The Fokus 3G beyond Test bed and its Use within emerging interconnected 3Gb Test beds

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Overview

- Introduction
- The Fraunhofer FOKUS 3G beyond Test and Development Center
- The OSA / Parlay play ground @ FOKUS for 3G M-Commerce Apps
- Case Study 1: IST OPIUM Project – Interconnected UMTS Service Platforms
- Case Study 2: DocAvatar – A Mobile Medical Health Portal
- Summary
The FOKUS Open 3G beyond Test and Development Center

- Provision of an OPEN, INDEPENDENT and INTERNATIONAL 3Gb test and development center
  - Open = everyone (vendors, operators, service providers, developers) could join
  - Independent = not bound to specific vendors or operators
  - International = European center of excellence / national host for 3Gb (together with DFN)

... to integrate into one single environment different vendors, operators, service providers and content providers and to offer access to academia and industry

- Offers:
  - Provide one stop access to knowhow, networks, infrastructure components
  - Provision of so-called **Open 3Gb Technology Play grounds** and 3Gb show rooms
  - Provision of test bed for national and European R&D projects as well as for real business customers
3G\textit{beyond} test and development center @ FOKUS
The 3Gb Service platform enabling voice, web and hybrid services

**Web centric services**
- Connectivity, Messaging, Location and Charging services
- Addresses Internet programmer community

**Voice centric services**
- Support of traditional cash cow IN services
- Call control, User Interaction, IVR, Charging
- Addresses Telco programmer community

**Hybrid Services**, e.g. Click2Dial (using both CS and PD network capabilities)

Support of various
- CORBA/Java
- XML/SOAP
- „IP“ interfaces

Open unified interfaces

Open Communication Server (OCS)
Open Communications Server: supporting different service paradigms

Open Communication Server (OCS)
The 3Gb play ground @ FOKUS

.... supporting different service prograing paradigms
Parlay/OSA (Open Service Access) define an API that enables operator and 3rd party applications to make use of network functionality through a set of open, standardised service interfaces.

- **Applications (independent of underlying network technology)**
  - App 1
  - App 2
  - App N

**Parlay/OSA API**

- **Value Added Telco Functions**
  - Call Control, User Interaction
  - Location, Presence
  - Realtime Charging, etc.

**Mapping to network specific protocols**

- **Gateway**
- **Fixed Network**
- **Mobile Network**

**Fraunhofer Institute for Open Communication Systems**

**Institutional Logos**

- 3GPP
- ETSI
- Parlay
- JAIN
- SPA
OSA/Parlay Eco-system is growing

The number of Parlay/OSA products available 30 Jan 2003

We are also seeing “enabling” products that enhance Parlay/OSA
The OSA / Parlay play ground @ FOKUS

- The OSA/Parlay play ground forms the heart of the FOKUS 3G beyond Service platform test and development center
  - Provision of an own OSA/Parlay gateway (OCS) on top of both, a circuit switched (CTI) and packet switched (SIP) infrastructure
    - Plus implicit interconnection to GSM, GPRS, and UMTS
- Provision of a carrier grade OSA/Parlay gateway from jNETx
- Interconnection to remote OSA/Parlay gateways located in the German Alcatel and Lucent 3G test beds
- Provision of OSA/Parlay gateway / network simulators
- Provision of state of the OSA/Parlay service development toolkits (Aepona, Appium, Alcatel, Lucent, jNETx, etc.)

