



## **Converged IP Messaging**

*Integrating multiple communications platforms, multiple devices and existing standards for interoperability*

*Mark Cataldo*

**Chair, OMA Technical Plenary**

**[www.openmobilealliance.org](http://www.openmobilealliance.org)**

**Mobile IM Forum, Amsterdam, Netherlands, 3 October 2007**

---

# Agenda

- About OMA
- More than PTT and Mobile IM
- Today's Fractured Messaging Environment
- Drivers For Change
- OMA's Work on Converged IP Messaging
- Summary



# OMA – The Open Mobile Alliance

## VISION

**No matter what device I have,  
No matter what service I want,  
No matter what carrier or network I'm using,  
I can communicate, access and exchange information.**

**The Open Mobile Alliance is an international organization, developing open, market driven interoperable specifications for global adoption of data services.**

**OMA runs a robust Interoperability Testing Program, where all level of members test product implementations in a trusted zone.**

**OMA was created in June 2002 by leading mobile operators, device and network suppliers, information technology companies, content and service providers.**

---

# OMA Deliverables and Value

- OMA develops specifications and encourages interoperability at the application level
  - Broadcast Services, Digital Rights Management, Mobile Location Services, Games Services, Device Management, Advertising and Messaging
- Scope of OMA specifications reaches beyond mobile market
  - Applicable to IP based networks both fixed and mobile
  - Consumer Electronics devices
  - Traditional PC and telephone environments
- OMA avoids duplication, divergence and fragmentation
  - OMA has an extensive network of liaison relationships
  - W3C, 3GPP, IETF, Java Community Process, Web Services Interoperability Organization. WiMAX Forum and others



---

# Agenda

- About OMA
- More than PTT and Mobile IM
- Today's Fractured Messaging Environment
- Drivers For Change
- OMA's Work on Converged IP Messaging
- Summary and Looking Forward



---

# More than PTT and Mobile IM

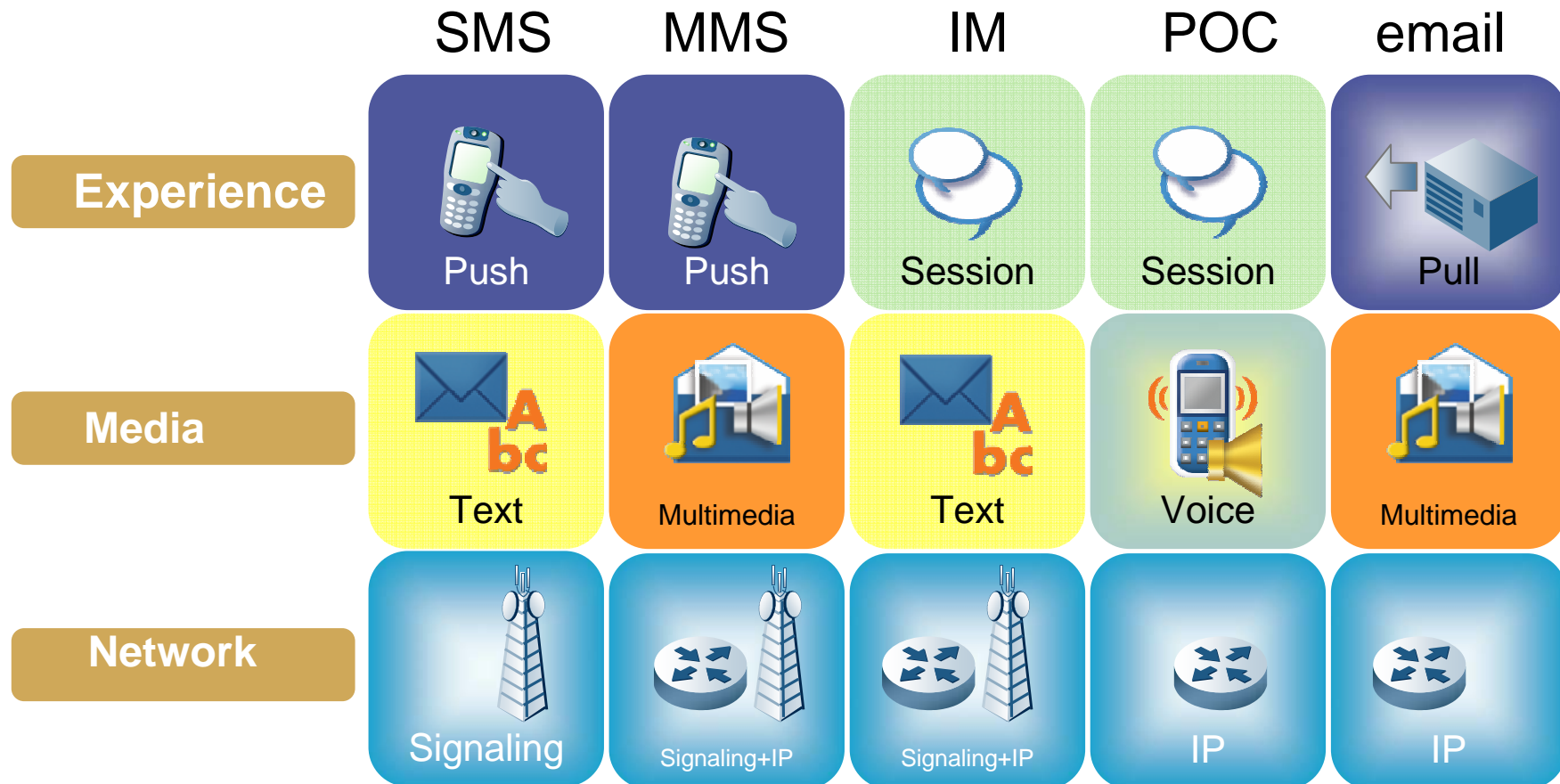
- OMA's work in messaging is well established in presence and push-to-talk
- Industry requirements are more than just these
  - Email, MMS, SMS
  - OMA existing work in XDM, SIMPLE Presence and PoC
- Messaging services currently addressed in silos
- Potentialities of fixed mobile convergence realized in integrating messaging services with OMA Converged IP Messaging

