Wireless Application Protocol Forum Ltd.

Introduction on WAP Forum MMDC group and WAP MMS

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What is MMDC?

- MMDC stands for Mobile Multimedia Drafting Committee
- We're chartered to address Multimedia related feature specification work under Wireless Application Group
  - MMS Messaging Framework
  - Multimedia Presentation
- There two "Multimedia" groups in WAP Forum
  - MMDC(my group) and Multimedia Expert Group (MMEG)
  - MMEG is an Expert group that is supposed to address unqualified Multimedia issue in general and to come up with requirement analysis
  - MMDC is the group for technical realization of particular application framework or feature

What is MMDC?

- **Please go to the following URL to get more insight**
  - **http://www.wapforum.org/who/approved_charters/pdfcharters/MMDC%20Charter.PDF**

What we have done so far?

- **MMDC has produced the first version of Multimedia Messaging Service (MMS) specification suite**
  - **consists of three documents**
  - **as a part of WAP 2.0 release**

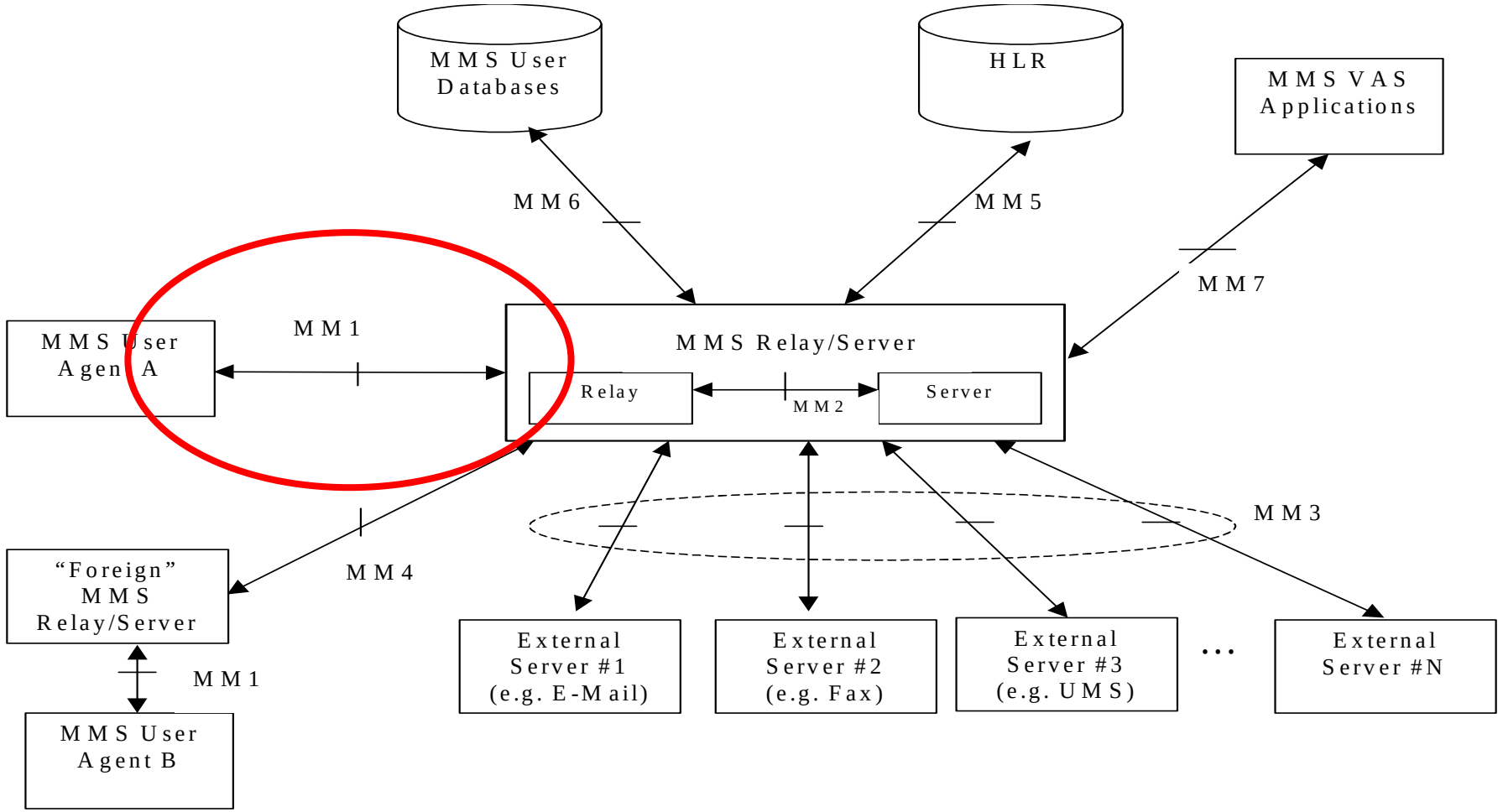
What is MMS?

