

# ETSI TS 102 891-2 V3.2.1 (2011-08)

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*Technical Specification*

**Technical Committee for IMS Network Testing (INT);  
Message Waiting Indication (MWI) using  
IP Multimedia (IM) Core Network (CN) subsystem;  
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

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Reference

RTS/INT-00056-2

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Keywords

MWI, SIP, testing, TSS&TP

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## Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee IMS Network Testing (INT).

The present document is part 2 of a multi-part deliverable covering the test specification for Message Waiting Indication (MWI), as identified below:

- Part 1: "Protocol Implementation Conformance Statement (PICS)";
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";**
- Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT)".

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# 1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) of the Message Waiting Indication (MWI) service, based on 3GPP stage three Protocol Description of the (MWI) service, based on stage one and two of the ISDN MWI supplementary services.

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 124 606 (V8.2.0): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Message Waiting Indication (MWI) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.606 version 8.2.0 Release 8)".
- [2] ETSI TS 102 891-1: "Technical Committee for IMS Network Testing (INT); Message Waiting Indication (MWI) using IP Multimedia (IM) Core Network (CN) subsystem; Part 1: Protocol Implementation Conformance Statement (PICS)".
- [3] IETF RFC 3842: "A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)".
- [4] IETF RFC 3265: "Session Initiation Protocol (SIP)-Specific Event Notification".
- [5] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

## 2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 124 606 [1] and the following apply:

**Abstract Test Suite (ATS):** Refer to ISO/IEC 9646-1 [5].

**Implementation Under Test (IUT):** Refer to ISO/IEC 9646-1 [5].

**PICS proforma:** Refer to ISO/IEC 9646-1 [5].

**point of control and observation:** Refer to ISO/IEC 9646-1 [5].

**Protocol Implementation Conformance Statement (PICS):** Refer to ISO/IEC 9646-1 [5].

**System Under Test (SUT):** Refer to ISO/IEC 9646-1 [5].

**Test Purpose (TP):** Refer to ISO/IEC 9646-1 [5].

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TS 124 606 [1] and the following apply:

ATM	Abstract Test Method
ATS	Abstract Test Suite
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure
TSS&TP	Test Suite Structure and Test Purposes

## 4 Test Suite Structure (TSS)

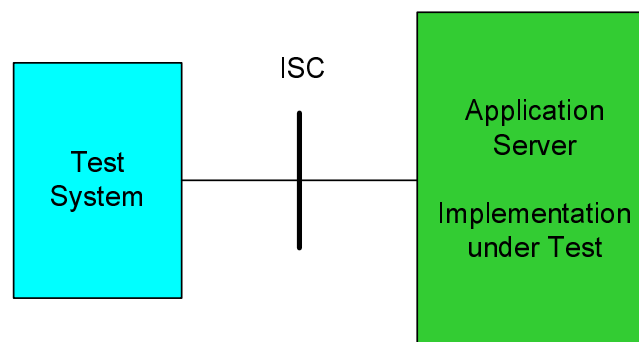
UserEquipment		MWI_U01_xxx
Network	AS_ServedUser	OIP_N01_xxx

### 4.1 Configuration

The scope of the present document is to test the signalling and procedural aspects of the stage 3 requirements as described in [1]. The stage 3 description respects the requirements to several network entities and also to requirements regarding to end devices. Therefore several interfaces (reference points) are addressed to satisfy the test of the different entities.

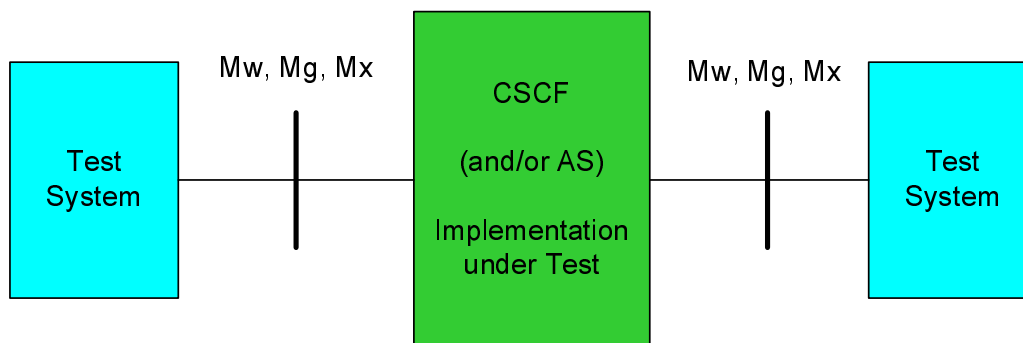
Therefore to test the appropriate entities the configurations below are applicable:

**Testing of the Application Server.** This entity is responsible to perform the service. Hence the ISC interface is the appropriate access point. Figure 1 points to this.