# Agenda

- About OMA
- More than PTT and Mobile IM
- **Today's Fractured Messaging Environment**
- Drivers For Change
- OMA's Work on Converged IP Messaging
- Summary and Looking Forward



# Today's Fragmented Messaging Systems



# Established Messaging Services

## Text Messaging

### Technical Status:

- Based on GSM signalling architecture
- Platforms approaching end-of-life

### Market Status:

- 250 billion sent in 2004 – more growth expected
- In some markets – clear signs of peaking:

- Average revenue per message decreasing
- Growth in SMS sent per user per month is decreasing

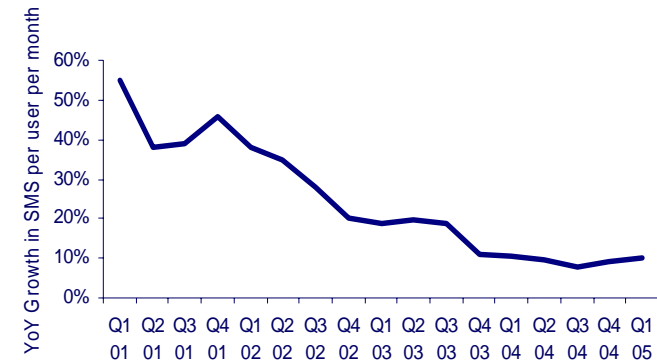
## Voicemail

### Technical Status:

- Typically proprietary, “monolithic” platform designs

### Market Status:

- 3<sup>rd</sup> most used service on phones (after voice and text)
- Limited operator focus on voicemail. Voicemail “bypass” solutions emerging.



