Technical Specification Group Services and System Aspects   *TSGS#14(01)0676*
Meeting #14, Kyoto, Japan, 17-20 December 2001

Source:	**SA1**
Title:	**CRs to 22.140 for Rel-5 for Multimedia Messaging Service**
Document for:	**Approval**
Agenda Item:	**7.1.3**

Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Vers	Vers New	Doc-2nd-Level
SP-010676	22.140	008		Rel5	B	Stage 1 Requirements for VASP connectivity	4.1.0	5.0.0	1345

CHANGE REQUEST

| ⌘ | **22.140** CR | **008** | ⌘ rev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Stage 1 Requirements for VASP connectivity
Source:	⌘	SA1
Work item code:	⌘ MESS5-MMS	**Date:** ⌘ 16 Nov, 2001
Category:	⌘ **B**	**Release:** ⌘ *REL-5*

Use <u>one</u> of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use <u>one</u> of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	To enhance the MMS service it is necessary to provide a standardised interface between Value Added Service Provider (VASP) and the MMS.

In clause 10 of the TS 22.140 is stated that the MMS shall permit interworking with other (...)inteligent network services and supplementary services, either located within or outside a mobile network.

Since Release 4 of TS 23.140 a reference point (MM7) is already identified but not yet further specified. This reference point is intended for a VASP to distribute content. In order to standardise this interface more detailed requirements need to be elaborated on in the MMS stage 1 description for release 5. |
| **Summary of change:** | ⌘ | Stage 1 description of MM7 features to be included in Release 5 of the MMS specifications according to T2-SWG3's agreed upon scope for VASP MMS connectivity in REL-5. |
| **Consequences if not approved:** | ⌘ | No stage 1 requirements for the connection of value added service providers with MMS. In a worst case this would lead to an unfortunate situation similar to what we have today in SMS. |

Clauses affected:	⌘	3, 5.1, 5.2, 5.3, 5.4, 7, 10.
Other specs Affected:	⌘ ☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&M Specifications	
Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3   Definitions and abbreviations

3.1   Definitions

Recipient : the recipient is the entity to which a MM has been sent.

Sender: the sender is the entity that sent a MM.

User: the user is the MM sender or the MM recipient.

message element: a message element is a part of a MM consisting of only one media type.

multimedia message: a multimedia message is a message composed of one or more message elements.

multimedia message service: A multimedia message service allows transfer of multimedia messages between users without the requirement for the multimedia messages to be transferred in real-time.

media types: a media type refers to one form of presenting information to a user, e.g. voice or fax.**media formats**: within one media type different media formats are applicable for the media presentation, e.g. a picture can be GIF or JPEG format.

network: for the purposes of supporting multimedia messaging, the term network shall be considered to include the mobile operator's network and any functionality which may exist outside the mobile operator's network (i.e.fixed, internet and multimedia technologies etc.), and the support provided by that functionality for multimedia messaging.

service capabilities features: see Reference [2].

Value Added Service Provider: Provides services other than basic telecommunications service for which additional charges may be incurred.

3.2   Abbreviations

For the purposes of this document the following abbreviations apply:

MM	Multimedia Message
MMS	Multimedia Message Service
SMS	Short Message Service
VASP	Value Added Services Provider

5.1 Multimedia message management

- **Terminal-sensitive MM management**

The MMS shall be able to support the capability for the terminal and network to take account of the capability of the user's terminal (e.g. deliver a MM / notification in a manner compatible with the terminals capability).

- **Terminal status-sensitive MM Management**

The MMS shall be able to support the capability of the network to take account of the availability, changes of the state of availability of the terminal (e.g. store messages if the recipient is not available).

- **MMS Control by the operator**

The MMS shall be able to support a request from the operator to enable/disable MM delivery and submission.

- **MMS Control by the user**

The MMS shall be able to support a request from the user to enable/disable MM delivery and submission.