- Multimedia Messaging Service is a system application by which client(s) and server(s) are able to provide a messaging operation with a variety of media types in a non real-time manner
- Realization of MMS includes, but not limited to:
  - Definition of the interface between a client (handset, User agent) and a server (a system component in the network infrastructure)
  - Definition of the interface between various servers
    - **e.g. Inter-MMS server operation, Interworking with non MMS server like Voice mail, SMSC, Content server, etc.**
  - Definition of supported media types and codecs
  - Billing, charging consideration
  - Interoperability and conformance

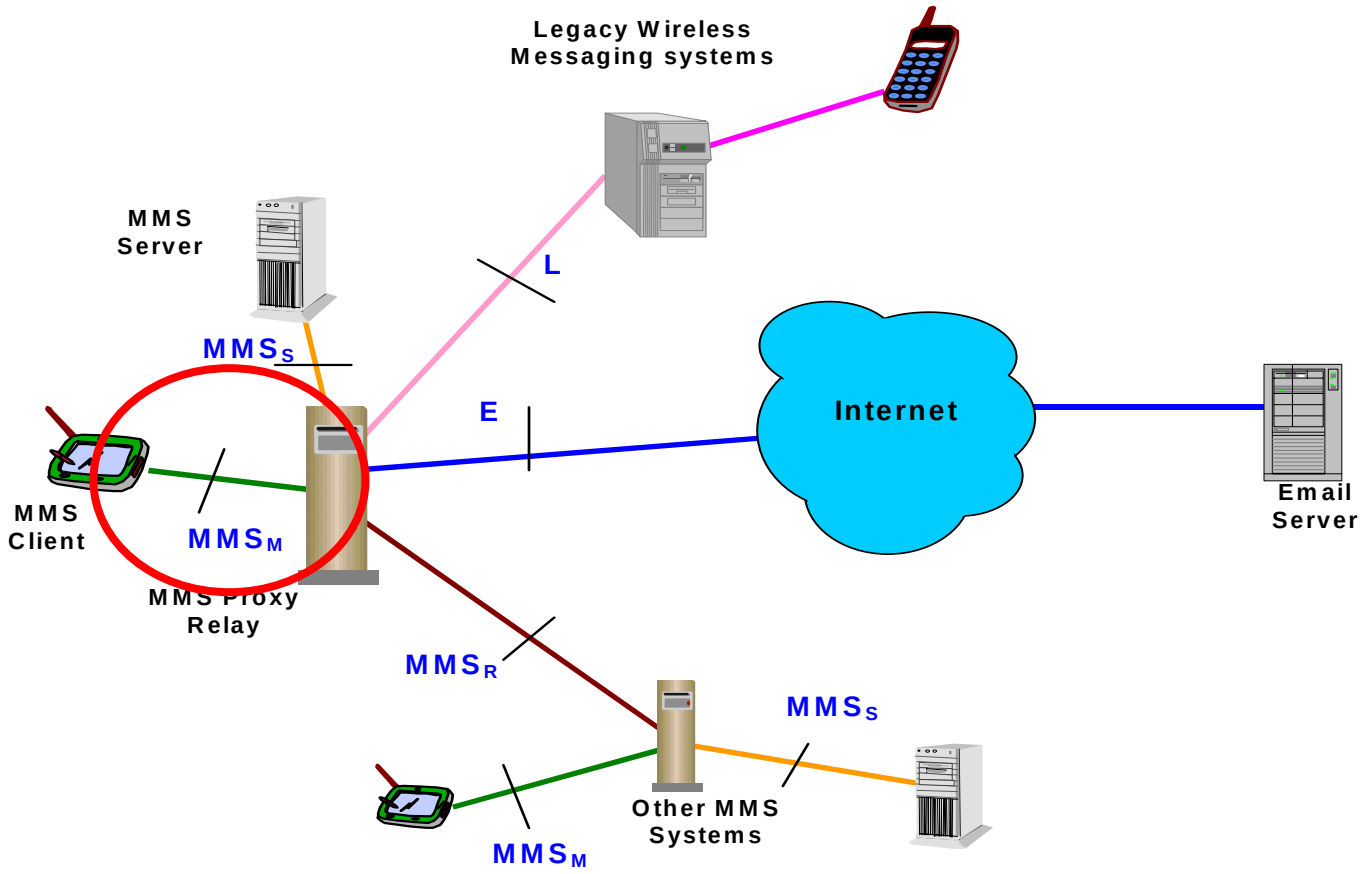
What is WAP MMS?