Decrease in messages per use per month

## Picture Messaging

### Technical Status:

- Based on 3GPP MMS architecture
- Complex platform implementations
- Reliability issues

### Market Status:

- Limited customer adoption – although some markets showing positive movement
- Operator focus on marketing MMS VAS (e.g. postcards) and wholesale (e.g. Content Provider alerting services.)
- Clearly not the “new SMS” that was originally hoped for

---

# Agenda

- About OMA
- More than PTT and Mobile IM
- Today's Fractured Messaging Environment
- Drivers For Change
- OMA's Work on Converged IP Messaging
- Summary and Looking Forward

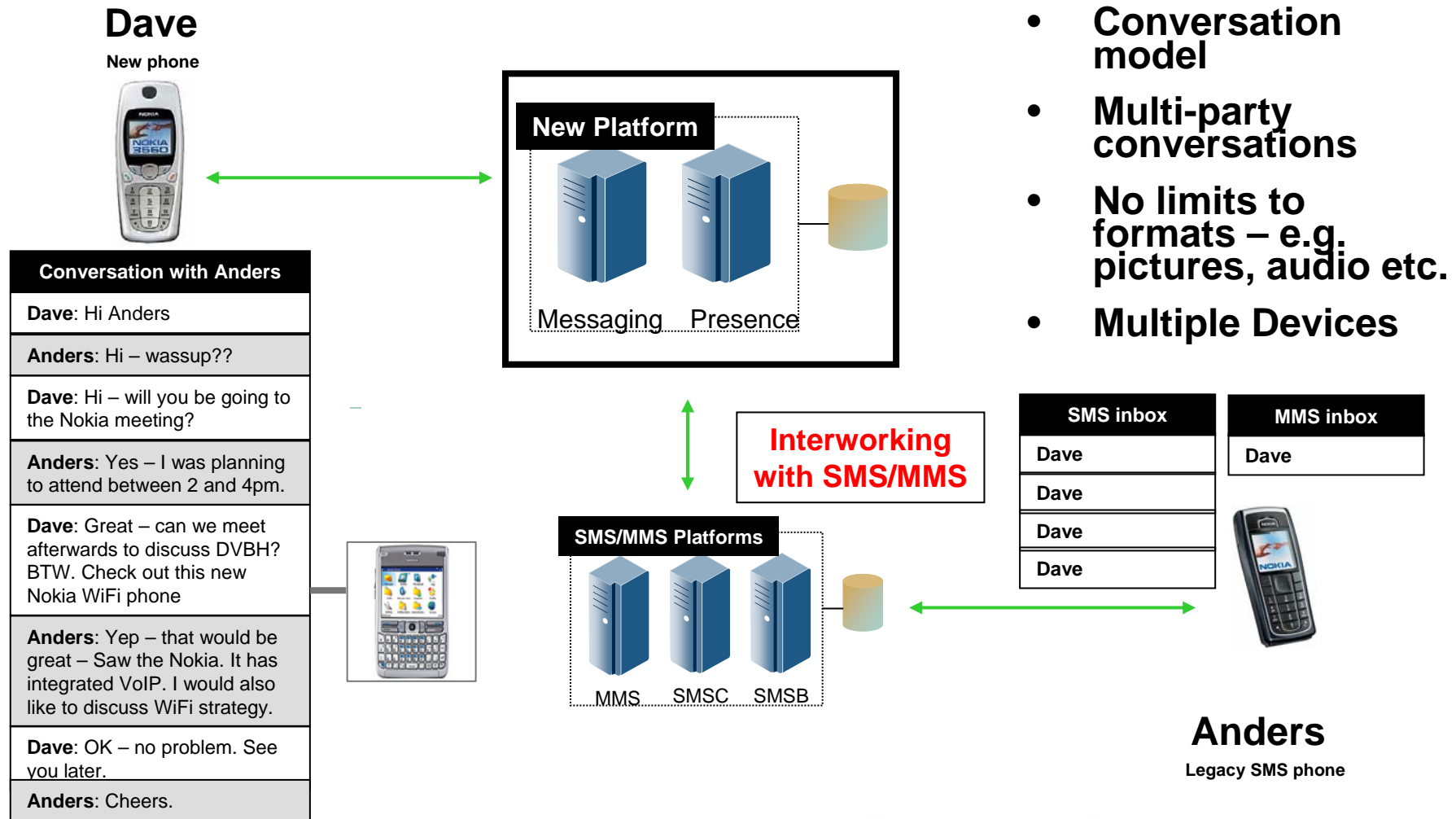


---

# Drivers For Change

- Improve Customer Experience
- Technology Convergence
- Integration and Interoperability

