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Services and Protocols for Advanced Networks (SPAN); Message Waiting Indication (MWI) ; Service Aspects

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# ETSI TR 101 895 V1.1.1 (2001-01)

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*Technical Report*

## **Services and Protocols for Advanced Networks (SPAN); Message Waiting Indication (MWI); Service Aspects**

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## Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document describes the general requirements and service aspects for the Message Waiting Indication (MWI) supplementary service for both, PSTN and ISDN subscriber lines and only for the receiving user parts. It does not deal with the underlying technology or kind of network used to provide the service.

In accordance with ITU-T Recommendation I.130 [1], the following three level structures are used to describe the supplementary telecommunications services as provided by European public telecommunications operators under the pan-European Integrated Services Digital Network (ISDN):

- Stage 1: is an overall service description, from the user's standpoint;
- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and
- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

The present document details the stage 1 aspects (overall service description) for the Message Waiting Indication (MWI) supplementary service.

---

# 1 Scope

The present document defines the stage one of the Message Waiting Indication (MWI) supplementary service for the pan-European network as provided by European telecommunications operators. Stage one is an overall service description from the user's point of view (see ITU-T Recommendation I.130 [1]), but does not deal with the details of the human interface itself.

The present document provided hereafter takes into account ETS 300 650 [2] for an ISDN MWI service and it provides a wider scope of the service description. It shall be noted that ETS 300 650 [2]:

- covers only ISDN situations;
- includes both the receiving user's and the controlling user's perspective instead of concentrating on the service as seen by the receiving user;
- is a restricted view on the facilities that need to be offered commercially (e.g. multiple Mailbox providers);
- includes some constraints.

NOTE 1: In case of conflict between the present document and ETS 300 650 [2], it is assumed that ETS 300 650 [2] will take precedence.

NOTE 2: The detailed specifications of the procedures used by the controlling user to activate and deactivate the MWI supplementary service are outside the scope of the present document. It can be based on ISDN procedures (an example is given in ETS 300 650 [2]) or on other type of operations on other user-network interfaces (e.g. leased lines etc...).

NOTE 3: It is worth noting that the network capabilities supporting the MWI supplementary service can be used for other purposes e.g. notification of events other than related to Voice Mail e.g. E-mail...

NOTE 4: The definition of the Man Machine Interface (e.g. light, display, ...) on the terminal equipment is outside the scope of the present document.

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# 2 References

For the purposes of this Technical Report (TR) the following references apply:

- [1] ITU-T Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] ETSI ETS 300 650: "Integrated Services Digital Network (ISDN); Message Waiting Indication (MWI) supplementary service; Service description".
- [3] ETSI ETS 300 345: "Integrated Services Digital Network (ISDN); Interworking between public ISDNs and private ISDNs for the provision of telecommunication services; General aspects".
- [4] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [5] ITU-T Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".
- [6] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".



## 3 Definitions and abbreviations

### 3.1 Definitions

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

**Basic Telephone:** standard DTMF telephone without display having the normal 0 - 9, \* and # keypad

**Confirmation Message:** it is used to confirm that a specific action has taken place and may also be used implicitly to prompt for user digits. It is interruptible

**Controlling user:** user that activates, deactivates and invokes the MWI supplementary service

NOTE: The controlling user is likely to be a mailbox.

**Error Message:** it is used to notify the user of an incorrect operation code selection or to inform the user that the requested operation could not be successfully performed. It may also be used to prompt implicitly for user digits. It is not interruptible

**General Information Message:** it is a message with a general significance i.e. relating to the waiting situation only but not containing extra information, i.e. parameters provided by the network or the mailbox provider. It is interruptible.

This general information message can be:

- a text message; or
- a voice message (announcement); or
- a text message combined with voice message (using SDSS capabilities); or
- a visual indication; or
- a special dial tone. <https://standards.iteh.ai/catalog/standards/sist/76d55588-4f41-462d-8210-a4cc2c720dd6/sist-tp-etsi-tr-101-895-v1-1-1-2005>

**Information Message:** it provides information such as feature status or special instructions to the user. It is followed by either another information message or by a prompt message and is interruptible.

**Mailbox provider:** provider of a message system that provides a mailbox service to the receiving user

**Mailbox service:** provides the possibility to record, store, interrogate and delete messages in a message system

**Message:** verbal or other auditory data recorded by users of a service. Messages may be recorded by callers, subscribers or system administrators (including automatic system-generated messages)

**Message system:** stores different kind of messages and initiates activation/deactivation of the MWI supplementary service. It will be referred as the controlling user

**Message Waiting Indication (MWI):** supplementary service that enables a receiving user to be informed that there are one or more messages waiting in a message system. It is typically used between a controlling user and a receiving user

**MWI Service Provider:** entity (network operator) which provides the MWI service to both the receiving user and the controlling user

