiserin-Augusta-Allee 31
10589 Berlin, Germany

Internet Access for Guests
WLAN Internet access is provided in the auditorium and exhibition area (network name: FOKUS-guests). You’ll find user ID and password information in the conference bag.

Presentation Slides
Presentation slides can be downloaded after the workshop at www.fuseco-forum.org/download
Access information for tutorial slides, which are password protected, will be distributed during the tutorials.

Event Minutes / Pictures
Event minutes can be seen after the event at www.fuseco-forum.org/minutes
Pictures of the event will be shown at www.fuseco-forum.org/pictures

Social Event
Thursday, October 14, 19:00
Conference guests are invited to get to know each other at Deutsches Technikmuseum.
There is no dress code, and casual wear is welcome.

Deutsches Technikmuseum
(www.sdtb.de/Startseite.63.0.html)
Trebbiner Straße 9
10963 Berlin-Kreuzberg

The shuttle service to the event location departs at 18:15 from the front of the FOKUS building.
Afterwards the shuttle will depart from event location Deutsches Technikmuseum with stops at Potsdamer Platz railway station, Adrema Hotel, Hotel Econtel and Zoologischer Garten railway station.