# Initial Driver: Improved Customer Experience



- Presence
- Conversation model
- Multi-party conversations
- No limits to formats – e.g. pictures, audio etc.
- Multiple Devices

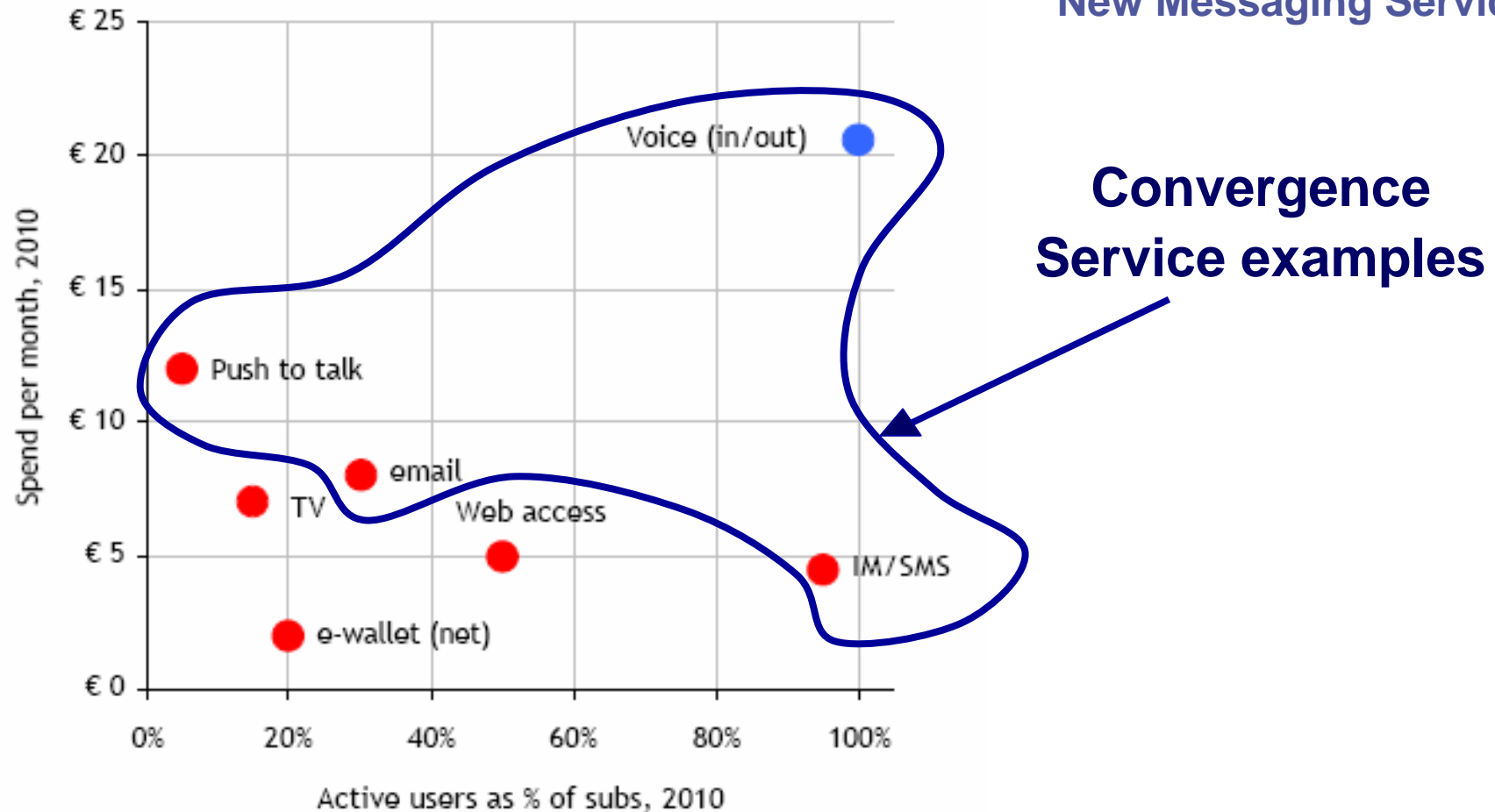
# Driver: Technology Convergence

Motivation

- In an environment of IP multimedia networks there is no need to maintain the existing messaging applications as silos
  - E.G. a service for text only or a service for voice only
- To date, most application platforms have no interoperability with other application platforms
  - Each platform has its own O&M, own procedures
  - Each platform has its own handset client and configuration data
  - Both need new training for engineers and customer care
- OMA sees a desire to move to common, more generic platforms
- It is possible to have a converged messaging technology and still propose the different user experiences: Push, Session, Pull
- Inter-working between existing messaging services and the new converged messaging service is a priority
  - First users must not be isolated!

