Fraunhofer
FOKUS

FUSECO
Forum 2012
FUTURE SEAMLESS COMMUNICATION

3rd FOKUS FUSECO Forum

on Future Seamless Communication

November 15 & 16, 2012

PROGRAM

www.fuseco-forum.org/program

CONTENT

Sponsors _____

W E L C O M E

Words from the Chair

Dear FOKUS family and friends, Ladies and Gentlemen,

The international FOKUS FUSECO FORUM (FFF) series represents a follow-up to the famous international FOKUS IMS Workshop series held from 2004 to 2009. However, within the FFF series IMS technology represents just a small part of the overall converging telecommunication and Internet infrastructure, and thus we consider increasingly more the impacts of alternative control and service delivery platform technologies and new emerging application domains, which will be delivered seamlessly via different wireless broadband networks onto smartphones, tablet PCs, and other emerging mobile integrated devices. In the last years we have looked at the rising notion of the Future Internet (FI) as a container for advances in the fields of Internet of Services (IoS), Internet of Things (IoT) and Network of the Future (NoF).

Today it becomes clear, that "Smart Cities" represent the major application domain and show case for these Future Internet technologies, however taking into account the evolution from mobile and fixed Next Generation Networks (NGNs). In this context we can also witness the rise of Machine-to-Machine (M2M) communications in addition to the traditional Human-to-Human communication across various different but increasingly interconnected network technologies. In this third edition of the FUSECO Forum we want to provide a snapshot of emerging applications and the availability of the underlying technology platforms, such as EPC, IMS, MTC, and SDPs in the context of Smart Cities.

Yours sincerely,
Prof. Dr. Thomas Magedanz and the TU Berlin/FOKUS team

Prof. Dr. Thomas Magedanz

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PROGRAM AT A GLANCE

Day 1 – Tutorials and Workshops

10:00 - 13:00 in Auditorium 1
Tutorial 1
Understanding NGN Control and Service Platform Evolution – SDP/IMS/MTC/EPC Overview, Standards, and Services
(Prof. Dr. Thomas Magedanz, Fraunhofer FOKUS/Technische Universität Berlin)

10:00 - 13:00 in Seminar room 1
Tutorial 2
Getting started with OpenEPC to set-up your own LTE/FUSECO Testbed
(Dragos Vingarzan, Marius Corici, Fraunhofer FOKUS)

10:00 - 13:00 in Auditorium 2
Tutorial 3
Getting started with OpenMTC to set-up your own M2M Testbed
(Dr. Sebastian Wahle, Fraunhofer FOKUS)

13:45 - 18:00 in Auditorium 1
Workshop 1
Migration/Deployment Issues for mobile and fixed NGN Services and Infrastructures
Dr. Niklas Blum, Fraunhofer FOKUS, Prof. Dr. Axel Küpper, Technische Universität Berlin

13:45 - 18:00 in Auditorium 2
Workshop 2
Towards a common M2M/MTC Control Platform – Prospects and Challenges
Dr. Sebastian Wahle, Fraunhofer FOKUS, Dr. Cristoph Peylo, T-Labs, Deutsche Telekom AG

Social Event

Day 2 – FUSECO Conference NGN & SDP Evolution for Smart Cities

9:15 - 11:00 in Auditorium
Session 1: Global mobile and fixed NGN Deployment Issues

11:30 - 12:45 in Auditorium
Session 2: Operator Services over Converged Broadband Networks – VoLTE, RCS, M2M

13:30 - 14:00 in Auditorium
Panel: Telco Service Transition Challenges and Opportunities: From Voice-based Services towards Data and Smart City Applications

13:00 - 15:00 in Auditorium
Session 3: Network Evolution & Convergence for Implementing Smart City Communication Infrastructures

15:30 - 17:20 in Auditorium
Session 4: Service Platform Evolution for Smart City Services