**Figure 1: Applicable interface to test AS functionalities**

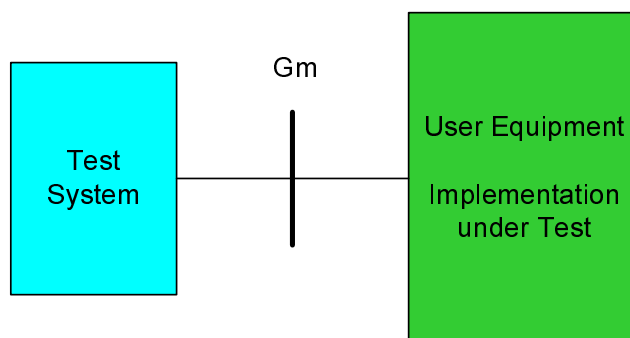
If the ISC interface is not accessible it is also applicable to perform the test of the AS using any NNI (Mw, Mg, Mx) interface (consider figure 2). In case only the Gm interface is accessible this shall be used instead. In this case, be aware that the verification of several requirements is impeded.



**Figure 2: Applicable interfaces to test using the (generic) NNI interface**

Figure 3 illustrates the usage of any NNI interface.

**Testing of User Equipment.** There are several requirements regarding to the end devices. Therefore a special configuration appears.



**Figure 3: Applicable configuration to test the User Equipment**

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## 5 Test Purposes (TP)

### 5.1 Introduction

For each requirement in TS 124 606 [1] a TP is defined.

#### 5.1.1 TP naming convention

Tps are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 1).

Table 1: TP identifier naming convention scheme

Identifier: <ss>_<iut><group>_<nnn>			
<ss>	=	supplementary service:	e.g. "MWI"
<iut>	=	type of IUT:	U            User - equipment N            Network
<group>	=	group	2 digit field representing group reference according to TSS
<nnn>	=	3 digit sequential number	(001-999)

## 5.1.2 Test strategy

As the base standard TS 124 606 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification TS 102 891-1 [2]. The criteria applied include the following:

- whether or not a test case can be built from the TP is not considered.

## 5.1.3 Reference column "MWI reference"

The column "MWI reference" makes reference to TS 124 606 [1], except where explicitly stated otherwise.

## 5.2 Invocation and operation

### 5.2.1 Actions at the UE

TSS	TP	MWI reference	Selection expression
UserEquipment	MWI_U01_001	4.7.2.1	PICS 2/1
<b>Test purpose:</b> <i>Initial subscription for a public user identity using the public service identity</i>			
Ensure that the user equipment is able to subscribe to the MWI service. A SUBSCRIBE message is sent. The Request line contains the public service identity of the MA. The Event header is set to 'message-summary', the Expires header is set to a proper value, Accept header is set to 'application/simple-message-summary'.			
<b>SIP header:</b> SUBSCRIBE sip: <b>public service identity</b> @server SIP/2.0 Event: message-summary Expires: <a valid value> Accept: application/simple-message-summary			
<b>Comments:</b>			
<b>User Equipment</b>		→	<b>Test Equipment</b>
		←	SUBSCRIBE 200 OK (SUBSCRIBE)

TSS	TP	MWI reference	Selection expression
UserEquipment	MWI_U01_002	4.7.2.1	PICS 2/2
<b>Test purpose:</b> <i>Initial subscription for a public user identity using the public user identity</i>			
Ensure that the user equipment is able to subscribe to the MWI service. A SUBSCRIBE message is sent. The Request line contains the public user identity of the subscriber. The Event header is set to 'message-summary', the Expires header is set to a proper value, Accept header is set to 'application/simple-message-summary'.			
<b>SIP header:</b> SUBSCRIBE sip: <b>public user identity</b> @server SIP/2.0 Event: message-summary Expires: <a valid value> Accept: application/simple-message-summary			
<b>Comments:</b>			
<b>User Equipment</b>		→	<b>Test Equipment</b>
		←	SUBSCRIBE 200 OK (SUBSCRIBE)