**Network operator:** entity which provides the network operating elements and resources for the execution of the MWI supplementary service. There may be one or more network operators between a receiving user and a MWI service provider

**Prompt Message:** message that asks the user to enter digits and is interruptible. Upon completion or interruption of the message, a timer is initiated to set a maximum amount of time to wait for user input

**Receiving User:** user to whom the MWI supplementary service is provided. The receiving user receives the Message Waiting Indication (notification) as a result of a MWI invocation originated by a controlling user (e.g. mailbox provider)

**Service provider:** entity which offers a service to a user. A network operator may also be a service provider

**Service; telecommunications service:** see ITU T Recommendation I.112 [4], clause 2.2. definition 201

**Subscriber line:** see ITU T Recommendation Q.9 [5], clause 1 definition 0050

**Supplementary service:** see ITU T Recommendation I.210 [6], clause 2.4

**User:** anyone who uses services at a telecommunication access of a network (as calling or called party)

**Voice Mail Server:** service provider's voice messaging system to which a user is connected for the provision of the voice mail service

**Voice Mail User Agent:** user interface that enables a user to control the voice mail server for the recording, forwarding, storage, etc. of messages

**Voice Mail:** voice messaging service that allows users, to record voice messages, address and send them to other users, listen to messages recorded by other users, and store, forward or delete such messages. Many additional features are possible for such a service, and these will be determined by the service provider according to market needs, technical capability, etc

**Voice Mailbox:** logical storage location for messages. This will have a unique address, e.g. it could be the subscriber's telephone or separate mailbox number

**Voice message process:** any of the procedures of recording, editing, inserting, storing, deleting, appending, forwarding, addressing voice mail messages. This is not an exhaustive list

## 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CU	Controlling User
DTMF	Dual Tone Multi Frequency
ISDN	Integrated Services Digital Network
MWI	Message Waiting Indication
PNO	Public Network Operator
PSTN	Public Switched Telephone Network
RU	Receiving User
SDSS	Server Display and Script Services (European equivalent of the ADSI protocol)

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## 4 Description

The Message Waiting Indication (MWI) supplementary service enables a receiving user (RU) to be informed that there are one or more messages waiting in a message system.

The MWI supplementary service is typically used between a controlling user (CU, e.g. mailbox provider) and a user of the message service provided (receiving user). The controlling user invokes the MWI supplementary service and the receiving user receives the notification (or message waiting indication).

It can be activated or deactivated in the receiving user network, upon a request of the controlling user, and shall be available for receiving users connected to PSTN or ISDN subscriber lines.

See annex C for an example of use of the service.

The MWI supplementary service enables the network, upon an invocation request of a Controlling user, to notify the receiving user that at least one message is awaiting in a message system.

The receiving user shall be notified by the network that a message is awaiting in the following situations:

- as an **immediate notification**, which is expected to be a persistent indication for the receiving user, as soon as the MWI supplementary service has been invoked by the controlling user; and/or
- as a **deferred notification**, which is expected to be a general information message (e.g. announcement), when the receiving user makes an outgoing call attempt after the MWI service has been invoked by the controlling user.

Having received this notification, the receiving user can subsequently access the message system to have the message delivered. The means by which the RU accesses and manages the message system are outside the scope of the present document.

After this action has been completed, the controlling user may invoke the MWI supplementary service either:

- to deactivate the notification associated with the corresponding message; or
- to deactivate notifications in a global mode (i.e. for all messages in the message system at the time of the notification, even if not yet delivered).

Depending on the situation (MWI service option), this operation shall result, as soon as the MWI supplementary service has been invoked for notification deactivation by the controlling user in:

- an immediate notification of deactivation; or
- a deactivation of the deferred notification.

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## 5 Procedures

### 5.1 Provision and withdrawal

The MWI supplementary service shall be provided to the receiving user after prior arrangement with the MWI service provider or, as a network operator option, generally available. The MWI supplementary service shall be withdrawn at the receiving user's request, or for administrative reasons.

- In the case of notification using modem transfer, it is assumed that the receiving user has appropriate capabilities to receive information transferred. Also, as a MWI service option, the receiving user can be prevented from receiving any notification;
- Provision of the MWI supplementary service shall be possible on an access or number basis.

As a network option, the receiving user can have a subscription option to register the controlling user numbers that can activate and deactivate the MWI supplementary service. The maximum number of controlling users numbers that can be registered for a receiving user shall be an integer value and is also a network operator option.

Depending on the MWI service provider option applying, the following subscription options can be made available to the receiving user:

- only immediate notification (as soon as the MWI supplementary service has been invoked by a controlling user);
- only deferred notification (when the MWI supplementary service has been invoked by a controlling user and the receiving user makes an outgoing call attempt);
- or both immediate and deferred notification.

The receiving user shall have a subscription option to allow or not an override of the default notification (immediate/deferred) on a given invocation mode by the controlling users.