

Beyond classical 3G:

The IP Multimedia Subsystem

Roberto Vescio
Technical Sales Manager
Customer Acquisition Support
Siemens ICN

Agenda

- **Current Situation**
- **What is the IMS?**
- **How Mobile Network Operators (MNO) can offer their customers the best services.**
- **Beyond 3G**

Situation Today for the End User

SIEMENS
mobile

- Today: Everyone uses a GSM phone
- Very soon: Everyone will use a GPRS phone
- Tomorrow: People will use a UMTS device
- What is **NEW** with GPRS for consumers?
 - GPRS is faster (9,6 kbps -> >100 kbps. Today already 40kbps)
 - Possibility to use data services
- What is **NEW** with UMTS for consumers?
 - UMTS is faster (9,6 kbps -> 64, 144, 384 kbps, 2 Mbps)
 - New services beyond phone calls, SMS, WAP



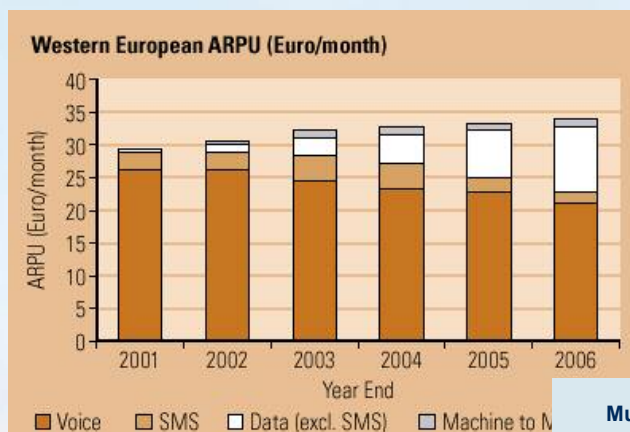
Page 3

© Siemens, 2002

Situation Today for Network Operators

SIEMENS
mobile

> 30% data ARPU lift is required to meet growth expectations for mobile carriers



Source: Siemens ICM Marketing

Multimedia and data services can provide the ARPU lift needed

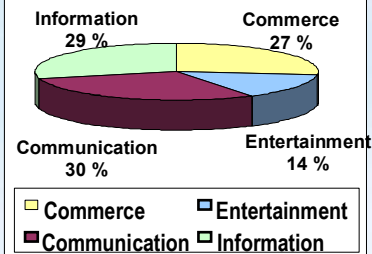
Page 4

© Siemens, 2002

End User Services Market

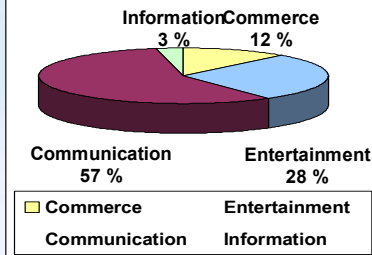
Willing to Use (W2U) / Willing to Pay (W2P)

Service Desirability (W2U)



Source: Adopted from Siemens End-User Survey 2000

Service Revenue Potential (W2P)

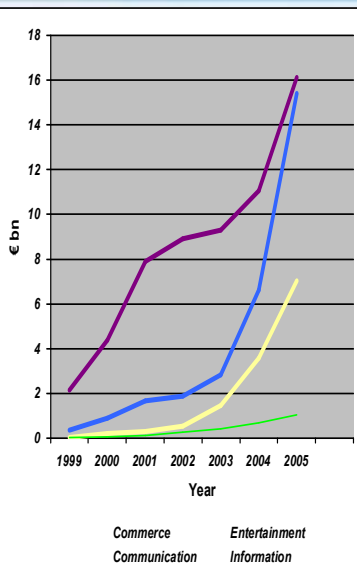


Source: Durlacher UMTS Report

Conclusions:

- Prio 1: Communication. people want to use it and pay for it
- Prio 2: Commerce (higher WTU, lower WTP) and Entertainment (lower WTU, higher WTP).
- Prio 3: Information. people want to use this service but not pay too much for it