<b>TSS</b> UserEquipment	<b>TP</b> MWI_U01_003	<b>MWI reference</b> 4.7.2.1, RFC 3842 [3] 3.6	<b>Selection expression</b>																		
<b>Test purpose:</b> <i>Re-Subscription before subscription is expired</i>  Ensure that the user equipment is able to re-subscribe the current subscription before the subscription expires. A SUBSCRIBE message is sent. The Event header is set to 'message-summary', the Expires header is set to a proper value, Accept header is set to 'application/simple-message-summary'. The Call-ID is equal to the Call-ID of the initial subscription.																					
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 500 Accept: application/simple-message-summary																					
<b>Comments:</b> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;"><b>User Equipment</b></td> <td style="width: 10%;"></td> <td style="text-align: center; width: 50%;"><b>Test Equipment</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>Before subscription expires</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> </table>				<b>User Equipment</b>		<b>Test Equipment</b>		→	SUBSCRIBE		←	200 OK (SUBSCRIBE)	<b>Before subscription expires</b>				→	SUBSCRIBE		←	200 OK (SUBSCRIBE)
<b>User Equipment</b>		<b>Test Equipment</b>																			
	→	SUBSCRIBE																			
	←	200 OK (SUBSCRIBE)																			
<b>Before subscription expires</b>																					
	→	SUBSCRIBE																			
	←	200 OK (SUBSCRIBE)																			

<b>TSS</b> UserEquipment	<b>TP</b> MWI_U01_004	<b>MWI reference</b> 4.7.2.1, RFC 3842 [3] 3.6	<b>Selection expression</b>																								
<b>Test purpose:</b> <i>Subscription after re-subscription fails</i>  Ensure that the user equipment is able to subscribe to the MWI service after a re-subscription failed. A SUBSCRIBE message is sent. The Event header is set to 'message-summary', the Expires header is set to a proper value, Accept header is set to 'application/simple-message-summary'.																											
<b>SIP header:</b> SUBSCRIBE 1 Event: message-summary Expires: 500 Accept: application/simple-message-summary SUBSCRIBE 2 Call-ID: <different from Call-ID of SUBSCRIBE 1> Event: message-summary Expires: 500 Accept: application/simple-message-summary																											
<b>Comments:</b> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;"><b>User Equipment</b></td> <td style="width: 10%;"></td> <td style="text-align: center; width: 50%;"><b>Test Equipment</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>Before subscription expires</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE 1</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>500</td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE 2</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> </table>				<b>User Equipment</b>		<b>Test Equipment</b>		→	SUBSCRIBE		←	200 OK (SUBSCRIBE)	<b>Before subscription expires</b>				→	SUBSCRIBE 1		←	500		→	SUBSCRIBE 2		←	200 OK (SUBSCRIBE)
<b>User Equipment</b>		<b>Test Equipment</b>																									
	→	SUBSCRIBE																									
	←	200 OK (SUBSCRIBE)																									
<b>Before subscription expires</b>																											
	→	SUBSCRIBE 1																									
	←	500																									
	→	SUBSCRIBE 2																									
	←	200 OK (SUBSCRIBE)																									

