Implementing IMS Service in multi-Terminal Environment

3GPP Release 8 Implementation
ETSI Workshop

Manuel Vexler
Chief Marketing Officer IMS/NGN

www.huawei.com
Index

- Interoperation testing with multiple vendors
- Experience of migrating subscribers to IMS
- Case study lessons
IMS Terminals

- We have mature SIP terminals, however
- IMS terminals are still emerging
- Possible reasons:
  - IMS is currently deployed in fixed networks
  - “The chicken or the egg” question. What drives IMS demand:
    - terminals or
    - networks
    - *Note: in 3G iPhone and Android drive network growth!*

- Terminal vendors are driven by consumer demand (6 mo. TTM)
- Network vendors are driven by Service Providers (2-5 yrs. TTM)
Huawei’s IOT Process Flow

1. Request from Customer To have IOT with a vendor
2. Initiate and Sign NDA with That Vendor
3. Defined the interfaces and Requirements for IOT
4. Initiate the Meeting between Huawei and Vendor
5. Introduce Huawei IOT team To Vendor IOT team
6. Exchange the Technical Document and specification
7. Keep regular meeting and Comm. with IOT teams
8. Monitor and Resolve the testing related Issues
9. Execute the test cases Based on Timeline
10. Both IO Team Prepare the Test Cases
11. Prepare the Test Plan
12. If this is remote IOT Setup the VPN between the labs
13. Jointly prepare the Test Result Report
14. Approve and Sign the Test Result Report
15. Share the Test Result Report with the Customer
Huawei’s IOT Lab in Düsseldorf

- The Lab in Düsseldorf is located in the Multi-Vendor Test Centre of VDF. It is responsible for the IOT tests of Tier-1 European carriers such as VDF, TMO, O2, and Telefonica.
- The lab supports the IOT tests of all open interfaces on the core network, including IMS. Set up in 2006, the lab has since completed over 20 IOT projects successfully by 2009.

- Other Huawei IMS Labs located in China, Italy, Mexico, USA, etc.
- Customers also request on-site multi-vendor interoperability
IMS Interoperability: Lessons Learned

- IMS Technology was already mature in 2007-2009
- Test bed included on-site and remote testing
- Design changes to the IMS interfaces to interoperate was fast!
- Industry events compete with private interoperability events
- Service Providers must offer public support to IMS IOT
- Tier One vendors support needed

- The IMS Forum held eight IMS Interoperability events in 2007-2009
Index

- Interoperation testing with multiple vendors
- Experience of migrating subscribers to IMS
- Case study lessons
Huawei’s Solution for FTTH operator

- **OSS/BSS**
  - TTM (provisioning)
  - PAGY (charging)
  - Netcool (OSS)

- **IMS I**
  - HSS9820
  - ATS9900
  - Diameter
  - SIP
  - CSC3300
  - UGC3200
  - MRS6600

- **IMS II**
  - HSS9820
  - ATS9900
  - Diameter
  - SIP
  - CSC3300
  - UGC3200
  - MRS6600

- **Existing Platform**
  - SDP Platform
  - NP Platform
  - LI Platform

- **Pre-NGN network**
  - Legacy PSTN
  - PLMN

- **2,5 Million subscribers and 700K Broadband Lines**
- **Largest operator in the country**
TDM to IP Transformation Drivers

- Outdated TDM network >20 years
- New service requirement
- 150 exchanges with >10 network equipment vendors
- High operation cost
- Fixed-mobile substitution
- Declining ARPU

Business rationale: 5M subscribers, $3.5B revenues
- Optimize the network to reduce OPEX
- Improve subscriber loyalty to reduce churn
- Exploring new growth business to increase ARPU
Huawei IMS-based full PSTN migration

EMS & BSS/OSS
- iManager N2000
- Accenture BSS/OSS

Application & Services
- LI
- LQDB
- PSS AS
- Multimedia AS

Session Control
- SoftX3000
- IMS ATCA

Class 4: MG, AG
- UMG8900
- SG7000
- SE2300

Class 5: AG, Terminal
- UA5000

Global Nodes
- Europe
- Asia

Global IP Network
- Europe
- Asia

Mini-UMG

LAN
Vodafone Romania

- Completed 705 test cases in three phases within 70 days. The test pass rate was 95%
- Complete stress tests and full-load tests in two complex traffic models GL and RO of VDF.
- Entire-system inter-operability with 9 vendors on the operating network
- Verified with customers IP CAC, SCTP multihoming inter-operability, and geo-redundancy of the M2000.

