Mobile Core Evolution to IMS

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Why IMS?

- IP Multimedia Subsystem (IMS) is a standardised architecture (defined by 3GPP/3GPP2) for offering services on the packet domain.
- It is a generic architecture for offering multimedia services.
- IMS is independent of Access, supports: UMTS, GPRS, fixed line, WLAN etc.

**Pre-IMS Communication**

1) Decide on communication mode/media
2) Create content
3) Send call the chosen person
4) Disconnect and reconnect if changing media

**IMS Communication**

1) See who is available beforehand (presence)
2) See which mode/media to use
3) Contact and create content
4) Change media in real time
Why IMS - operator perspective?
How can IMS solve these issues?

- Rapid broadband rollout due to access deregulation → Fight back competitors
- Increase ARPU and reduce churn via new attractive services → Bundled services
- Secure valuable position in the value chain → Be more than a bit-pipe provider
- Improve net income via reduced costs and new multimedia services → Cost efficient solution

The core of IMS
Combining the best of two worlds

Open, flexible service development ability of the Datacom industry

Performance and scalability characteristics of the Telecom Industry Solutions

Standardized, end-2-end services that are interoperability tested
Standardization Bodies related to IMS

All-IP network - target network
Multimedia services via IMS and SIP
Efficient evolution to all-IP
Different paths depending on operator situation - 4 key trends

Application driven fixed operators:
- Introduce new services
- Introduce IP infrastructure
- Evolve voice network

Application driven mobile operator:
- Introduce new services
- Introduce IP infrastructure
- Evolve voice network

Softswitch and network evolution centric fixed operators:
- Modernize voice network
- Reduce network costs
- Introduce IP infrastructure
- Introduce IMS based services

Softswitch and network evolution centric mobile operators:
- Modernize and expand voice network
- Reduce network costs
- Introduce IP infrastructure
- Introduce IMS based services

Network centric mobile operator
Starting point

- Need for modernization
  - Need for less nodes
  - Need for less trunks
- Create an IP core network for payload and signaling
  - Reduce costs
- Need for high bandwidth access support
Introduction of softswitch
Reduced costs, IP core network

- Mobile Softswitch
- Controls MGW via H.248
- 100 % PSTN Emulation
- Handles all the call control
- Supports multiple interconnect protocols: xxxx

- MGW performs local switching
  - transmission savings

- IP Core network
  - Major savings due to IP transport and signaling
  - Service assurance and network redundancy via Diffserv and MPLS
  - Savings due to compression

Modernization of access network
Support for mobile broadband

- Multiple access alternatives
  - Support for GSM/GPRS/EDGE access
  - Support for 3G access including HSDPA

2G/3G Access

Wireless access

IP/MPLS Network
Introduction of IMS

Stepwise introduction of IMS based services

- IMS domain
  - IMS & Application controlled
  - Multimedia services
    - PTT
    - weShare
    - Presence
    - Etc.

- PSTN emulation domain
  - MSS controlled
  - Telephony over IP
  - Common IP backbone with Diffserv and MPLS
  - SIGTRAN signaling

IMS as key service enabler

Mobile IP Telephony a reality - all services via IP (SIP)

- IMS domain
  - IMS & Application controlled
  - Mobile IP Telephony
  - SIP to the end device → all-IP

2G/3G Access
Add fixed access
A fully converged network

- Fixed services offered via IMS
- Network convergence

Wireline access
2G/3G Access

Provide a multimedia experience
Enabling richer communication for end users

- Add a online game
- Add Instant Messaging
- Add a video support
- Basic voice session

Presence
- Game session
- Instant messaging
- Video session
- Voice

Richer communication enabled by IMS
Combinational Services

- A combinational service is created by combining a CS speech call and one or more PS media streams.
- The services that are mixed have the same A-and B-party and, when combined, appear as a single task to the end-user.

Broad application spectra

- Legacy and value added voice services (IN, Parlay)
- Standardized services for Mass-market
- Differentiating services
What is being said about IMS
Comments from previous IMS conferences

“We will achieve more in 5 years than we have done the last 20!”
European operator

“Pre-standard services threatens long-term business potential”
European vendor

“Availability of IMS-enabled devices – key for success”

“Our goal - excellence in user experience”
European operator