<b>TSS</b> UserEquipment	<b>TP</b> MWI_U01_005	<b>MWI reference</b> 4.7.2.1, RFC 3265 [4] 3.1.4.3	<b>Selection expression</b>															
<b>Test purpose:</b> <i>Unsubscribe from MWI service</i>																		
<p>Ensure that the user equipment is able to unsubscribe the current subscription. A SUBSCRIBE message is sent. The Event header is set to 'message-summary', the Expires header is set to zero, Accept header is set to 'application/simple-message-summary'. The Call-ID is equal to the Call-ID of the initial subscription.</p>																		
<b>SIP header:</b> SUBSCRIBE2 Event: message-summary Expires: 0 Accept: application/simple-message-summary																		
<b>Comments:</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;"><b>User Equipment</b></td> <td style="width: 10%;"></td> <td style="width: 40%;"><b>Test Equipment</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE1</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE2</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> </table>				<b>User Equipment</b>		<b>Test Equipment</b>		→	SUBSCRIBE1		←	200 OK (SUBSCRIBE)		→	SUBSCRIBE2		←	200 OK (SUBSCRIBE)
<b>User Equipment</b>		<b>Test Equipment</b>																
	→	SUBSCRIBE1																
	←	200 OK (SUBSCRIBE)																
	→	SUBSCRIBE2																
	←	200 OK (SUBSCRIBE)																

<b>TSS</b> UserEquipment	<b>TP</b> MWI_U01_006	<b>MWI reference</b> 4.7.2.1, RFC 3842 [3] 3.9	<b>Selection expression</b>															
<b>Test purpose:</b> <i>Reception of status information after subscription</i>																		
<p>Upon receipt of a valid NOTIFY request after subscription, the user equipment accepts the information and sends a 200 OK response.</p>																		
<b>SIP header:</b> NOTIFY Event: message-summary Subscription-State: active Content-Type: application/simple-message-summary  Messages-Waiting: yes Message-Account: sip: <b>served_user</b> @Server Voice-Message: 4/1 (2/0) Video-Message: 3/1 (1/0) Fax-Message: 2/1 (0/1)																		
<b>Comments:</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;"><b>User Equipment</b></td> <td style="width: 10%;"></td> <td style="width: 40%;"><b>Test Equipment</b></td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>SUBSCRIBE</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td><b>Status information indicate to the user</b></td> <td style="text-align: center;">←</td> <td>NOTIFY</td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>200 OK (NOTIFY)</td> </tr> </table>				<b>User Equipment</b>		<b>Test Equipment</b>		→	SUBSCRIBE		←	200 OK (SUBSCRIBE)	<b>Status information indicate to the user</b>	←	NOTIFY		→	200 OK (NOTIFY)
<b>User Equipment</b>		<b>Test Equipment</b>																
	→	SUBSCRIBE																
	←	200 OK (SUBSCRIBE)																
<b>Status information indicate to the user</b>	←	NOTIFY																
	→	200 OK (NOTIFY)																

TSS	TP	MWI reference	Selection expression																								
UserEquipment	MWI_U01_007	4.7.2.1, RFC 3842 [3] 3.9																									
<b>Test purpose:</b> <i>Reception of subsequent status information after state change</i>																											
Upon receipt of a valid NOTIFY request to refresh the status of deposited messages, the user equipment accepts the information and sends a 200 OK response.																											
<b>SIP header:</b> NOTIFY 1 Event: message-summary Subscription-State: active Content-Type: application/simple-message-summary  Messages-Waiting: yes Message-Account: sip:served_user@Server Voice-Message: 4/1 (2/0) Video-Message: 3/1 (1/0) Fax-Message: 2/1 (0/1)  NOTIFY 2 Event: message-summary Subscription-State: active Content-Type: application/simple-message-summary  Messages-Waiting: yes Message-Account: sip:served_user@Server Voice-Message: 5/1 (2/0) Video-Message: 3/1 (1/0) Fax-Message: 2/1 (0/1)																											
<b>Comments:</b> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;">User Equipment</th> <th style="text-align: center;">→</th> <th style="text-align: left;">Test Equipment</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">←</td> <td>SUBSCRIBE</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td><b>Status information indicate to the user</b></td> <td style="text-align: center;">←</td> <td>NOTIFY 1</td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>200 OK (NOTIFY)</td> </tr> <tr> <td></td> <td style="text-align: center;">←</td> <td><b>New voice message in the account</b></td> </tr> <tr> <td><b>Status information indicate to the user</b></td> <td style="text-align: center;">←</td> <td>NOTIFY 2</td> </tr> <tr> <td></td> <td style="text-align: center;">→</td> <td>200 OK (NOTIFY)</td> </tr> </tbody> </table>				User Equipment	→	Test Equipment		←	SUBSCRIBE		←	200 OK (SUBSCRIBE)	<b>Status information indicate to the user</b>	←	NOTIFY 1		→	200 OK (NOTIFY)		←	<b>New voice message in the account</b>	<b>Status information indicate to the user</b>	←	NOTIFY 2		→	200 OK (NOTIFY)
User Equipment	→	Test Equipment																									
	←	SUBSCRIBE																									
	←	200 OK (SUBSCRIBE)																									
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	→	200 OK (NOTIFY)																									
	←	<b>New voice message in the account</b>																									
<b>Status information indicate to the user</b>	←	NOTIFY 2																									
	→	200 OK (NOTIFY)																									