Day 1 – Tutorials and Workshops

8:30	**Registration**	
10:00 - 13:00	**Tutorial 1:** Understanding NGN Control and Service Platform Evolution – SDP/IMS/MTC/EPC Overview, Standards, and Services Prof. Dr. Thomas Magedanz, Fraunhofer FOKUS/Technische Universität Berlin	**Auditorium 1**
10:00 - 13:00	**Tutorial 2:** Getting started with OpenEPC to set-up your own LTE/FUSECO Testbed Dragos Vingarzan, Marius Corici, Fraunhofer FOKUS	**Seminar room 1**
10:00 - 13:00	**Tutorial 3:** Getting started with OpenMTC to set-up your own M2M Testbed Dr. Sebastian Wahle, Fraunhofer FOKUS	**Auditorium 2**
13:00 - 13:45	Lunch break/Demos	

(Workshop 1 and Workshop 2 run concurrently)

	Workshop 1: Migration/Deployment Issues for mobile and fixed NGN Services and Infrastructures **Chairs:** Dr. Niklas Blum, Fraunhofer FOKUS, Prof. Dr. Axel Küpper, Technische Universität Berlin	**Auditorium 1**
13:45 - 15:15	**Session 1:** Recent Experiences from Global NGN Deployments	

- Future Services and B2B Models for Telecom
  Mila Milenkovic, Serbia Telecom

- Enabling new Services with Cloud-based Communication Platforms
  Naoki Uchida , NTT RnD Japan

- Integrated Measurements and Control for optimized NGN usage
  Francisco Fontes, PT Inovacao

P R O G R A M

- LTE & EPC Deployment Architectures for Fixed Mobile Convergence
  Maria Cuevas, BT, Spain

- Voice & Messaging Evolution – Challenges & Opportunities
  Günther Pospischil, A1 Telekom, Austria

15:15 - 15:45	Coffee break/Demos

15:45 - 17:10	**Session 2:** An Update on Services: Mobile VoIP, RCSe, VoLTE and OTT

- Experiences from OTT/Mobile Cloud Services over Mobile Broadband Networks
  Alan Duric, Telio Norway

- DT's Component Marketplace - a new strategy to add value to telco APIs
  Thomas Mörsdorf, Developer Garden, Germany

- WebRTC Integration in Telco Networks
  Jose de Castro, Voxeo, USA

- Telco strategic positioning options regarding WebRTC
  Simon Bécot, Orange Labs France

- Leveraging open platforms and APIs
  Caroline Lewko, Thibaout Rouffineau, Wireless Industry Partnership (WIP), Canada

- Need of the SDP for bringing the Convergence, the Agility, the TTM & ROI
  Patrice Crutel, Bouygues Telecom, France

17:10 - 18:00	**Panel discussion:** How much network does the service provider need?

- Alan Duric, Telio Norway
- Simon Bécot, Orange Labs France
- Caroline Lewko, Wireless Industry Partnership (WIP), Canada
- Maria Cuevas, BT, Spain
- Mila Milenkovic, Serbia Telecom

Workshop 2: Towards a common M2M/MTC Control Platform – Prospects and Challenges
Chairs: Dr. Sebastian Wahle, Fraunhofer FOKUS and Dr. Cristoph Peylo, T-Labs, Deutsche Telekom AG

Auditorium 2

13:45 - 15:15   **Session 1:** Horizontal M2M platforms: experiences from recent M2M platform and SDP deployments to support services across different M2M applications domains

- M2M platform evolution and challenges
  Jim Morrish, Machina Research, United Kingdom

- M2M Market, Business Opportunities, and Technologies – A Deutsche Telekom View
  Jürgen Hase, Deutsche Telekom, Germany

- M2M simulations and real applications in HSPA network – impact on network performance and service
  Milica Popovic, Telekom Serbia, Serbia

- Global M2M Solutions
  Marc Büsgen, Vodafone, Germany

- Telefónica's Horizontal Solution Market Strategy
  Thorsten Stuke, Telefónica, Germany

- M2M – a new eco-system requires a new approach
  Jens Hundertmark, Ericsson GmbH, Germany