- Application developers can obtain a look and feel of next generation value added service APIs / platforms and test their applications against this infrastructure

- Contact: www.fokus.fraunhofer.de/research/cc/ngni/
Blueprint of the OSA/Parlay Play ground @ FOKUS (May 2003)

... bringing together Parlay equipment and services at one single place
Available Partner Gateways and Gateway Simulators

- **Locally provided @ FOKUS**
  - FOKUS OCS (on top of SIP and CTI)
  - jNETx OSA Platform:
    - Framework, Call Control, User Interaction, Charging
    - Support for service design

- **Via Remote Access**
  - AePONA Causeway Gateway (Spain)
  - Ericsson Jambala (Sweden)
  - Lucent MyLife Gateway (Nürnberg)
  - Alcatel Nextenso Gateway (Stuttgart)

- **Simulators**
  - AePONA Causeway 3rd Party Development Kit
    - Consists of Gateway Simulator and Client Proxy
    - Framework / Call Control / User Interaction / Mobility
  - Appium G-Box
    - Advanced network and terminal animation capabilities
    - Graphical message tracing on the signaling protocol and Parlay level
    - Comprehensive simulation of Intelligent Network infrastructure
    - Framework / Call Control / User Interaction / Mobility / PAM / Charging
  - Lucent MiLife Intelligent Services gateway
    - Parlay 3.1 / 3GPP OSA Release 4 Interfaces
    - Framework / Call Control / User Interaction / Mobility / PAM / Charging
  - Oksijen INOX GAS
IST OPIUM Project

OPIUM = Open Platform for Integration of UMTS Middleware

- Obtain early experience with UMTS Infrastructure and Services in Europe
- Obtain experience in using open service platforms supporting multiple services on top of 3G networks, i.e. UMTS
- Test interoperability of OSA/Parlay based services on top of different OSA/Parlay Gateways in different networks
  - Open Interoperability Events are planned with ETSI (→ Plugtests)
- Obtain experiences in Roaming scenarios between
  - UMTS-UMTS, UMTS-GPRS, UMTS-WLAN

Five Testbeds are being established: Germany (FOKUS), UK, Spain, Portugal, China

For more information look at: www.ist-opium.org
**OPIUM Consortium**

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Fraunhofer Institute for Open Communication Systems
OPIUM Target: OSA/Parlay Interoperability Tests

Diagram showing OSA / Parlay Gateway connecting OSA / Parlay Client and OSA API, with UMTS networks in China, Spain, and Germany.
OPIUM Testbeds for Interop. Tests

Chinese testbed
- UMS
- Location Based Services
- OSA: CC, UI, GMS, Mob
- KaiKai
- Siemens
- GSM
- OMIP
- IKV
- ZTE

Portugal testbed
- UMS
- Location Based Services
- OSA: CC, UI, Mob
- OMIP
- IKV
- enago
- PTIN
- Vodafone
- UMTS

Spain testbed
- Broadmedia
- GeoPlaneta
- UC3M services
- OSA: CC, UI, Mob
- AePona/Nortel
- enago
- PSTN
- FOKUS
- Motorola
- UMTS

Berlin testbed
- Smart Messenger Administration
- End User Administration
- OSA: CC, UI, Mob
- IKV++
- enago
- UMTS

UK testbed
- Mailmorph
- WIT Rating Bureau
- UHC IPDR Store
- WIT SIP Server
- OSA: CC, UI, Mob
Parlay play ground usage within IST OPIUM Project

- Communication between services and enago via enago Framework API
- IP-connection for parlay GW
- IP-connection for user-data
- S2M
- Logical Connection between two components

**Partners:**
- FhG FOKUS
- IKV++ Technologies
- GeoPlaneta

**UML Diagram:**
- **Portal Service**
- **Smart Messenger**
- **other AP / SP**
- **Enago DSP**
- **Enago MG**
- **OSA/ Parlay GW**
- **VPN GW** for connections to other testbeds via i-net
- **Send Emails**
- **Public Internet**
- **OSA/ Parlay**
- **Making calls to (mobile) telephones/connection to SMSC**
- **Sending Emails**
- **Logical Connection between two components**
- **S2M**
- **Logical Connection between two components**
- **Enago DSP**
- **Enago MG**
- **OSA/ Parlay GW**
- **CC/UI/Mob/MSG**
- **e.g. sending emails**
- **e.g. connecting umts and normal call**

