

**Agenda Item:** 6.2.8

**Source:** Nokia

**Title:** Need for a study on non-realtime Multimedia Messaging Service in 3GPP

**Document for:** Discussion

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## Introduction

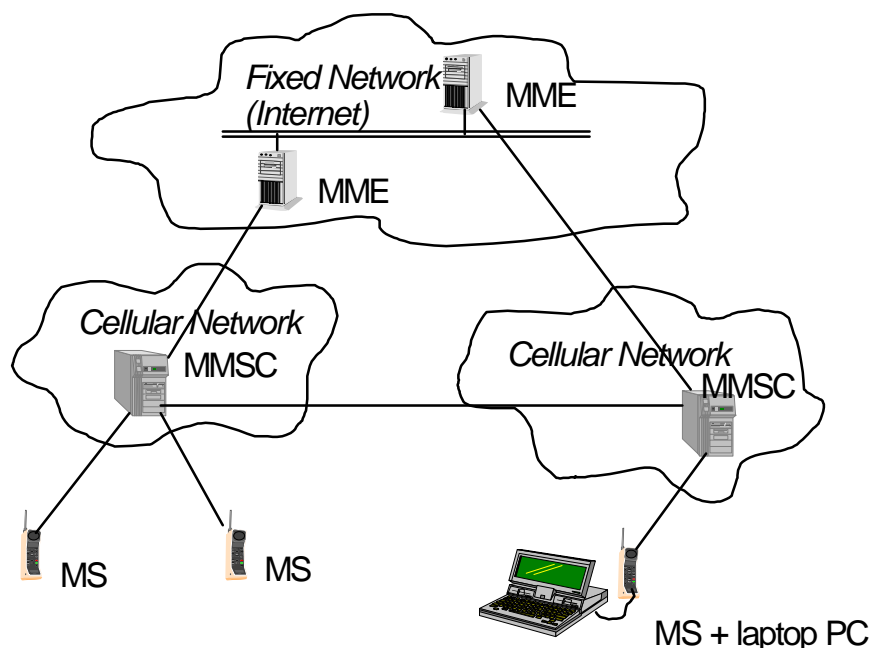
In ETSI there is a Work Item on Support of non-realtime Multimedia Messaging Service (MMS) (see ETSI Tdoc SMG1 MM 029/98). The justification for the Work Item is as follows (directly quoted from ETSI Tdoc SMG1 MM 029/98):

"SMS has been very successful and popular in the GSM era. Noting this messaging type of service, evolving from the existing SMS to non-realtime Multimedia Messaging Service, has been identified as being important for UMTS. Multimedia messaging is understood to mean non-realtime transfer of images, audio/video clips and other binary information in a store-and-forward fashion. The message could be delivered to the recipient immediately if the user is attached to the network, otherwise delivered by the network to the user when available."

In this contribution we propose that work in 3GPP should be started for studying and specifying the general requirements and service description for non-realtime Multimedia Messaging Service. We first give a short description on what is understood by Multimedia Messaging Service. We also give a proposal on the tasks that should be handled within 3GPP on this topic.

## Short description of Multimedia Messaging Service (MMS)

Multimedia Messaging Service (MMS) provides means for delivering multimedia information between two Multimedia Message Entities (MME) in a store-and-forward fashion. The MME may be located either in an MS or in a fixed network. A network element called Multimedia Message Service Center (MMSC) takes care of storing and forwarding the multimedia messages. Figure 1 shows the MMS architecture in a very general and abstract level.



**Figure 1: General view of the MMS architecture**

The following items describe the basic features of the MMS:

- Multimedia messages can be transferred from MS to MS, from MS to an MME in a fixed network (e.g. internet email), and from fixed network to an MS.
- Mobile terminated multimedia messages are delivered to the recipient automatically if possible. If the recipient MS cannot be reached by the MMSC, the MMSC stores the multimedia message and delivers it to the recipient MS as soon as the MS becomes reachable. Hence, the MMS is not an interactive service because the user does not have to interactively request multimedia messages to be delivered from the MMSC to the MS. However, in some situations it may not be possible to transfer the multimedia message automatically to the MS even if the MS is reachable. For example, if the MS does not have enough storage capacity for receiving the multimedia message, it is not reasonable for the MMSC to try to deliver the message to the MS. In such situations the user can be notified about the incoming multimedia message, and the user can be asked to decide how to handle the message.
- In principle the originator of the multimedia message should be charged for using the service. However, other possibilities for charging should be enabled also.
- It should be possible to use different addressing formats to identify the recipient.
- Multimedia messaging is not a real-time service. This means that a multimedia message is first completely transferred to the recipient MS and only then it can be opened by the user. Hence, no real-time QoS requirements are needed from transport layers of MMS even if the multimedia message contains video or audio clips. However, reliable message transportation must be guaranteed by the MMS.
- In principle the content type and size of the multimedia messages should be unlimited. In practice the cellular network operator should have the possibility to limit e.g. the size of multimedia messages. Furthermore, it must be taken into account that every recipient MS cannot support all possible content types.
- Filtering/forwarding/barring of mobile terminated multimedia messages could be supported by the MMS. Filtering means that the multimedia message is not automatically delivered to the MS but it is stored in MMSC from where the MS can later explicitly request the message. Forwarding means that instead of automatically delivering the multimedia message to the MS, the message is forwarded e.g. to another MS or to an internet email address. Barring means that the multimedia message is discarded. Filtering/forwarding/barring could be based on e.g. size of the message or content type, on the capabilities of the MS, on user defined restrictions, or on a combination of those.
- The MMS may include a mechanism for sending simple notifications (e.g. by SMS) to the MS informing the user about messages which have been filtered/forwarded/barred.

## **Proposal for MMS work in 3GPP**

At least the following tasks on MMS should be handled in 3GPP:

- General principles and types of service for MMS should be agreed.
- Service requirements for Multimedia Messaging should be agreed.
- Requirements needed for supporting the MMS in both network and terminal should be defined. It should be studied which parts of the MMS (e.g. interfaces, protocols) are needed to be standardised.
- Affected network elements and interfaces (also new ones) should be identified.
- A minimum set of functions, interfaces and protocols needed for supporting the MMS should be standardised.

## **Conclusions**

The ETSI SMG Work Item on supporting non-realtime Multimedia Messaging Service should be transferred to 3GPP, and the work on this topic should be launched in 3GPP as soon as possible. Discussion is needed on how to proceed with the work within 3GPP. Especially, the tasks related to Multimedia Messaging Service should be clearly defined and the work should be allocated and distributed to relevant WGs.