15:15 - 15:45   Coffee break/Demos

Day 1 PROGRAM

15:45 - 17:10   **Session 2:** M2M Verticals & Standardization: Insights from selected M2M application fields and SDO perspective

- Global Standards and Successful Partnerships – Enablers of IoT, M2M Services and Applications
  Dr. Leo Lehmann, ITU-T, OFCOM Switzerland

- oneM2M - A Global Initiative for M2M Standardization
  Joachim Koß, Cinterion/ETSI, France

- M2M Application Deployments for Home Monitoring and Control
  Wiseto Agung, Telkom Indonesia, Indonesia

- Network and Service Infrastructures supporting Augmented Human Cognition
  Anastasius Gavras, Eurescom, Germany

- The ETSI TC M2M challenge: definition of a modular service platform to serve traditional vertical domains
  Marylin Arndt, Orange/ETSI, France

17:10 - 18:00   **Panel discussion:** Smart Cities and the Internet of Things: fragmented markets and silo mindset or huge potential for synergies across industries?"

- Peter Friess, European Commission, Belgium
- Marylin Arndt, Orange/ETSI, France
- Thorsten Stuke, Telefónica, Germany
- Jürgen Hase, Deutsche Telekom, Germany
- Anastasius Gavras, Eurescom, Germany

18:00 - 18:30   Departure of shuttle service to event location/Demos

19:00   **Social Event**

Conference guests are invited to get to know each other at the event location *Tangoloft*. The shuttle service to the event location departs at 18:15 from the Fraunhofer Institute.

Tangoloft (Gerichtsstrasse 23, Aufgang 2, 13347 Berlin, *tangoloft-berlin.de*)

P R O G R A M Day 2

Day 2 – Conference

8:00	**Registration**	
9:00	**Opening:** Prof. Dr. Thomas Magedanz, Fraunhofer FOKUS/Technische Universität Berlin	**Auditorium**
	Keynote: Protecting the Open Internet: Experience and Future Challenges Prof. Dr. Henning Schulzrinne, Columbia University, USA	
09:30 - 11:00	**Session 1:** Global Mobile and Fixed NGN Deployment Issues Chair: Prof. Dr. Hans-Joachim Grallert, Fraunhofer Heinrich-Hertz-Institut/ Technische Universität Berlin	

- Merging Fixed and Mobile Core Infrastructures – a Telefónica View
  Karsten Schröder, O2/Telefonica, Germany

- Architectural challenges with LTE
  Andreas Jungmaier, Vodafone, Germany

- What kind of signaling issues have to be solved by introducing LTE?
  Dietmar Kohnenmergen, E-Plus, Germany

- Beyond LTE Deployment – How to increase network efficiency?
  Franz Seiser, Deutsche Telekom AG, Germany

  Questions & Answers

11:00 - 11:30	Coffee break/Demos

Day 2   P R O G R A M

11:30 - 12:45	**Session 2:** Operator Services over Converged Broadband Networks – VoLTE, RCS, M2M Chair: Prof. Guy Pujolle, Université LIP6, Paris, France

- Next Generation Network Operations and Evolution
  Klaus Moschner, NGMN Alliance, Germany

- France Telecom Orange LTE EPC Strategy - Overcoming the technical challenges
  Remi Thomas, Orange, France

- Experiences from IMS-based B2B Services
  Mila Milenkovic, Serbia Telecom

- RCS/Joyn as a Service Platform
  Marco Röder, Deutsche Telekom AG, Germany

Questions & Answers

12:45 - 13:30	Lunch break/Demos

13:30 - 14:00	**Panel:** Telco Service Transition Challenges and Opportunities: From Voice-based Services towards Data and Smart City Applications Chair: Prof. Dr. Thomas Magedanz, Fraunhofer FOKUS/Technische Universität Berlin

- Dr. Cristoph Peylo, T-Labs, Deutsche Telekom AG
- Thorsten Stuke, Telefónica Germany GmbH Co. OHG, Germany
- Thomas Mörsdorf, Developer Garden, Germany
- Maria Cuevas, BT, Spain
- Marylin Arndt, Orange, ETSI, France
- Anastasius Gavras, Eurescom, Germany
- Dr. Udo Bub, EIT ICT Labs, Germany