**Networks:**
- **UMTS (T-Mobile)**
- **WLAN (@Fokus)**
- **PSTN+GSM+GPRS**
- **IP-connection for user-data**
- **IP-connection for parlay GW**

**Enago Framework API:**
- **SER (SIP/SIMPLE)**
- **VPN GW**
- **OCS**
- **SAP, dpa, MedW**

**Enago Partners:**
- **FhG FOKUS**
- **IKV++ Technologies**
- **GeoPlaneta**

**Other AP / SP:**
- **Smart Messenger**

**Networks:**
- **Public Internet**
- **OSA/ Parlay**
Parlay play ground Case Study: Doc Avatar – A mobile Health Portal

- **Motivation:** Increasing cost of health-care services require advanced support by electronic means
  
  - creation of an interactive cyberphysician: DocAvatar®
    
    - registered brand (www.docavatar.cn)

  - Medicine-Worldwide – leading health portal in Germany, founded by doctors of the Charité clinic (www.medicine-worldwide.de)

  - HealthXXL – company for development of e-health and m-health solutions, with subsidiaries in Cuba (www.my-medico.com) and China (www.cmbs.com)

  - Fraunhofer FOKUS – the technology partner

- Worldwide medical information, education and support at your fingertips

- Provision of mobile multi channel information access, disease communities, medical advise / second opinion via click2dial charged to phone bill, emergency advice, patient localization and ambulance call, .. via any end system, and access network though Parlay
DocAvatar

Please select your language

Call to Doctor

Send Position to Ambulance

Back to the beginning

I have seen enough
DocAvatar within the FOKUS Parlay play ground

Parlay API

Services
- Click2Doctor
- Obtain OTA Recipe
- MM Emergency advice
- User location and Ambulance Call
- Patient Community

Parlay APIs used
- Framework
- Call Control
- User Interaction
- User Location
- Charging

Content Provider
- Medicine-Worldwide.de
- HealthXXL.net

Call Center
- Berlin/China (VoIP)

Internet backbone (IPv4/v6)

UMTS
GPRS
WLAN 802.11b
GSM
ISDN

Parlay AS/GW Simulator

Intranet (IPv4/v6)

Local P-AS

Remote P-AS

MGW

P-GTW (CTI)

SIP (SER)

P-Server (OCS)

P-Server

jNETx

Medicine-Worldwide.de

HealthXXL.net

Parlay AS/GW

Simulator
Upcoming: The FOKUS 3Gb Testbed as part of interconnected 3Gb Testbeds

other 3Gb Test beds
- China
- Korea
- Singapore
- Canada
- ...

German 3Gb R&D Projects
European 3Gb R&D Projects

Applications
mHealth | mGov | mLearn. | others

Service Platforms
Web serv | Parlay | IMS | AAA | SIP | others

3Gb Roaming
3Gb Network Technologies
UMTS FDD/TDD | GSM / GPRS | WLAN a/b | DVB-T | others

FOKUS 3Gb „National Host“ Test bed

Supported by
GEANT IPv6 Backbone

other 3Gb Test beds
Summary - *Why and how to Join the OSA/Parlay play ground*

- The OSA/Parlay play ground aims for a vendor and operator independent portal to getting started with OSA/Parlay technology and bringing together
  - application developers
  - vendors and
  - operators

- **Application developers** can obtain a non-biased introduction to the technology and on demand implementation support (➔ *Markets: M-Health, M-Gov, M-Commerce, ....*)

- **Vendors** can test their equipment against other vendors and benefit from this unique demo spot located in Berlin, Germany
  → Thus the play ground is an additional marketing channel for vendors

- **Operators** can monitor technology advances and witness new/niche market applications

- FOKUS is maintaining the play ground with support of the vendors
  - Vendors are asked to provide their components free of charge and give on demand assistance to customers (application developers)
Any Questions
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