The Market Impact on Positioning of Services

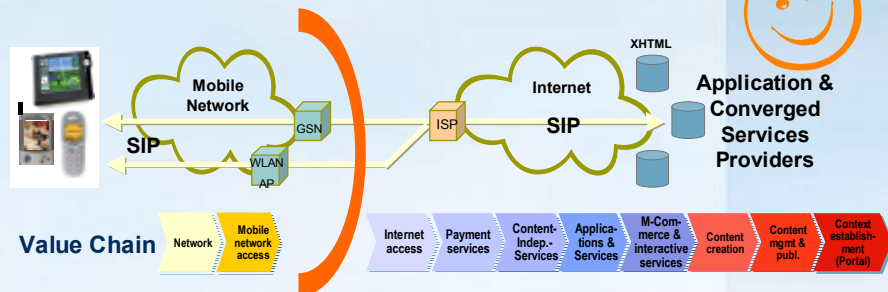


- Communication services dominate the market in the near- to medium-term
- Entertainment services unlock revenue in the B2C market later
- Information not a great revenue-generator
- Commerce services grow in popularity, but revenue will most likely come from indirect sources, rather than directly from the end user

Focus on new communication

Source: Durlacher UMTS Report

MNOs Relegated to Access Providers?

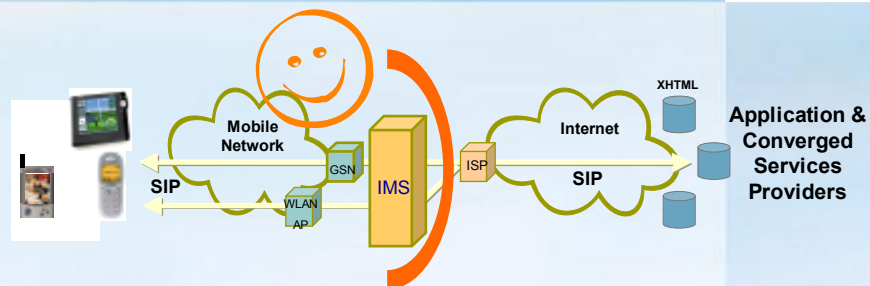


The operator may be faced with:

- losing control of the value chain
- losing "ownership" of subscribers
- losing revenue and profit potential



IMS Enables the MNO to Enhance the Value Chain



The IMS

- establishes a SIP based multimedia control domain independent of access
- can tie together the service market by standardized platform
- intercepts and controls all SIP based traffic to add value:
 - provide SIP based converged services & multimedia applications
 - provide single-sign-in features to data and RT communication ASPs

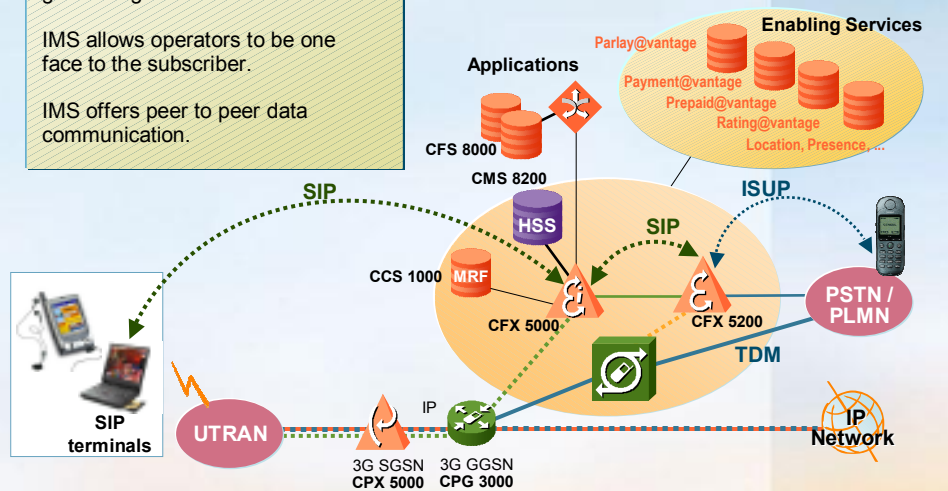
■ What is the IP Multimedia Subsystem?

What is the IMS?

IMS is a promising platform for generating new multimedia revenue

IMS allows operators to be one face to the subscriber.

IMS offers peer to peer data communication.