- 3GPP is the main authority to define the entire architecture and high level requirements to the interfaces between system components
- WAP MMS addresses the protocol implementation of the particular interface
  - Between WAP Client (e.g. handset device) and the server entity in a network
  - See next two diagrams
- WAP MMS spec suite consists of:
  - The architecture overview specification (informative)
  - The client transactions specification (normative)
  - The message encapsulation specification (normative)

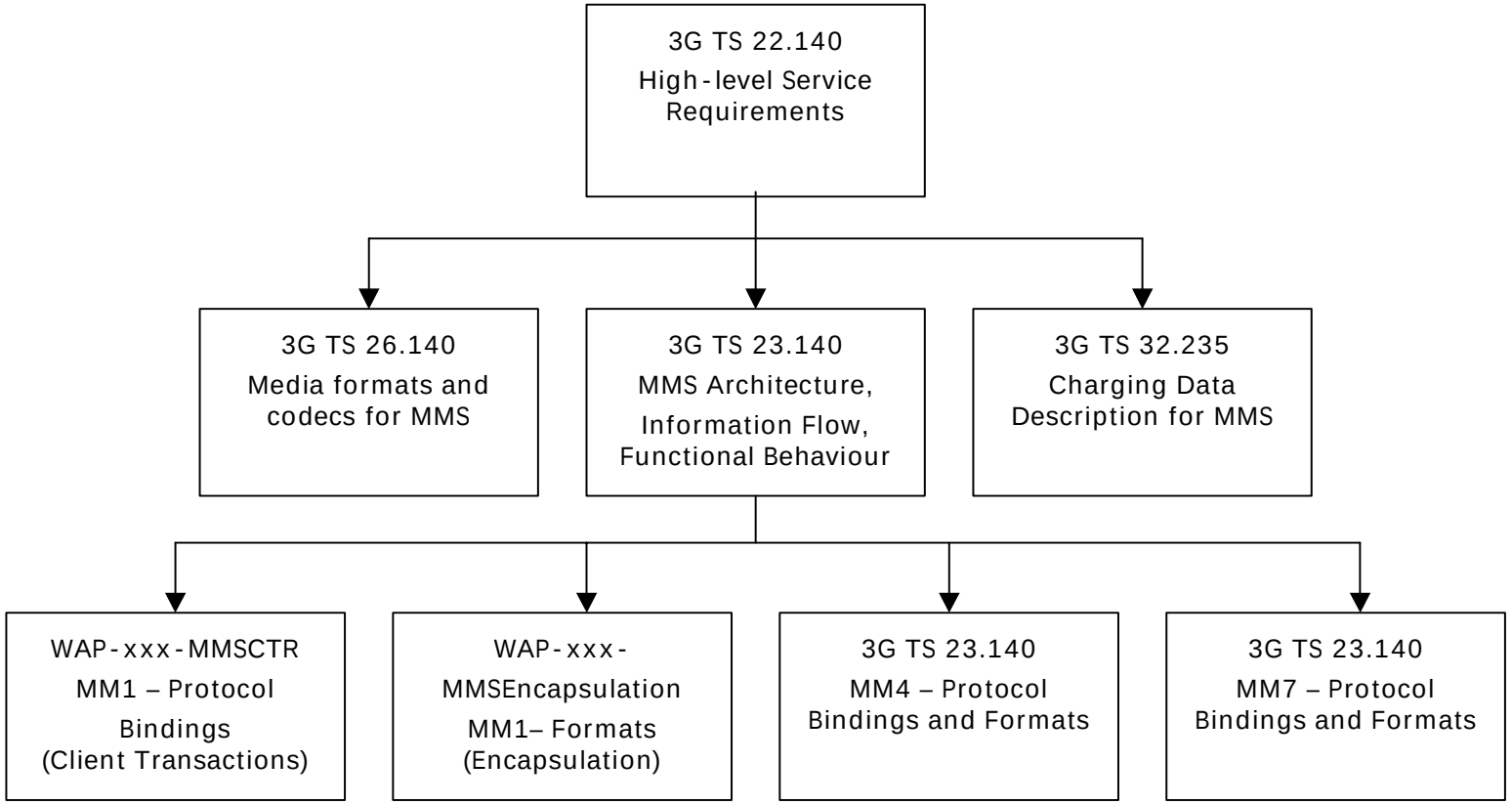
3GPP MMS reference architecture



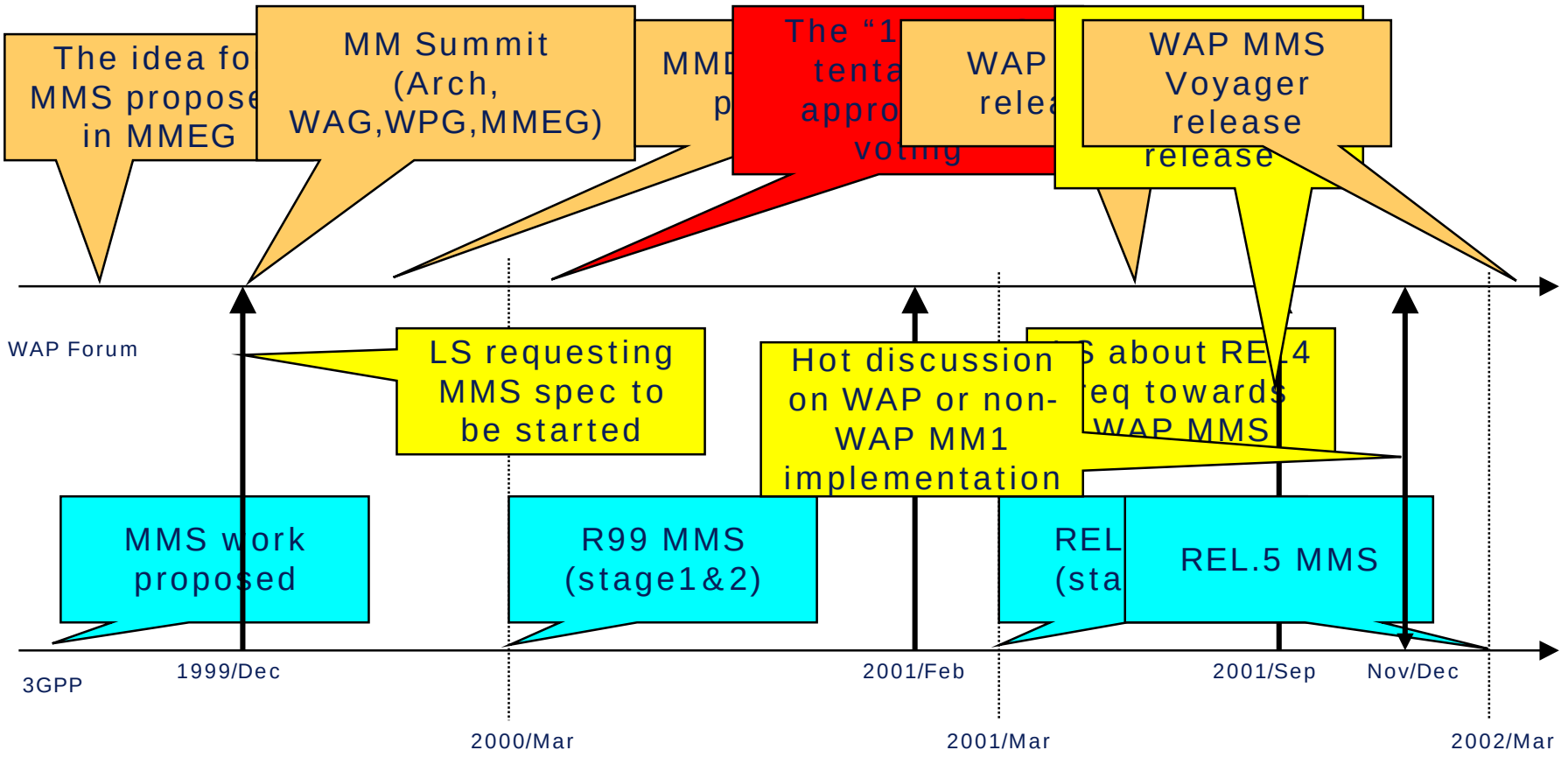
