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Technical Specification

**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
Network Identity and Timezone (NITZ);
Service description, Stage 1
(3G TS 22.042 version 3.0.1 Release 1999)**



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Foreword

This Technical Specification has been produced by the 3GPP.

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- z the third digit is incremented when editorial only changes have been incorporated in the specification;

1 Scope

The present document describes the feature Network Identity and Timezone (NITZ).

This feature provides the means for serving PLMNs to transfer current identity, time, Daylight Saving Time and the local timezone to Mobile Stations (MS)s, and for the MSs to store and use this information. This enhances roaming by permitting accurate indication of PLMN identities that are either newer than the Mobile Equipment (ME) or have changed their name since the ME was sold. Additionally time, Daylight Saving Time and timezone information can be utilised by MEs as desired.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- For this Release 1999 document, references to GSM documents are for Release 1999 versions (version 8.x.y).

- [1] GSM 01.04: "Digital cellular telecommunication system (Phase 2+); Abbreviations and acronyms".
- [2] TR 21.905: "Vocabulary for 3GPP Specifications".
- [3] TS 24.008: "Mobile radio interface layer 3 specification; Core Network Protocols - Stage 3".
- [4] TS 23.038: "Alphabets and Languages".

3 Definitions and abbreviations

In addition to the following definitions, abbreviations used in the present document are listed in GSM 01.04 [1] and TR 21.905 [2].

NITZ	The feature Network Identity and Timezone as described in the present document.
UCS2	Universal Character Set 2
UT	Universal Time
LTZ	Local Time Zone, the offset from UT applying in that locality, including any adjustments for summer time, etc.
DST	Daylight Saving Time. Adjustment for summer time.

4 Description

The feature Network Identities and Timezone shall make it possible for a serving PLMN to transfer its current identity, universal time, DST and LTZ to MSs, and for the MS to store and use this information. Each one of these elements is optional. The feature significantly enhances roaming as it enables the accurate indication of network identities that are either newer than the ME or have changed their name since the ME was manufactured or sold. Additionally time and timezone information can be utilised by MEs as desired.

When using the default character set (see TS 23.038 [4]), the serving PLMN shall make both a "short" and a "long" name available to the MS. As an alternative or, in addition, to the default character set, the serving PLMN can make a name available in UCS2. The MS shall be free to choose one of these names depending upon its own characteristics and/or limitations, such as those of its display.

NOTE: Guidance is sought, particularly from non-European operators, as to whether long and short name is required in UCS2 format.

The Network Operator may change the network identity at any time. However the change of network identity need not force immediate transfer of information to the MS.

As a network option, it shall be possible to send universal time (UT) by the network. Time information shall include: Year, Month, Day, Hour, Minute, Second, Timezone and DST. The expected accuracy of the time information is in the order of minutes.

NOTE: Universal time indicates the time at which this information element (see TS 24.008 [3]) may have been sent by the network. Thus it can be assumed that the accuracy of the time information when it arrives at the MS is usually within a couple minutes.

The serving PLMN shall make Local Time Zone (LTZ) available to the MS as an offset from Universal Time in units of 15 minutes.

When the LTZ is compensated for DST (summertime), the serving PLMN shall provide a DST parameter to indicate this. The adjustment for DST can be +1h or +2h.

For PLMNs which cover more than one timezone, it is assumed that the Network Operator will arrange for boundaries between subsets of the PLMN service area to be approximately aligned with timezone boundaries. When an MS changes Local Time Zone the PLMN is not required to immediately transfer new time zone information. Similarly the PLMN will transfer the LTZ changes arising from summer/winter adjustments when convenient to the network operator.

The MS will implement the new time zone information at an appropriate time following receipt.

The information passed to MSs supporting the NITZ feature is controlled by the serving PLMN Operator through administrative interaction. The interface necessary to support this administrative interaction is outside the scope of the present document.

5 Applicability

Network Identity and Timezone is both an optional network feature and an optional MS feature.

The NITZ feature is not intended to replace the existing method of PLMN Indication, nor is it intended to discharge the administration and maintenance of the associated MoU Permanent Document, SE13.

6 Normal procedure

6.1 Transfer of NITZ information

Network name, time, DST and timezone information can be transferred from the serving PLMN to the MS:

- 1) Upon registering on the network.
- 2) When the MS geographically relocates to a different Local Time Zone.
- 3) When the network changes its Local Time Zone, e.g. between summer and winter time.
- 4) When the network changes its identity.
- 5) At any time during a signalling connection with mobile station.

Transfer of relevant information shall not unduly consume scarce network resources.

6.2 Use of NITZ information

Relevant information shall be presented to the MS user at the earliest opportunity.

It is expected that the MS will display the most up to date information transferred to it.

Switching off the MS should not cause the updated name of the network(s) to be deleted.

Removal of the SIM should not cause the updated name of the network(s) to be deleted.

However, the number of different network identities retained in the ME is a manufacturer issue.

Usage of time information in MS is a ME manufacturer issue. For example, time information can be utilised to time stamp transactions for logging purposes.

Annex A: Change history

Change history						
TSG SA#	Spec	Version	CR	<Phase>	New Version	Subject/Comment
Jun 1999	GSM 02.42	8.0.0				Transferred to 3GPP SA1
SA#04	22.042				3.0.0	
SA#05	22.042	3.0.0	001		3.0.1	Editorial update of references for GSM/3GPP use.

History

Document history		
V3.0.1	January 2000	Publication