14:00 - 15:00	**Session 3:** Network Evolution & Convergence for Implementing Smart City Communication Infrastructures Chair: Prof. Dr. Klaus David, Universität Kassel, Germany

- Smart Cities – A challenging use case for new ICT technologies: European Commission Perspectives
  Peter Fatelnig, European Commission, Belgium

- Overview of the upcoming Pan-European Future Internet Platform Capabilities
  Hans Einsiedler, T-Labs Germany

- Smart Metering – influence of BSI-protection profile for data communication
  Eric Kallmeyer, Vattenfall Europe Metering GmbH, Germany

- Global M2M Standardisation and its Role for Emerging Smart Cities
  Joachim Koß, Cinterion/ETSI, Germany

  Questions & Answers

15:00 - 15:30	Lunch break/Demos

15:30 - 17:20	**Session 4:** Service Platform Evolution for Smart City Services Chairs: Prof. Dr. Mesut Günes, Freie Univerität Berlin

- Smart City R&D Challenges from an EIT Perspective
  Roberto Saracco, EIT, Italy

- eGovernment Services as one Key Smart City Application Domain
  Nedzad Residbegovic, BH Telecom d.d. Sarajevo, Bosnia & Herzegovina

- Smart City Platforms in Japan
  Naoki Uchida, NTT RnD, Japan

- Towards a Ubiquiteous Cloud Service Platform for Bali
  Mustapa Wangsaatmadja, Telkom Indonesia

- Emerginging Smart Cities in Africa
  Daan Velthausz, CSIR Meraka Institute, South Africa

- Looking beyond the rim: Prospects of OpenFlow and EPC Integration
  Sachin Katti, Stanford University, USA

  Questions & Answers

17:20 - 17:30	Closing and Farewell

Demonstrations

During coffee and lunch breaks five different demonstrations will be available to FUSECO Forum guests. They will be shown in the demo rooms (see site plan on page 15).

All demonstrations run concurrently:

November 15, 2012	*November 16, 2012*
Lunch break: 13:30	Coffee break: 11:00
Coffee break: 15:15	Lunch break: 13:15
After last session: 18:00	Coffee break: 15:00

Demonstration 1

OpenEPC Rel. 4
OpenEPC Release 4 features full integration with commercial off-the-shelf hardware enabling one-stop solutions for end-to-end test beds. As part of this integration, Fraunhofer FOKUS as strategically partnered with ip.access and provides full support of their solutions for 2G/GPRS/EDGE as well as 4G/LTE. Solutions for 3G/UMTS/HSPA will also be part of openEPC Rel. 4.

Demonstration 2 & 3

M2M Solutions
Today many SMEs (freight operators, logistics, farmers, etc.) seek to cut down their OPEX and CAPEX by deploying M2M solutions. This leads to an increasing demand in M2M solutions. The providers of such solutions, in particular Telcos and Integrators, can reduce their own cost by deploying managed cloud-based end-to-end M2M solutions.

This demo shows an M2M platform that allows the platform operator to offer M2M solutions by relying on M2M building bricks (e.g. sensors, connectivity, storage, user GUI, data/device APIs). Such approach can heavily reduce the cost for deploying new M2M applications compared to the silo solutions that are predominant in the M2M market today.

The demo will show the benefit of moving to a horizontal platform by demonstrating two specific M2M applications on top of the OpenMTC platform: smart utility metering and location rating/proximity marketing.

Demonstration 4

Converged IMS and WebRTC Communication – adding Elasticity and Application-driven QoS
This demo will illustrate how WebRTC– based real-time communication in the browser can be connected to IMS-based VoIP. Additionally, dynamic scalability for service assurance under high-load conditions of the control service will be part of the scenario. To assure Telco-grade Quality of Experience for web-based users, application-driven QoS is added to the WebRTC service for dedicated, service-specific bandwidth reservation in mobile core networks. between available cloud computing infrastructure providers, based on QoS performances, network performance

and non-functional parameters.