## 5.2.2 Actions at the AS

TSS	TP	MWI reference	Selection expression
Network/AS_ServedUser	MWI_N01_001	4.7.2.5, RFC 3842 [3] 3.4, RFC 3265 [4] 3.1.4.1, 3.1.6.2	
<b>Test purpose:</b> <i>Subscription to the message waiting service, all relevant headers present</i>			
Verify that the SUBSCRIBE request will be accepted with following Subscribe-specific headers: Event, Expires and Accept. The 200 OK (SUBSCRIBE) contains the Expires header indicating the subscription duration for the MWI service. A NOTIFY is sent immediately the actual state of a message account. The From header tag and the Call-ID in the NOTIFY are equal to the values in the SUBSCRIBE.			
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 7200 Accept: application/simple-message-summary NOTIFY			
<b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes			
<b>Comments:</b>			
<b>ISC</b>			<b>SUT</b>
SUBSCRIBE	→		
<b>CASE A</b>			
200 OK (SUBSCRIBE)	←		
<b>CASE B</b>			
202 Accepted	←		
NOTIFY	←		
200 OK (NOTIFY)	→		

TSS	TP	MWI reference	Selection expression
Network/AS_ServedUser	MWI_N01_002	4.7.2.5, RFC 3265 [4] 3.1.4.3	
<b>Test purpose:</b> <i>The user is able to unsubscribe the service</i>			
Verify that the SUBSCRIBE request will be accepted with Expires header with value zero; Check that the 2xx response to the unsubscription contains also an Expires header with value zero. A NOTIFY is sent.			
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 0 Accept: application/simple-message-summary 200 OK (SUBSCRIBE) Expires: 0 NOTIFY Event: message-summary Subscription-State: terminated(; reason=timeout)			
<b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes			
<b>Comments:</b>			
<b>ISC</b>			<b>SUT</b>
SUBSCRIBE	→		
200 OK (SUBSCRIBE)	←		
NOTIFY	←		
200 OK (NOTIFY)	→		

<b>TSS</b> Network/AS_ServedUser	<b>TP</b> MWI_N01_003	<b>MWI reference</b> 4.7.2.5, RFC 3265 [4] 3.1.6.2	<b>Selection expression</b>																																																
<p><b>Test purpose:</b> <i>Refresh of current subscription.</i></p> <p>Verify that a SUBSCRIBE request will be accepted at any time before the original subscription expires when From header tag and the Call-ID in the subsequent SUBSCRIBE are equal to the values in the original SUBSCRIBE request. A NOTIFY is sent.</p>																																																			
<p><b>SIP header:</b> SUBSCRIBE 1            To-header with tag=tag_value1            CallId=callId_value1          SUBSCRIBE 2            To-header with tag=tag_value1            CallId=_callId_value1</p>																																																			
<p><b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes</p>																																																			
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<b>TSS</b> Network/AS_ServedUser	<b>TP</b> MWI_N01_004	<b>MWI reference</b> 4.7.2.5, RFC 3265 [4] 3.1.4.2	<b>Selection expression</b>																																	
<b>Test purpose:</b> <i>Unsuccessful refresh of subscription</i>  Verify that a SUBSCRIBE request will be rejected with a "481 Call/Transaction Does Not Exist" response after expiry of the subscription when the subsequent SUBSCRIBE request uses the same dialog (From tag, CallId) as the actual expired subscription.																																				
<b>SIP header:</b> SUBSCRIBE 1 To-header with tag=tag_value1 CallId=_callId_value1 SUBSCRIBE 2 To-header with tag=tag_value1 CallId=callId_value1																																				
<b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes																																				
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TSS	TP	MWI reference	Selection expression																								
Network/AS_ServedUser	MWI_N01_005	4.7.2.5, RFC 3265 [4] 3.2.2																									
<p><b>Test purpose:</b> <i>NOTIFY request after initial subscription</i></p> <p>Verify that after a successfully subscription a NOTIFY request is sent containing a "Subscription-State" header with the value "active" and an "expires" parameter which indicates the time remaining on the subscription. The From header tag and the Call-ID in the NOTIFY are equal to the values in the SUBSCRIBE.</p> <p>The NOTIFY includes:</p> <ul style="list-style-type: none"> <li>• Event header set to message-summary</li> <li>• Subscription-State header set to active (optional) expires parameter set to the time remaining on the subscription</li> <li>• Content-Type header set to application/simple-message-summary</li> </ul> <p>MIME body:</p> <ul style="list-style-type: none"> <li>• Messages-Waiting: yes</li> <li>• Message-Account: identifying the served user (optional)</li> <li>• msg-summary-line(s) (optional)</li> </ul>																											
<p><b>SIP header:</b> SUBSCRIBE</p> <p>Event: message-summary Expires: 7200 Accept: application/simple-message-summary</p> <p>NOTIFY</p> <p>Event: message-summary Subscription-State: active; expires= &lt;a valid value&gt; Content-Type: application/simple-message-summary Messages-Waiting: yes ....</p>																											
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NOTIFY	←																										
200 OK (NOTIFY)	→																										