This requirement shall be supported at the application layer in the terminal, and will not be further elaborated.

- **Personalise multimedia messaging**

The MMS shall be able to support a request by the user to manage the Service Preferences of his User Service Profile related to this MMS [2](e.g. customise his MM environment within the capabilities of the terminal, network and MM application. This could be unconditional or conditional e.g. depending on roaming conditions or operator restrictions).

- **MM creation**

The MMS shall be able to support the request to create a MM by the user or an application.

This requirement shall be supported at the application layer in the terminal, and will not be further elaborated.

- **MM Time Stamping**

The MMS shall be able to support the request to include a reliable time value in an MM, a notification and an acknowledgement as appropriate.

- **Multiple Media**

Multimedia messages may be composed of either a single medium (e.g. voice) or multi-media (e.g. Voice and video). The MMS shall be able to support a request for media synchronisation / sequencing.

- **Media Type Conversion**

The MMS shall be able to support a request to convert between media types (e.g. Fax to image).The MMS shall be able to support an indication from a VASP that VASP originated content of an MM should not be converted or changed by the MMS service provider before it is delivered to the recipient.

This requirement shall be supported at the application layer in the network, and will not be further elaborated.

- **Media Format Conversion**

The MMS shall be able to support a request by the user or the application to convert between MM media formats (e.g. JPEG to GIF).

This requirement shall be supported at the application layer in the terminal and/or in the network, and will not be further elaborated.

- **Message forwarding**

The MMS shall be able to support a request to forward multimedia messages or multimedia message elements without having to first download the MM to the terminal.

- **Storage of Multi-Media Messages**

The MMS shall be able to support a request for multimedia messages or message elements to be stored until delivered to the recipient's terminal, until they expire, or until they are deleted by the user (unless configured differently). The MMS shall be able to support a request to store and manage all MMs in a network based repository rather than on the mobile terminal.

This requirement shall be supported at the application layer in the network, and will not be further elaborated.

NOTE: There is no requirement for the MMS to be responsible for the processing/presentation of the MM message, after it has been delivered to the terminal.

- **Prioritisation of Messages**

The MMS shall be able to support a request for MM prioritisation subject to the capabilities of the network (e.g. the sender of the MM may request to prioritise the importance of the multimedia messages).

- **Message qualification**

The MMS shall be able to support a request for MM qualification (e.g. subject) for the purpose of advanced user experience and awareness.

- **Screening of Messages**

The MMS shall be able to support a request for MM screening subject to the capabilities of the network (e.g. automatically delete "junk mail", anonymous messages without delivery to the recipient's terminal).

This requirement shall be supported at the application layer in the terminal an/or in the network, and will not be further elaborated.

- **Validity Period**

-     The MMS shall be able to support a request by the originator of a message to define validity periods (earliest and latest desired time) for message delivery (e.g. if a message can not be delivered within a certain time it will be automatically deleted). The MMS service provider shall be able to set the MAXIMUM allowable validity period for any message.

- **Multimedia Message Processing by a VASP**

The MMS shall be able to support a request for messages to be processed by a VASP. An example of such processing may be where an MM is sent to a VASP before delivery to the recipient so that the VASP can add multimedia element(s) to the original message.

- **Replacing MM**

The MMS shall be able to support a request by a VASP to replace a previously sent MM from the VASP with a second newer MM.

- **Cancellation of MM**

The MMS shall be able to support a request by a VASP to delete a MM that had previously been sent from the VASP but not yet delivered to the terminal.

5.2   Multimedia message delivery and submission

- **Submission mechanism**

The MMS shall support multimedia messages or messages elements to be submitted from the sender's to the recipient's terminal.

- **Push Mechanism**

The MMS shall be able to support a request for multimedia messages or messages elements to be automatically delivered to the recipient's terminal.

- **Pull Mechanism**

The MMS shall be able to support a request for multimedia messages or messages elements to be delivered to the recipient's terminal on request by the recipient.