WAP MMS architecture overview



Positioning of 3GPP MMS and WAP MMS specs



MMS spec work history



WAP MMS version 1.0

- The 1st deliverable from MMDC
  - Fulfilling 3GPP REL-99 MMS stage 2 requirements
- WAP MMS v1.0 provides the basic (i.e. mandatory) messaging operations between a network entity and a client (or user agent)
  - Sending a Multimedia Message (MM)
  - Message Notification
  - Message Retrieval and acknowledgement
  - Delivery Report
  - Read Report (optional)
- “WAP MMS, Architecture Overview”
  - WAP-205 (Approved Version, April 25 2001)
- “WAP MMS Client Transactions”
  - WAP-206 (Approved Version, January 15, 2002)
- “WAP MMS Encapsulation”
  - WAP-209 (Approved Version, January 05, 2002)

MMS Architecture Overview (WAP-205)

- This specification is the informative document that introduces the overview of MMS and reference pointers to other normative/informative specifications
- WAP-205 describes, at high level, about:
  - The whole MMS archicture and elements inside
  - MMS Cleint and MMS Proxy-Relay server interface
  - Interworking between MMS Proxy-Relay servers
  - MMS Presentation
  - MMS security aspects
  - etc....

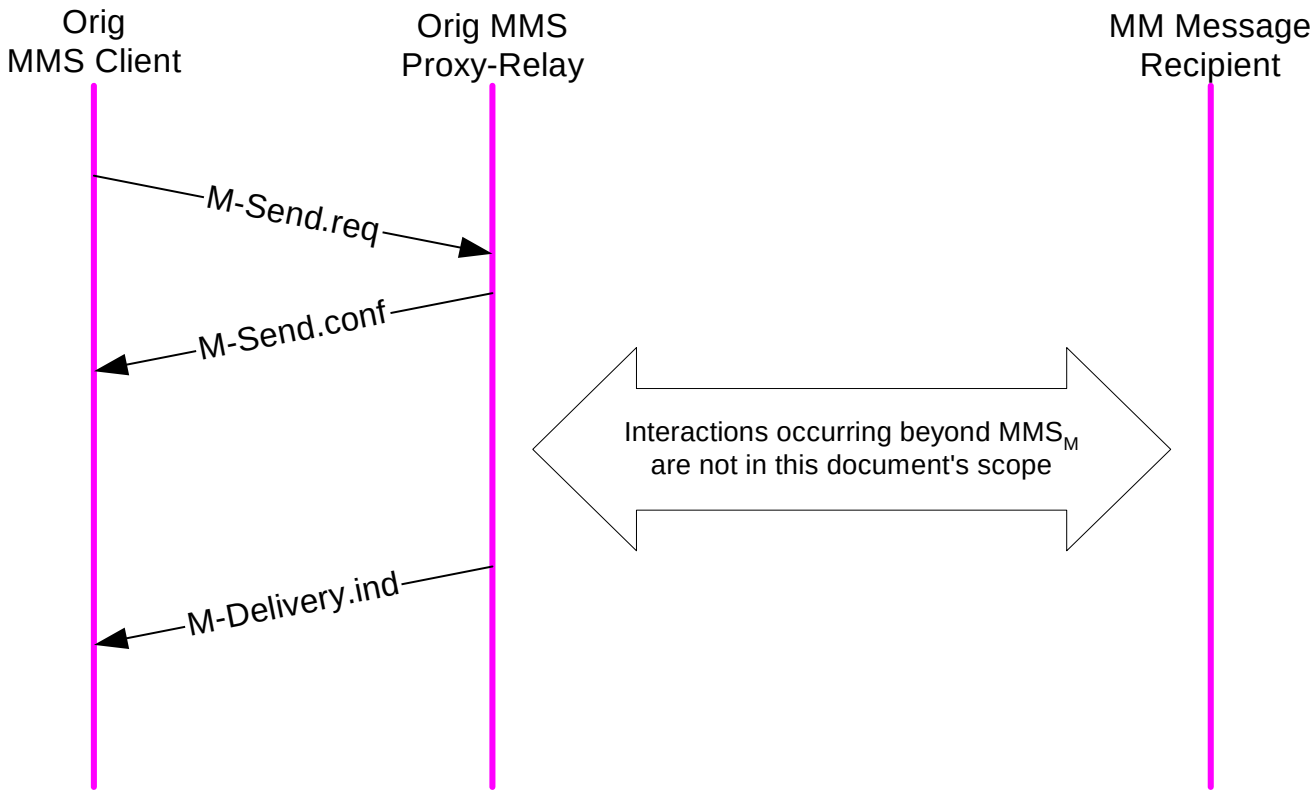
MMS Client Transaction (WAP-206)