# Technology Convergence, cont'd

New Messaging Services



Source: New Street Research

---

## Driver: Integration and Interoperability

- New services and network capabilities open up an opportunity for multiple access methods and services, but we need to integrate existing systems
- Plan for a smooth migration of the SMS/MMS user experience to a new Messaging architecture based upon IMS.
- This will require:
  - Specification of richer messaging experience for devices
  - Inter-working between IMS-based Messaging and legacy MMS/SMS/IM/Voicemail services

# Agenda

- About OMA
- More than PTT and Mobile IM
- Today's Fractured Messaging Environment
- Drivers For Change
- OMA's Work on Converged IP Messaging
- Summary and Looking Forward

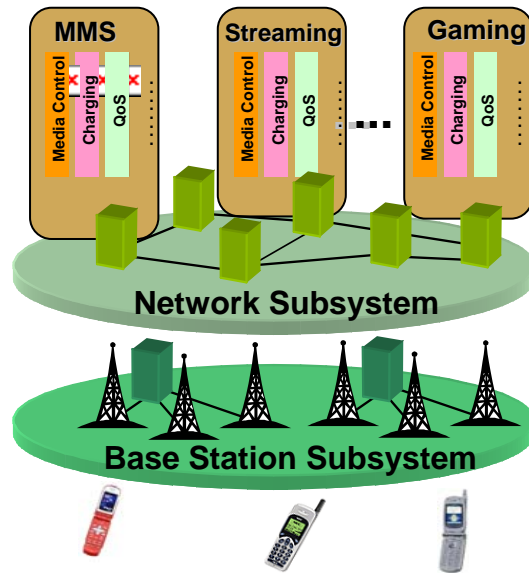


---

# OMA's Work

- Existing Messaging standards in OMA
- New work item: Converged IP Messaging (CPM)

# OMA's Work in Messaging Standards

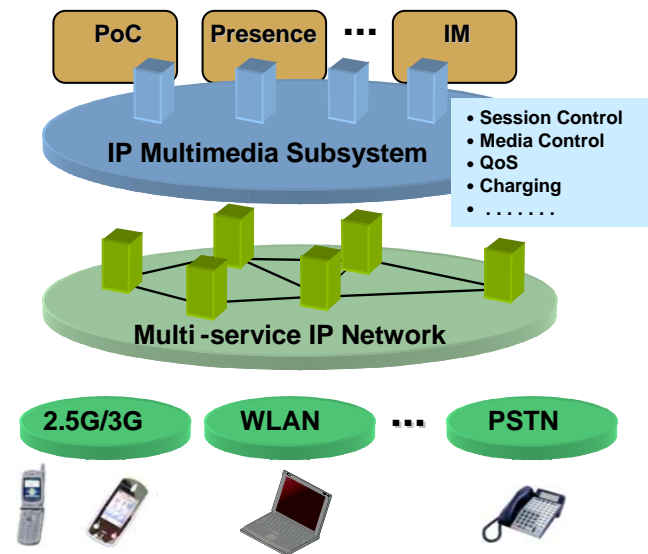


**OMA, in common with the industry trend, has historically focused on “the task at hand” – creating application silos**

- Multimedia Messaging
- Instant Messaging (IMPS)
- Streaming and Gaming

**For IMS-based enablers, OMA has improved matters**

- Interoperability across different network types
- Working with 3GPP to ensure OMA enablers and IMS are compatible
- Reuse of other enablers such as Presence and XDM (for contact list and group management)
- Examples of this work include: PoC, SIMPLE IM