Benefits for the Network Operator

SIEMENS
mobile

IMS enables the mobile network operator

- **To efficiently offer a new dimension of innovative multimedia services by**
 - Network control for innovatively bundled services, composed of **SIP based** VoIP, Video over IP, presence, instant messaging,...
 - Flexible charging.
 - Interworking functions to PSTN, GSM, Internet,...
 - Dynamic QoS control for IP applications using the SIP protocol
 - Standard interface to enabling services (e.g. location, presence)
 - Worldwide single-sign-in access

- **To offer network assets like all-IP network control**



Page 11

© Siemens, 2002

Benefits for the End User

- **One GUI for all SIP-based voice/data services**

- **One bill with all services each month from the network operator.**

- **Increased security of end user's data.**

- **Only one account, with one network operator for all services necessary**
 - Single-sign-in
 - Simple registration only once with the network operator

- **Automatic adaptation of communication link during communication.**

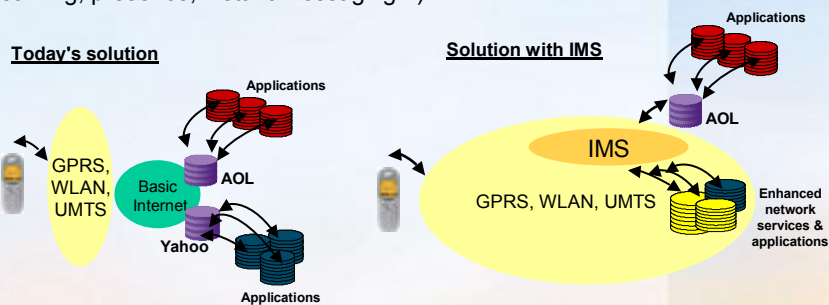


Page 12

© Siemens, 2002

IMS Values compared to Non-Standardized Solutions

- **Meets desire of MNOs to not become pure access providers**
 - IMS enables MNOs to offer SIP multimedia applications (not available in normal Internet)
 - Attracts ASPs to offer services over the MNOs multimedia system to use payment method and enhanced network services (streaming, presence, instant messaging...)



IMS and Application Platforms

Application systems like

- Proprietary ones
- Open Service Architecture
- SIP App Servers
- Service Enabling systems like Instant Messaging, Presence,...
- Web Services

can

- **Use APIs to IMS control infrastructure (IMS Service Control, ISC)**
 - Call control, QoS control...
- **Store information in central database Home Subscriber Server (HSS)**
- **Use mechanisms of IMS like**
 - Single-Sign-in, security, charging support, IW to legacy and other SIP networks

Many heterogeneous, non interoperable application systems

IMS integrates service enabling systems

■ **How MNOs can offer their customers the best services.**

New Business Model as an Opportunity to Find a Killer Application



■ **MNOs can derive new revenues and reduce churn from:**

- New content from many different sources
- New services through the IMS

■ **Finding a new role, learning from the Web-Approach:**

- The Web: almost unlimited information and content
- Developing applications via communities: e.g. web developers -> APIs, interfaces required
- Leveraging on specific know-how



IMS and Application Platforms

IMS

- Provides IP call services independent of applications & platforms
- Not needed for:
 - Web surfing or e-mail
 - Video streaming only
 - Instant messaging only,....
- BUT needed for: SIP based
 - Presence + IM + VoIP + Chat
 - Interactive game + voice, ...
 - “applications glued together”

Services in the Long Term: Fantasy Quest

EXAMPLE

- Service Type: Multi-player Fantasy Roleplaying Game
- Premise: End User creates a character (alter ego) which enters a fantasy world in which quests can be undertaken, dragons slain, princesses rescued, etc.
- Added Value Features:
 - Voice over IP (VoIP)
 - Click to Dial
 - Presence / Availability
 - Push-Based Information
 - Voice Alteration
 - Multimedia Conferencing





Mobile Organizer – Auto Conference

SIEMENS
mobile

EXAMPLE



- Julia wants to have a multimedia conference with Mark and Tom, but busy schedules mean that they are difficult to reach
- Julia then sets up an 'auto-conference' which uses presence and availability information to determine when Julia, Mark and Tom are all available



