



**SLOVENSKI STANDARD**  
**SIST-TS ETSI/TS 102 254 V1.1.1:2005**  
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Private Integrated Services Network (PISN); Specification, functional model and information flows; Message Centre Monitoring and Mailbox Identification supplementary service

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*Technical Specification*

## **Private Integrated Services Network (PISN); Specification, functional model and information flows; Message Centre Monitoring and Mailbox Identification supplementary service**

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## Foreword

This Technical Specification (TS) has been produced by ECMA on behalf of its members and those of the European Telecommunications Standards Institute (ETSI).

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## Brief History

The present document is one of a series of ECMA Standards defining services and signalling protocols applicable to Private Integrated Services Networks (PISNs). The series uses ISDN concepts as developed by ITU-T and conforms to the framework of International Standards for Open Systems Interconnection as defined by ISO/IEC. It has been produced under ETSI work item DTS/ECMA-00229.

The present document specifies the Message Centre Monitoring and Mailbox Identification supplementary service.

SS-MCM is based on SS-MWI and includes its entire functionality. The interoperability with SS-MWI is guaranteed. Compared to SS-MWI, SS-MCM offers an enhanced functionality for monitoring status changes of messages stored in the Served User's Mailbox as follows:

- individual activation and deactivation for the monitoring of messages of different Message Type(s) within the Mailbox as well as interrogation of the actual SS-MCM configuration;
- retrieval of information about all messages (i.e. new and retrieved messages) in the mailbox independent of the Message Status;
- request of detailed updated information about messages stored in the mailbox at every time.

The present document is based upon the practical experience of ECMA member companies and the results of their active and continuous participation in the work of ISO/IEC JTC1, ITU-T, ETSI and other international and national standardization bodies. It represents a pragmatic and widely based consensus.



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## 4 Definitions

For the purposes of the present document, the following terms and definitions apply.

### 4.1 External definitions

The present document uses the following terms and definitions given in other documents:

**Private Integrated services Network eXchange (PINX):** See ECMA-133 [7].

**Private Integrated Services Network (PISN):** See ECMA-133 [7].

**service:** See ITU-T Recommendation I.112 [4].

**signalling:** See ITU-T Recommendation I.112 [4].

**Supplementary Service (SS):** See ITU-T Recommendation I.210 [5].

**telecommunication service:** See ECMA-142 [2].

**user:** See ECMA-142 [2].

### 4.2 Other definitions

#### 4.2.1 Address Header

The Address Header includes Originator address information and, optionally, the receiving time stamp and the priority of one specific message.

#### 4.2.2 Complete Information

A complete list of Address Headers of either all New or all Retrieved Messages of one specific Message Type in a Mailbox.

#### 4.2.3 Compressed Information

Includes the number of either all New or all Retrieved Messages of one specific Message Type. Optionally, in the compressed information the Originator address, the priority level and the time stamp of the highest priority message can be included. If there is more than one message of the highest priority the optional information shall be related to the latest received highest priority message.

#### 4.2.4 Deleted Messages

A message of any Message Type which was previously stored in the Mailbox but which is not available anymore due to deletion by the Served User.

#### 4.2.5 Mailbox

A logical entity within a Message Centre which stores all messages (New Messages and Retrieved Messages) of one or more Message Types for one specific Served User who is registered at the Message Centre.

## 4.2.6 Message Centre (MC)

The entity within the network which administrates Mailboxes for Served Users. The MC provides the Served User with information:

- about each incoming New Message in the Served User's Mailbox, and
- about Message Status changes (e.g. due to retrieval or deletion) in the Served User's Mailbox,
- by means of Complete or Compressed Information for New and Retrieved Messages. This information is provided by update procedures.

## 4.2.7 Message Status

Describes whether a stored message at the Served User's Mailbox is a New Message or a Retrieved Message.

## 4.2.8 Message Type

The type of a message stored at the MC. A Message Type indicates either the telecommunication service (e.g. speech, 3,1 kHz audio, etc.) that is needed to retrieve a specific message via a PISN or the general type of a message that might not be directly retrieved by means of a PISN (e.g. email or video).