# OMA's Work in Messaging Standards

- OMA identified **a new approach**
  - Single set of protocols for communication services
    - Providing support for many different user experiences, including the existing ones
  - Accessible from any device over any IP network
  - Supports multiple devices per user
  - Inter-works with existing messaging services and existing handsets
  - Common message repository
  - Reuse of other enablers such as Presence and XDM as above
  - Reuse of existing specification material from e.g. PoC and SIMPLE IM, as needed

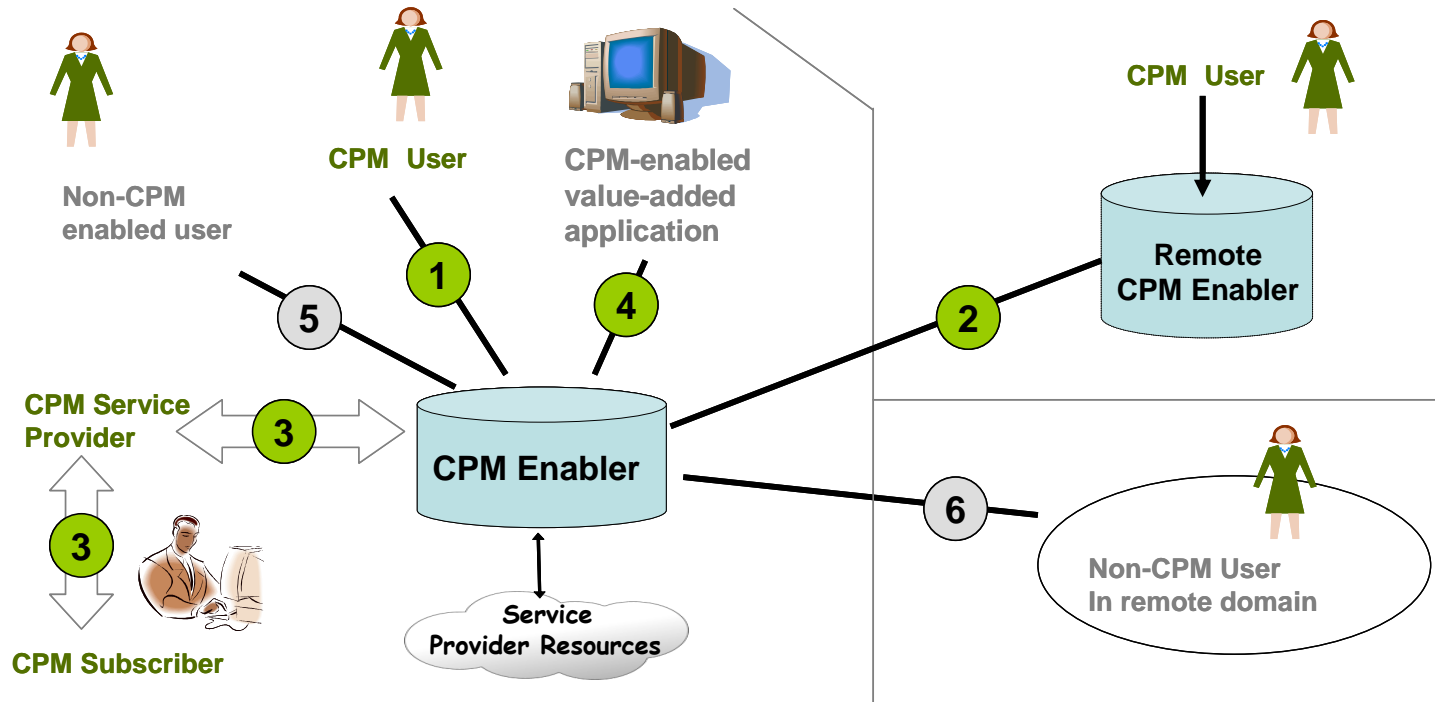
**Converged IP Messaging (CPM)**

---

# Converged IP Messaging: Vision

- **Converged IP Messaging (CPM) enables the creation of services that allow users to:**
  - Communicate without knowing what technology is realising a given messaging experience,
  - Have parallel conversations each with different Media Types,
  - Concurrently use several devices,
  - Personalise their services by setting preferences to indicate, for example, which messages are sent to which device(s),
  - Store any type of message and media in common network repository,
  - Seamlessly communicate between legacy voice, video and messaging services (such as MMS, SMS), and CPM services,
  - Choose to use presence support to enhance communications experiences,
  - Integrate all service communities within a single framework including a converged address book