- This spec defines normative message (Protocol Data Unit) flow between client and server
  - And normative behavior for it
- Two main system components
  - MMS Client that is a User Agent for messaging manipulation
  - MMS Proxy-Relay that is a counter part component to MMS Client in the network. Responsible for providing an access to other messaging system including another MMS Proxy-Relay
- The MMS v1.0 contains:
  - MMS Client sending a Multimedia Message(MM) to MMS Proxy-Relay
  - MMS Proxy-Relay sending a notification to MMS Client
  - MMS Client retriving a MM from MMS Proxy-Relay
  - MMS Proxy-Relay sending a Delivery Report to MMS Client
  - Read Report
  - Security Consideration
  - Terminal capability negotiation

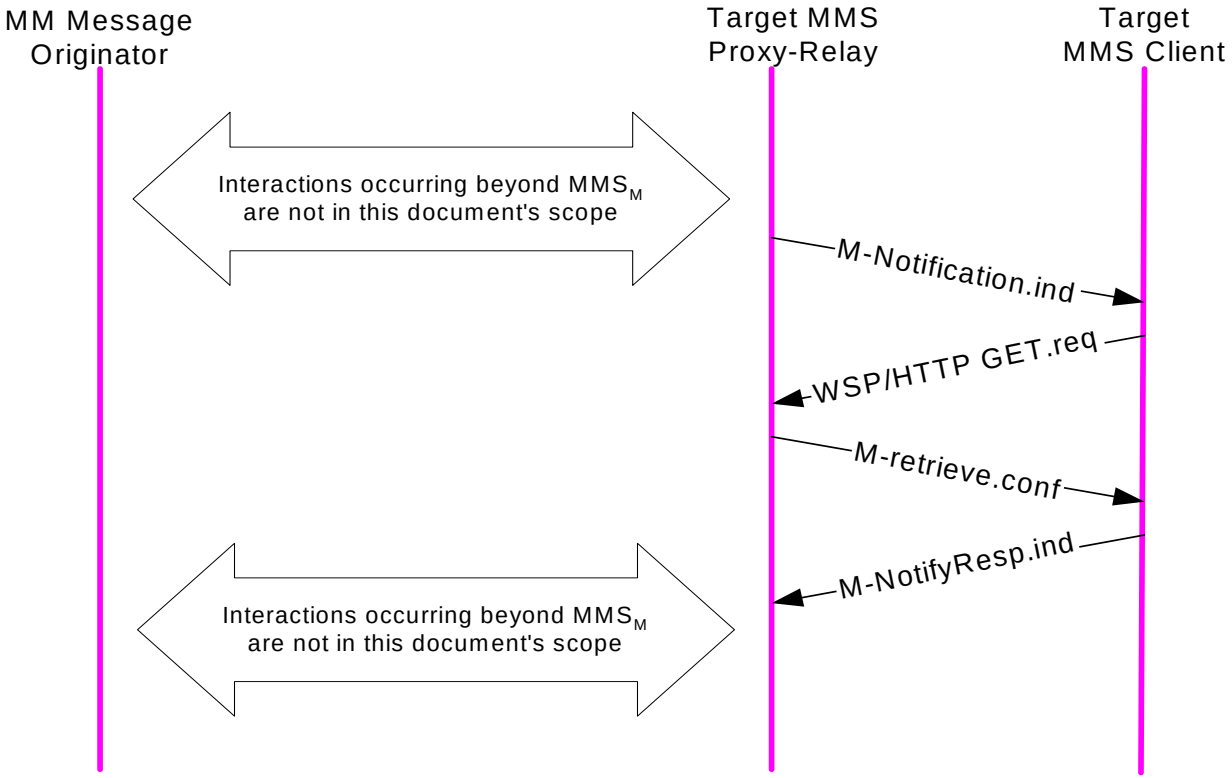
MMS Encapsulation (WAP-209)