## 4.2.9 Message Waiting Signal (MWS)

Any type of signal presented to a Served User's terminal that is useful to draw a Served User's attention to the arrival of a New Message in the Served User's Mailbox.

- NOTE: The indication may be a lamp, special tone, display string etc. The technical realization of the Message Waiting Signal is outside the scope of the present document.

## 4.2.10 New Message

A message of any Message Type, which is stored in a Mailbox. The Served User has not yet retrieved the message.

## 4.2.11 Originator

The user who has left a message at the Served User's Mailbox.

## 4.2.12 Originator address

Address information (i.e. Party Number) of the originator.

## 4.2.13 Retrieved Message

A message of any type, which is stored in a Mailbox. The Served User has already retrieved but not deleted the message (i.e. the message is no longer a New Message).

## 4.2.14 Served User

The owner of a specific Mailbox at a Message Centre. The Served User receives an indication about status changes of the messages in the Served User's Mailbox from the Message Centre.

## 5 List of acronyms

For the purposes of the present document the following acronyms apply:

ANF-CIDL	Call Identification and Call Linkage
ANF-PR	Path Replacement
ANF-PUMI	Private User Mobility Incoming Call
ANF-PUMO	Private User Mobility Outgoing Call
ANF-RRC	Route Restriction Class
ANF-TC	Transit Counter
FE	Functional Entity
ISDN	Integrated Services Digital Network
MC	Message Centre
MCM	Message Centre Monitoring
MID	Mailbox IDentification
MWI	Message Waiting Indication
PINX	Private Integrated services Network eXchange
PISN	Private Integrated Services Network
SDL	Specification and Description Language
SS	Supplementary Service
SS-AOC	Advice of Charge
SS-CCBS	Completion of Calls to Busy Subscribers
SS-CCNR	Completion of Calls on No Reply
SS-CD	Call Deflection
SS-CFB	Call Forwarding Busy
SS-CFNR	Call Forwarding No Reply
SS-CFU	Call Forwarding Unconditional
SS-CI	Call Intrusion
SS-CINT	Call INterception
SS-CLIP	Calling Line Identification Presentation
SS-CLIR	Calling/Connected Line Identification Restriction
SS-CMN	Common Information
SS-CNIP	Calling Name Identification Presentation
SS-CNIR	Calling/Connected Name Identification Restriction
SS-CO	Call Offer
SS-COLP	Connected Line Identification Presentation
SS-CONP	Connected Name Identification Presentation
SS-CPI(P)	Call Priority Interruption (Protection)
SS-CT	Call Transfer
SS-DND	Do Not Disturb
SS-DNDO	Do Not Disturb Override
SS-MCR	Make Call Request
SS-MID	Mailbox Identification
SS-MWI	Message Waiting Indication
SS-PUMR	Private User Mobility Registration
SS-RE	REcall
SS-SD	Simple Dialog
SS-SMS	Short Message Service
SS-SSCT	Single Step Call Transfer
SS-WTAN	Wireless Terminal Authentication of the PISN
SS-WTAT	Wireless Terminal Authentication of a WTM User
SS-WTLR	Wireless Terminal Location Registration
SS-WTMI	Wireless Terminal Incoming Call
SS-WTMO	Wireless Terminal Outgoing Call

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## 6 SS-MCM stage 1 specification

### 6.1 Description

#### 6.1.1 General description

The supplementary service MCM enables a Message Centre to inform a registered Served User about the status and status changes of messages stored in this Served User's Mailbox. This can be due to the arrival of New Messages or the change of the Message Status of stored messages (e.g. retrieval or deletion of messages). Additionally the Served User can request the current status of the messages in the Mailbox from the Message Centre.

If there are New Messages for the Served User stored in the Mailbox a Message Waiting Signal may be set at the Served User's terminal.

Additionally a Served User might activate, deactivate or interrogate Message Centre Monitoring individually for the different Message Types.

NOTE 1: The procedures for how the Served User accesses the messages stored in the MC is outside the scope of the present document.