# Evolving CPM Ecosystem



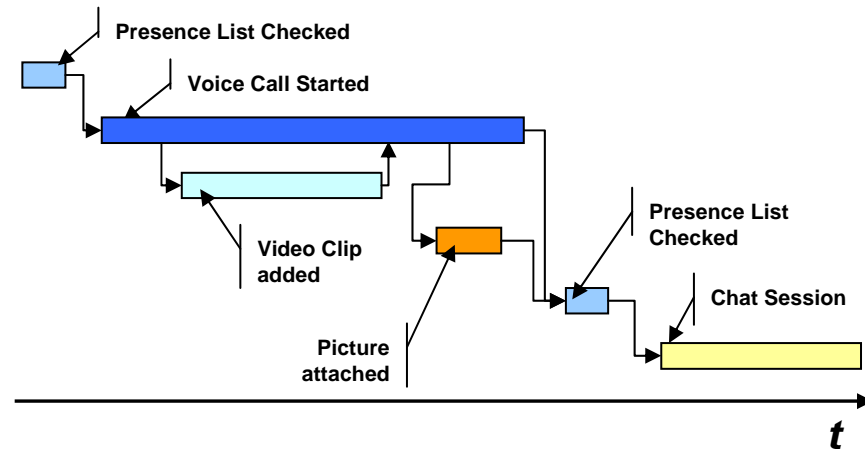
- 1** CPM User - using CPM enabled communication services in his home domain
- 2** Remote CPM User - using CPM-enabled communication services between different CPM-enabled domains
- 3** Service provider offering CPM-enabled services to its subscribers

- 4** Value-added application - using CPM enabled communication services over open interface
- 5** Non-CPM User - using communication services with CPM Users utilizing CPM Enabler's interworking functions
- 6** Remote Non-CPM User - using communication services with CPM Users utilizing CPM Enabler's interworking functions between domains

# CPM Use Cases

- Multiple user experiences converged in one conversation.

- Checking presence
- Starting a voice discussion
- Adding unidirectional streamed video
- Adding a picture
- Changing over to text



- Multimedia group communication
- Multiple device environment
- Multiple CPM addresses
- Seamless interworking between a CPM user and a non-CPM communication service user
- VAS application messaging
- Network-based storage (Common Repository)
- Converged address book
- Absence service

---

# CPM Functions

- Converged Conversation Handling
- Media Support
- Interworking with Non-CPM Communication Services
- User Addressing and Multi-device environment (N:M scenario)
- Network-based storage (Common Repository)
- Presence Support
- Group Communication and Management
- Application Support