- **This spec defines the PDU exchanged based on “Client Transactions”and its format**
  - **MMS PDU structure**
    - MMS PDU corresponds to “Abstract Message” over MM1 in 23.140
  - **MMS header field name and field value**
    - Its semantics and normative behavior for it
    - MMS header field corresponds to “Information Element in Abstract Message” in 23.140
  - **Binary encoding rule of header fields**
    - Re-uses WAP WSP binary encoding scheme and assigns MMS own token and value
  - **Addressing format**
- **MMS PDUs**
  - **M-Send.req and M-Send.conf**
  - **M-Notification.ind and M-NotifyResp.ind**
  - **M-Retrieve.conf and M-Acknowledgement.ind**
  - **M-Delivery.ind**
- **Read Report is done as a normal Multimedia Message**
  - **X-Mms-Message-Class as “AUTO”**
  - **Contains a text that indicates the action taken**

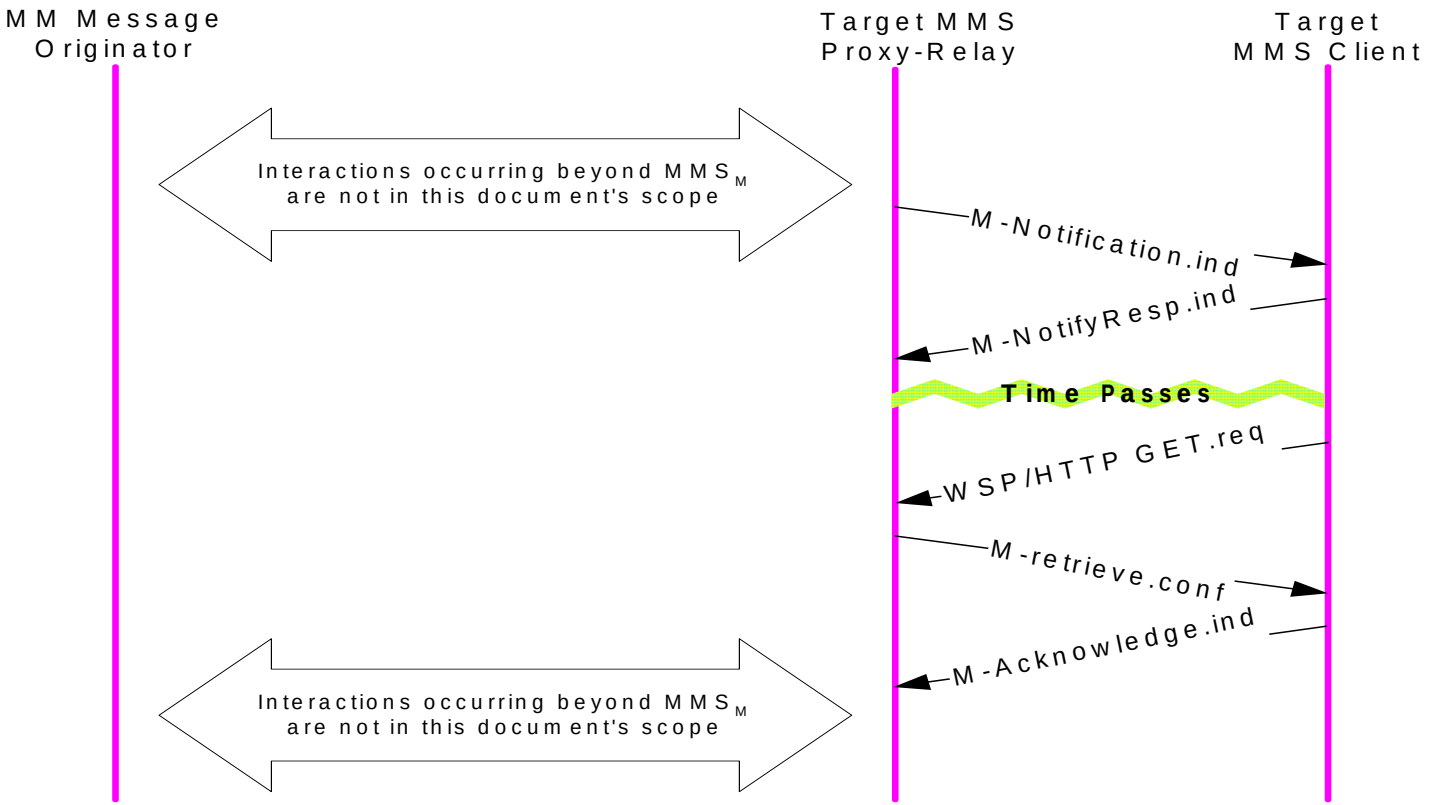
Flow example (orginator side)