From VDF:
The objective of assessing Huawei’s capability to show the IMS product to Vodafone was reached successfully. Prerequisite to allow Huawei delivery of a Core Network CS Solution to the Vodafone.

- The tests were passed and show overall technical compliance requirements
- Relevant commitment for performing the test cases in a timely manner and according to the agreed test specifications
- Once the issues are identified Huawei has good technical reaction
- Good capabilities in terms of tracking the status of pending issues
- Flexible, committed and collaborative in case of additional technical requests
Index

- Interoperation testing with multiple vendors
- Experience of migrating subscribers to IMS
- Case study lessons
Sample: IMS Business Cases

- SIP Trunking/VPN and PSTN Migration: Latin America
- Network optimization: Latin America
- PSTN Migration: Eastern Europe
- Cable NGN end-of-life: USA
- LTE deployment: USA
- Strategic infrastructure: Western Europe
- Strategic services: Western Europe
- Fixed BB deployment: Asia

‘all-IP’ Business Case evolution:
- Original process is in THREE steps: PSTN -> SoftSwitch -> IMS
  - Examples: ATT, Verizon and China Telecom
- New process has TWO steps: PSTN -> IMS
Sample: Deployments of Huawei IMS

<table>
<thead>
<tr>
<th>In Progress: SIP Trunking, VPN, PSTN Migration</th>
<th>VoBB (xDSL, FTTx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Progress: Transit and Tandem, VPN / IP Centrex</td>
<td>VoBB (xDSL, FTTx), SIP Trunking, IP Centrex</td>
</tr>
<tr>
<td>VoBB (xDSL, FTTx), PSTN Migration (SIP MSAN)</td>
<td>VoBB (xDSL, FTTx), SIP Trunking, IP Centrex</td>
</tr>
<tr>
<td>VoBB (xDSL, FTTx), PSTN Migration (AGCF mode)</td>
<td>VoBB (xDSL, FTTx), SIP Trunking, IP Centrex</td>
</tr>
<tr>
<td>VoBB (HFC, PC 1.0 Softswitch Replacement)</td>
<td>VoBB (xDSL, FTTx), SIP Trunking, IP Centrex/VPN, Conference</td>
</tr>
<tr>
<td>VoBB (xDSL, FTTx), SIP Trunking</td>
<td>VoBB (xDSL, FTTx), PSTN Migration, SIP Trunking, IP Centrex</td>
</tr>
<tr>
<td>VoBB(xDSL), PSTN Migration (AGCF mode)</td>
<td>National Transit, Tandem</td>
</tr>
<tr>
<td>VoBB (xDSL), SIP Trunking</td>
<td>VoBB (xDSL, FTTx)</td>
</tr>
<tr>
<td>VoBB (xDSL, WiMax)</td>
<td>VoBB and PSTN Migration</td>
</tr>
<tr>
<td>Conference</td>
<td>VoBB (WiMax)</td>
</tr>
<tr>
<td>PSTN Migration</td>
<td></td>
</tr>
<tr>
<td>Transit, Tandem</td>
<td></td>
</tr>
</tbody>
</table>
New Trends driven by IMS

- Consumers replace subscribers
  - Choice of the services, the providers and the devices they use
- Business models evolving with increased role of marketing
  - from single-sided subscription or pay-per-use, to
  - multi-sided distribution such as AppStore, supermarket, and boutique
- Voice is now both a service and an application
  - Competition between traditional Service Provider and Over-the-Top
- Service Offices replace the Central Office model
  - Fewer, larger offices supported by FTTx, using less power and space
  - Using IMS standardized architectures to streamline IT support
  - Service platforms (SDP, CDN, cloud) collocated with access/transmission
Conclusions – case studies

- IMS is the core architecture for managed services such as VoBB, IPTv, Voice /VPN, social networking and mobile clients
- The first wave of IMS rollouts are driven by PSTN migration to IP. The same architecture is reused for IPTv and multimedia
- Migration for fixed and mobile networks demands
  - New market segmentation
  - New business models
  - Streamlined network operations and management
One question remains...

Where are the IMS soft clients and terminals?
Thank you

www.huawei.com