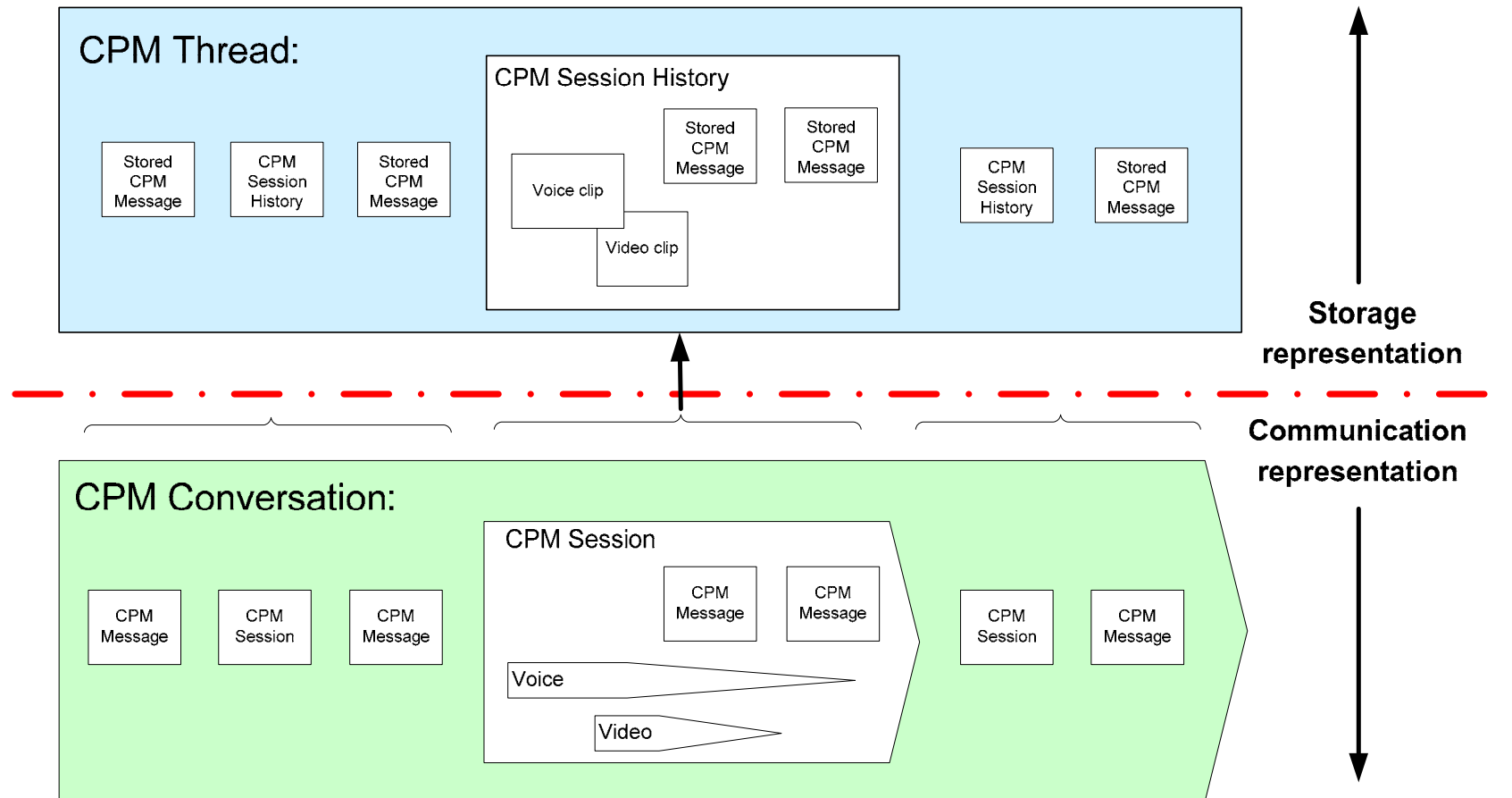
---

# CPM Conversations - A New Paradigm

- A conversation is a dialogue between 2 or more parties
- Allows discrete message/media exchange and/or continuous media exchange
- Discrete message exchange can be part of a session, or outside a session
  - “Session” is from the user perspective and depends only on whether the conversation is real time
- A conversation can be stored in the network (common repository) as a “CPM Thread”

# CPM Conversations -

## CPM Thread vs. Conversation



---

# CPM Work Status

- Requirements Document is complete
  - Final harmonisation and tidying up underway here in Seoul this week
- Architecture Document is well underway
  - Due for completion by the end of Feb. 2008
- Technical Specifications will follow on in 2008

# Agenda

- About OMA
- More than PTT and Mobile IM
- Today's Fractured Messaging Environment
- Drivers For Change
- OMA's Work on Converged IP Messaging
- **Summary and Looking Forward**



---

# Summary

- OMA has established itself in the messaging platforms that the mobile industry currently uses
- Technology Convergence both in the handset and network are becoming possible
- OMA's new CPM standard will enable a converged experience for the new phones, whilst retaining communication towards older handsets
- OMA has an aggressive plan of action and development over the next year

---

# Looking Forward

- There is a lot of work to be done and OMA welcomes your input
- Integrating existing systems in the new converged environment requires the experience and expertise of existing mobile industry players as well as the established IP standards that fixed line and content companies bring to the table
- OMA is the place to do this work and contribute to a solid specification