

**Agenda Item:** 6.1.6.1  
**Source:** NTT DoCoMo  
**Title:** Clarification of numbering scheme  
**Document for:** Discussion

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To clarify the numbering scheme in UMTS/IMT2000, it is necessary to specify in the document 22.00.

There are two numbering schemes assumed for UMTS/IMT2000 which are multiple and single numbering schemes. But there is no description in the specification 22.00. Both numbering schemes are necessary for release 99.

Therefore, we propose that the attached changes to 22.00 are adopted by TSG-S1.

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## 4 UMTS phasing and releases overview

The UMTS system will be defined in a phased approach. This specification addresses the UMTS phase 1 capabilities for RELEASE '99.

The UMTS phase 1 requirements can be met by the capabilities of GSM phase 2+ release 99 including specific enhancements for UMTS. Additional developments to fully meet the requirements for UMTS phase 1 standardisation are listed in this specification.

The fundamental difference between GSM and UMTS phase 1 resides in the support of high bit rate bearer services with the notion of negotiated traffic and QoS characteristics. UMTS phase 1 shall in particular support bursty and asymmetric traffic in an efficient way. This shall allow UMTS phase 1 to support single- and multi-media N-ISDN applications and single- and multi-media IP applications.

The phase 1 USIM is developed on the basis of the phase 2+ release 99 SIM. When UMTS specific requirements have not been stated in this specification it is assumed that the GSM phase 2+ release 99 specifications for the SIM is adopted for the UMTS phase 1 requirements.

No specific requirement is addressed for the mobile termination since it relates to the UMTS access stratum and to the UMTS core network (depending whether peer entities end either in the access or in the core).

Regarding the phase 1 standardisation of UMTS access network, only the UTRAN (including all UTRA modes if several modes are defined) is considered as being part of the UMTS access network. Other types of access networks are for further consideration. UTRAN is a new access network and as such all the UTRAN requirements are defined in this specification. This includes in particular the interoperability requirements put on the UTRAN and GSM BSS access networks to cater with UMTS networks operating the two types of access networks.

UMTS phase 1 shall be developed in such a way that it supports compatibility with an evolved GSM network from the point of view of roaming and handover. This could be achieved by evolving from a GSM phase 2+ network but does not exclude other developments. Therefore, phase 1 specifications shall allow operators to introduce new technologies (such as ATM, IP,...). An overall UMTS system approach is needed for UMTS phase 1 development as it is more than the addition of a UTRAN to a GSM Phase 2+ architecture. Requirements to the GSM phase 2+ core network for UMTS should be incorporated.

To enable operators to utilize the network resources efficiently, the optimization of the signaling load as well as the reduction of the required overall transmission capacity is a critical success factor. Therefore the standard should aim for an architecture with minimal signaling traffic and optimized transmission infrastructure. If advantageous common mobility management and common subscriber data management for CS and PS traffic should be implemented in all relevant network elements. Furthermore the standard should support an integrated node (MSC/SGSN) for PS and CS traffic as well as separated nodes as in GSM/GPRS.

From the viewpoint of the necessity of providing multi-vendor environments, interfaces within the UTRAN (such as Iub) shall be standardized. However, since operator dependent O&M requirements over these interfaces may exist, specifications should be able to be expanded flexibly according to operator specific requirements.

[UMTS phase1 shall support Multiple and Single numbering schemes for release 99.](#)

It should be noted that the advanced bearer capabilities of the phase 1 UMTS access network may not be fully supported by the phase 1 UMTS core network. This however guarantees the viability of the UMTS access network to allow the scope within phase 1 to support broadband bearer services.

A standard default speech codec shall be standardised for UMTS phase 1. UMTS should support tandem free operation from day 1 to enable lower transmission and equipment costs and for higher speech quality. Crossphase compatibility issues in transcoder location should be considered when moving from Phase 1 UTRAN to later releases.