Flow example (recipient side 1 – immediate retrieval)



Flow exmplae (recipient side 2 – delayed retrieval)



The 1st MMS release stauts

- It's been released as a part of WAP 2.0 June 2001 release
  - The original version of WAP-205, 206, 209
- WAP Forum has published a few Specification Information Note(s) to fix bugs
- You can always find the previous spec and SINs, or the latest spec that has incorporated all relevant SINs from
  - http://www.wapforum.org/what/technical.htm

Next to MMS v1.0

- The next release of MMS is codenamed as “MMS Voyager”
  - But this is the internal naming. Please don’t use this when you reference to this version
  - We will assign the official version number when it’s published
- MMS Voyager adds a couple of unique features by taking an incremental approach
  - Intending to provide a backward compatibility and a smooth upgrade path
- Primary target is to fulfill 3GPP MMS REL-4 stage 2 requirements

MMS Voyager highlights

- **Forwarding without prior download (3GPP MMS REL-4)**
  - **You can forward a message to another address after receiving MMS notification without downloading it really**
  - **Enables you to e.g.“save” a Multimedia Message when you cannot retrieve it to the handset you’re using at that moment**
- **Reply-Charging (3GPP MMS REL-4)**
  - **An operator can charge a replying message to the sender of the original message instead of the send of the reply**
  - **WAP MMS provides some hooks to enable this mechanism**
  - **However it’s limited to a single MMS Proxy-Relay (MMS Relay Server in 3GPP term)**

Other Highlights

- **Read-Report PDU (3GPP MMS REL-4)**
  - **Tne recipient MMS Client may choose by which way Read-Report is sent**
  - **The originator MMS Proxy-Relay may handle a fall-back**
- **Mapping between 3GPP MMS MM1 and WAP MMS**
  - **Improving a readability of both specification suites**
  - **Transactions, Abstract messages .vs. PDU**
  - **Information Elements .vs. Header Field**
- **Protocol bindings for WP-HTTP, WSP, WAP Push**
- **Introducing streaming retrieval case**
- **Editorial refinements**

MMS Voyager's status

- Spec work is approching the final stage within MMDC
- MMDC needs to pass two internal milestones and one vote by membership to release a spec to public
  - "Proposed" status in WAP terms
- MMDC believes MMS Voyager will be released soon
- Durign "Proposed" period anybody can review spec and send a feedback to us
  - Public review is one month at minimum

MMDC's plan for 2002

- **Finalize and finish MMS Voyager**
  - One more round of membership voting is required after public review is finished
- **Work on fulfilling 3GPP MMS REL-5**
  - Network based storage
- **i.e. MMDC is and will heavily focus on MMS and supporting of 3GPP MMS REL5 stage 2 requirement!**
- **Also the communication channel between WAP Forum & 3GPP should be improved**
  - I will address this issue as MMDC chair and 3GPP liaison officer in WAP Forum