Demonstration 5

Software-Defined Telecommunication Networks

The convergence of networks brings new challenges and opportunities especially for Next-Generation-Telecommunication-Networks in terms of resource utilization, policy control, mobility and security (AAA). New research trends of network virtualization technologies and Software-Defined-Networking (SDN) such as OpenFlow introduce more flexibility and efficiency on telecommunication networks and in particular on the data transport layer.
This demonstration presents early prototypes of Software-Defined Telecommunication Networks. Service-aware networking is presented for fixed and mobile next-generation-networks demonstrated using IP Multimedia Subsystem and OpenFlow.

Exhibitions

Three different exhibitions will be shown in the exhibition area (see site plan on page 15):

Kapsch (Silver Sponsor)

UNIFI – *University Future Internet*

Fed4Fire – *University Future Internet*

I N F O R M A T I O N

Information for Participants

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

Reception desk hours are:

Thursday, November 15:   08:30-18:30

Friday, November 16:   08:00-18:00

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

Venue
Fraunhofer Institute for Open Communication Systems FOKUS
Kaiserin-Augusta-Allee 31
10589 Berlin, Germany

Internet Access for Guests
WLAN Internet access is provided in the auditorium and exhibition area:

Name: FUSECO FORUM
Login: fff2012
Password: fuseco12

Presentation Slides
Presentation slides can be downloaded after the event at

www.fuseco-forum.org/download

All slides will be password protected.
Access information for tutorial slides will be distributed during the event.

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, November 15, 19:00

Conference guests are invited to get to know each other at the event location *Tangoloft.*

   Tangoloft
   Gerichtstraße 23 Aufgang 2
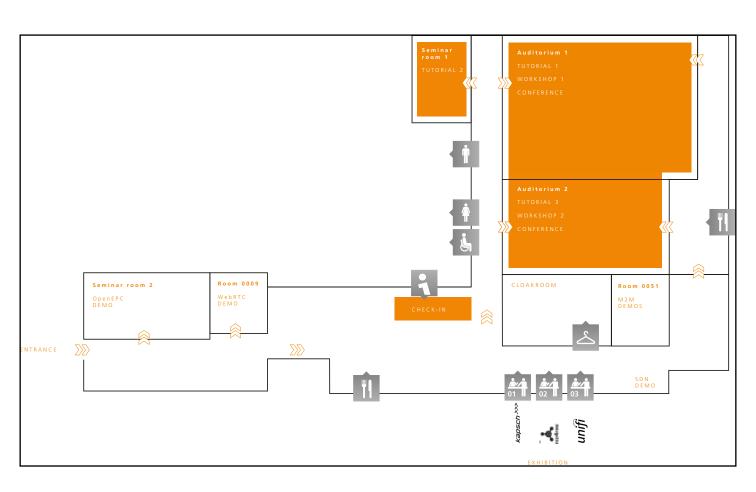   13347 Berlin

   tangoloft-berlin.de

The shuttle service to the event location departs at 18:15 from the Fraunhofer Institute.

Afterwards the shuttle will depart from event location

Tangoloft with stops at

   → *Hauptbahnhof* railway station

   → *Fraunhofer Institute*

SITE PLAN

Seminar room 1

TUTORIAL 2

Auditorium 1

TUTORIAL 1

WORKSHOP 1

CONFERENCE

Auditorium 2

TUTORIAL 3

WORKSHOP 2

CONFERENCE

Seminar room 2

OpenEPC DEMO

Room 0009

WebRTC DEMO

CLOAKROOM

Room 0051

M2M DEMOS

CHECK-IN

ENTRANCE

SDN DEMO

01 02 03

kapsch >>>

unifi

EXHIBITION

S P O N S O R S

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TU Berlin	UniverSelf	vatm	VDEITG	

Venue at

Fraunhofer Institute for Open Communication Systems (FOKUS)
Kaiserin-Augusta-Allee 31
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