Editor's Note: push and pull delivery mechanisms could be identical; the criteria which decide on the type of mechanism (push / pull) are either described in the User Services Profile or out of the scope of this specification.

- **Concurrency**

The MMS shall be able to support MM delivery to and from the user's terminal not be restricted during other active services (subject to the capabilities of the terminal and the network).

- **Streaming**

The MMS shall be able to support streaming for MM delivery from the MMS system to the terminal.

Support for streaming for MM upload from the terminal to the MMS system will be considered for future releases.

5.2.1   MM delivery to and submission from a VASP

- **VASP submission mechanism**

The MMS shall support multimedia messages or messages elements to be submitted from a VASP.

- **VASP delivery mechanism**

The MMS shall be able to support multimedia messages or messages elements to be delivered to a VASP.

- **VASP mass distribution**

The MMS shall be able to support a request from a VASP for mass distribution of MMs to recipients.

- **Additional VASP data**

The MMS shall be able to convey additional data associated with an MM from a VASP to the MMS service provider and vice versa.

Note: A possible use case for this could be the option to sent additional charging information from the VASP to the MMS service provider. However the data itself is not specified for this release.

5.3   Notification and Acknowledgement

The MMS shall be able to support a request to send generic notification and acknowledgement capability to inform the user in an appropriate manner of MMS events. Examples may include:

- notify the recipient about received messages (including a description of the message, e.g. content, size, type).

- notify the recipient about actions taken by the MMS, (e.g. due to profile settings like automatic MM forwarding, deletion, etc.).

- acknowledge the sender about successful or failed MM or storage of a MM.

- acknowledge the sender about successful or failed MM submission.

- acknowledge the sender, including a VASP, about successful or failed MM delivery to the recipient terminal (subject to the recipient permitting such an acknowledgement).

- acknowledge the sender, including a VASP, about the MM being read/handled at the recipient terminal (subject to the recipient permitting such an acknowledgement).

- acknowledge the sender, including a VASP, about successful or failed MM deletion.

- acknowledge the sender, including a VASP, upon request, about the status of a submitted MM (i.e. delivered / not delivered).

- acknowledge a VASP, upon request, about the status of a mass distributed MM. A mass MM status report might be an aggregated report on the status of individual messages for all recipients on the distribution list of a specific mass distributed MM.

- acknowledge a VASP, upon request, about the status of previously submitted MMs, after a VASP had sent the MMs being queried.

5.4   Addressing

The MMS shall support different addressing formats to identify the sender and recipient as specified in 22.975 [4] where applicable. It shall be possible to submit one message to multiple recipients.

The MMS shall be able to support the request to hide the sender's address from the recipient.

The MMS shall support a distribution list for mass distribution of MMs from a VASP. The MMS shall support the ability for a VASP to have the distribution list been modified by the MMS service provider for this release.

7   Security

The user shall be able to use and access MM in a secure manner. It shall be possible for the contents of MMs to be read only by the intended recipient(s). A recipient shall be informed of the reliability of the identity of the sender in case the sender has authorised his identity to be transmitted.

The integrity of MMs during transit shall be assured to extent of the network capabilities.

The MMS shall be intrinsically resistant to attempts of malicious or fraudulent use.

An MMS service provider shall be able to authenticate a VASP connected to it and shall be able to be authenticated by a VASP connected to it. The MMS service provider shall be able to authorise the VASP to use various MM services. The MMS shall support encryption of the transport layer between an MMS service provider and a VASP.

Note: Key management is outside the scope of this release of this standard.

The "Security Threats and Requirements" specified in 21.133 [3] shall not be compromised.

10   Interworking

The standard shall permit interworking with other or existing messaging technologies, messaging services, intelligent network services and supplementary services, either located within or outside a mobile network.

In the case of a VASP, such interworking shall include capability negotiation between the VASP and the MMS service provider. Such capability negotiation shall include service version information as a minimum for this release.