Page 19

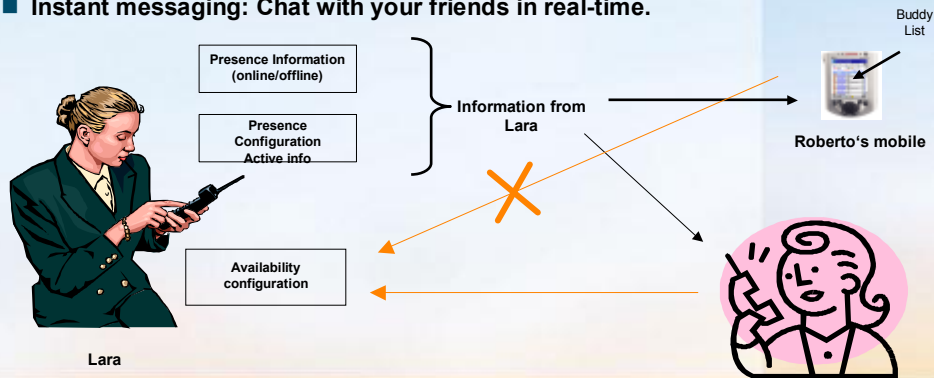
© Siemens, 2002

Which services Can We Expect to See in the Short Term?

SIEMENS
mobile

IMS services will start with simple non-real-time critical services like PIM.

- Presence services: Know if the person you want to reach is reachable before you place a call.
- Instant messaging: Chat with your friends in real-time.



Page 20

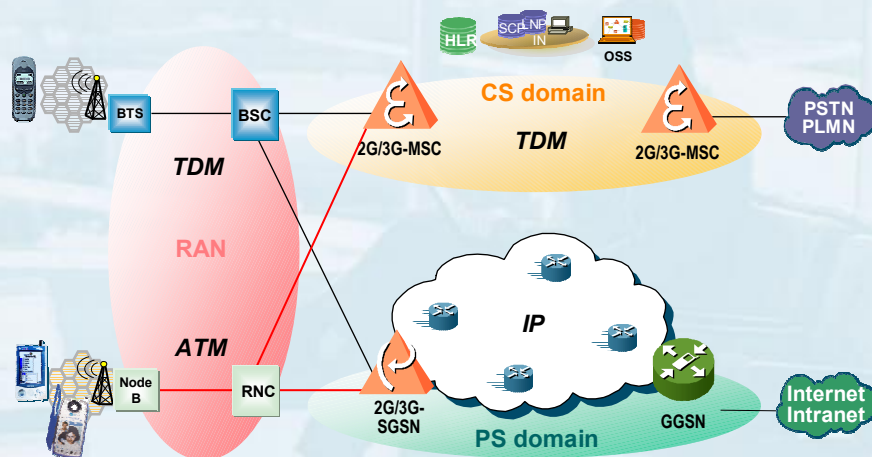
© Siemens, 2002

Lara's mummy

■ Beyond 3G

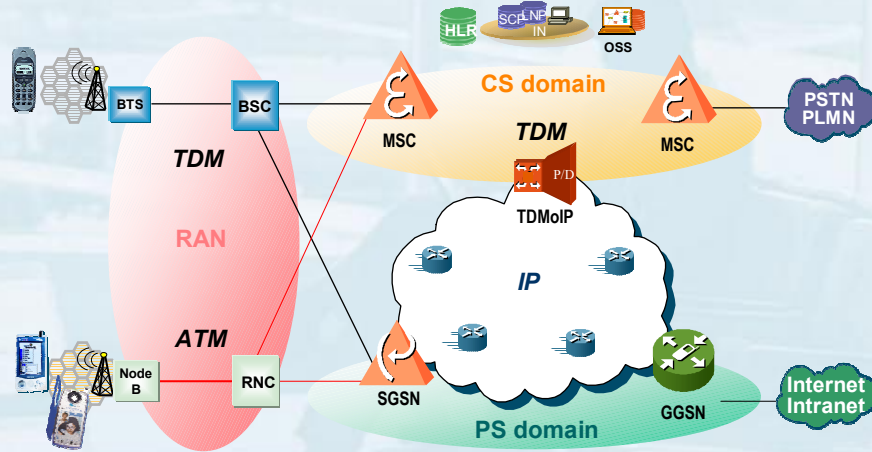
Evolution starts with GSM/GPRS or UMTS R'99