NOTE 2: The procedures for how a message can be left in a Served User's Mailbox is outside the scope of the present document.

SS-MCM is based on SS-MWI (ECMA-241 [3]) and includes its entire functionality. Therefore the interoperability with SS-MWI is guaranteed. Compared to SS-MWI, SS-MCM offers an enhanced functionality for monitoring status changes of messages stored in the Served User's Mailbox as follows:

- individual activation and deactivation for the monitoring of messages of different Message Type(s) within the Mailbox as well as interrogation of the actual SS-MCM configuration;
- retrieval of information about all messages (i.e. New and Retrieved Messages) in the mailbox independent of the Message Status;
- request of detailed updated information about messages stored in the Mailbox.

#### 6.1.2 Qualifications on applicability to telecommunication services

This supplementary service does not apply directly to any basic telecommunication service. However, MCM relates to a basic service for which there are messages stored in the Served User's Mailbox.

### 6.2 Procedures

#### 6.2.1 Provision/withdrawal

SS-MCM may be provided or withdrawn after pre-arrangement with the service provider or may be generally available to all users.

#### 6.2.2 Normal procedures

##### 6.2.2.1 Activation, deactivation and interrogation

In general, SS-MCM shall be available for all Served Users in a default configuration as arranged by the service provider. The default configuration defines the messages (i.e. a set of Message Types) which can be stored in principle in a Served User's Mailbox. The default configuration also defines whether complete information or compressed information about the messages of each specific Message Type is sent to the Served User.

By sending an appropriate indication to the MC the Served User can individually modify the configuration in the following manner:

- activation of either one or more of the predefined Message Types so that changes in the Mailbox of that activated Message Types will be presented to the Served User. After that the MC shall perform the Update procedure as described in clause 6.2.2.2.2;
- deactivation of either one or more of predefined Message Types so that changes in the Mailbox of that deactivated Message Types will not be presented to the Served User anymore. After that the MC shall perform the Update procedure as described in clause 6.2.2.2.2. In addition, an indication shall be given to the Served User stating that no information about New Messages or Retrieved Messages of this Message Type will be presented to the Served User while monitoring is deactivated;
- changing of the presentation style of SS-MCM information from complete information to compressed information or from compressed information to complete information for a specific Message Type.

NOTE: The change from compressed information to complete information (and vice versa) for a specific Message Type is only possible if the MC supports this option.

Re-setting of all the changed SS-MCM parameters to the default configuration.

In addition, the Served User can interrogate at the MC to get information about the actual configuration of SS-MCM. This means, that the Served User receives an actual list of all different Message Types (i.e. the kind of messages) from the MC, which can be presented to the Served User together with an indication whether the Served User gets the complete information or only the compressed information about the stored messages of the specific Message Type(s).

All described changes of the default configuration shall be initiated from the Served User (and confirmed with an appropriate indication by the MC) by using an already existing connection or by setting up a new call independent connection. Release of the call independent connection is the responsibility of the Served User.

### 6.2.2.2 Invocation and operation

SS-MCM enables a MC to send status information to a Served User about messages stored in the Mailbox of the Served User.

All information shall be delivered between the MC and the Served User by using an already existing connection or by setting up a new call independent connection. Release of the call independent connection is the responsibility of its initiator.

The clauses below describe this behavior in detail.

#### 6.2.2.2.1 Incoming New Message

Upon receipt of a new message in the Mailbox, the MC shall send an indication through the PISN towards the Served User with the following information:

- the address of the Served User;
- the Message Type of the specific New Message;
- optionally, the address of the Message Centre.

In addition to that, and depending on the presentation style that was selected in the configuration for New Messages of that specific Message Type (i.e. compressed or complete information), the following information shall be delivered through the PISN towards the Served User by the MC:

- Compressed Mode:
  - the number of New Messages waiting for that specific Message Type;
  - optionally, the priority of the latest highest priority message waiting for that specific Message Type;
  - optionally, the address of the user that left the latest highest priority message;
  - optionally, the time when the latest highest priority message was left.