Network Evolution - Today / Step1



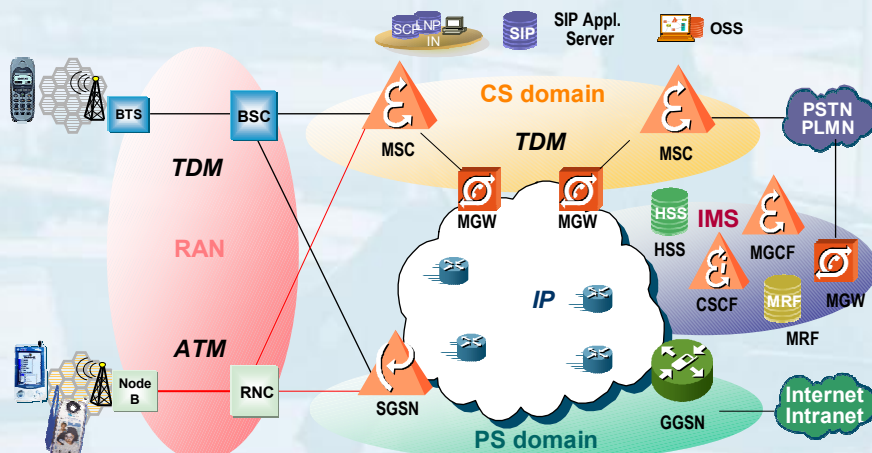
TDMoIP is Part of the Strategy for an IPbMN

Network Evolution - Step 2



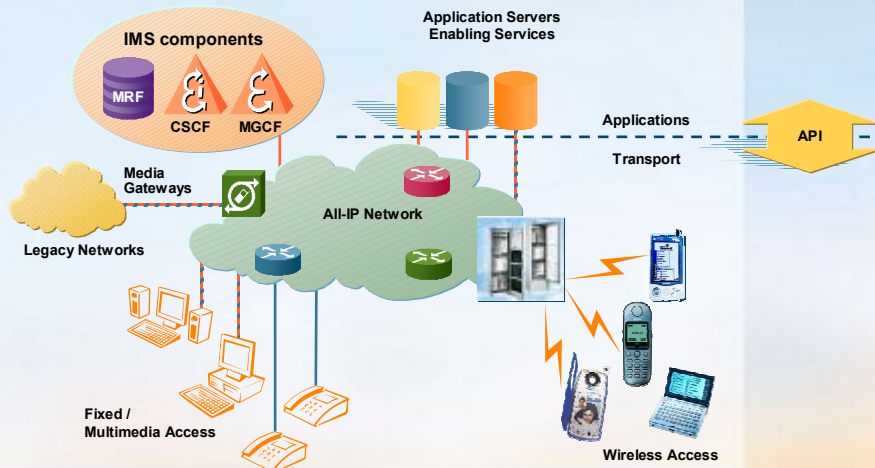
IP Multimedia Subsystem is a Step towards all IP

Network Evolution - Step 3



Our Vision of the Future Network IMS as Part of an End-to-End IP Network

■ Today's investment in IMS is future-proved



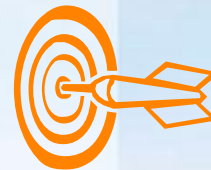
Ever Heard About the “Killer Application”?

Killer Application:

- is extremely well accepted by users
- users pay for using the application
- provides a key revenue stream for network operators (and maybe other parts of the value chain)

Two examples of a killer application in GSM today:

- Short message service
- Pre-paid



Unfortunately:

- The industry has never succeeded in going for designing a killer application
- Success or flop shows only after introduction of the application

Now, what is the future “killer application” in UMTS?

Answer: We don't know. We have to try many and see!

SIEMENS mobile


IMS Value Proposition

IMS, in connection with service enabling technologies and mediation platforms, supports:

- New applications, neither available today via GSM or current UMTS systems, nor available in the wire-line Intranet/Internet
- “Bundled applications” glued together via SIP
- Enhanced network services for ASPs
- Basic network services
- Single & common control for all IP-based access networks

Examples

- ▶ SIP based VoIP + SIP IM+presence
- ▶ Payment, authentication, security
- ▶ SIP session control, QoS, charging support, roaming, IW



New revenue streams for UMTS operators

Page 27 © Siemens, 2002

SIEMENS mobile

Conclusions

- IMS is a global, universal system standard for SIP based multimedia control network, which works together with wireless packet networks (WLAN, GPRS, UMTS).
- IMS harmonizes fragmented, vertical applications market, leverages existing enabling services
- IMS helps operators to avoid becoming a bit pipe.
- IMS supports completely new services for end users which help operators generate revenue.
- IMS is a future proof investment. Start today with PIM services, move towards integrated services and continue using beyond 3G.
- IMS can be used already with GPRS for Non Real Time applications.

Page 28 © Siemens, 2002

Thank you!

Questions? roberto.vescio@icn.siemens.it