TSS	TP	MWI reference	Selection expression																								
Network/AS_ServedUser	MWI_N01_006	4.7.2.5, RFC 3265 [4] 3.2.2																									
<p><b>Test purpose:</b> <i>Subscription terminates after 481 response to NOTIFY request</i></p> <p>Verify that a non-200 response (e. g. 481) after a received NOTIFY request will remove the corresponding subscription; Check that no further NOTIFY responses will be received.</p>																											
<p><b>SIP header:</b> SUBSCRIBE</p> <p>Event: message-summary Expires: 7200 Accept: application/simple-message-summary</p>																											
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TSS Network/AS_ServedUser	TP MWI_N01_007	MWI reference 4.7.2.5, RFC 3842 [3] 3.5, 5.2	Selection expression																											
<b>Test purpose:</b> <i>Message indicated in the NOTIFY request after initial subscription.</i>																														
Verify that after a successfully subscription, when a message is waiting, a NOTIFY request is sent with a body containing a message summary indicating "Messages-Waiting: yes".																														
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 7200 Accept: application/simple-message-summary NOTIFY Event: message-summary Subscription-State: active; expires= <a valid value> Content-Type: application/simple-message-summary Messages-Waiting: yes																														
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NOTIFY	←																													
200 OK (NOTIFY)	→																													

TSS Network/AS_ServedUser	TP MWI_N01_008	MWI reference 4.7.2.5, RFC 3842 [3] 3.5, 5.2	Selection expression PICS 3/1																											
<b>Test purpose:</b> <i>Message indicated in the NOTIFY request after initial subscription, msg-account present</i>																														
Verify that after a successfully subscription, when a message is waiting, a NOTIFY request is sent with a body containing a message summary indicating "Messages-Waiting: yes" and containing an "msg-account" line.																														
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 7200 Accept: application/simple-message-summary NOTIFY Event: message-summary Subscription-State: active Content-Type: application/simple-message-summary Messages-Waiting: yes Message-Account: sip:<URI of served MWI user>																														
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<b>ISC</b>		<b>SUT</b>																												
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<b>CASE B</b>																														
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NOTIFY	←																													
200 OK (NOTIFY)	→																													



<b>TSS</b> Network/AS_ServedUser	<b>TP</b> MWI_N01_009	<b>MWI reference</b> 4.7.2.5, RFC 3842 [3] 3.5, 5.2	<b>Selection expression</b> PICS 3/2
<b>Test purpose:</b> <i>Message indicated in the NOTIFY request after initial subscription, msg-summary-line present</i>  Verify that after a successfully subscription, when a message is waiting, a NOTIFY request is sent with a body containing a message summary indicating "Messages-Waiting: yes" and containing an "msg-summary-line" line.			
<b>SIP header:</b> SUBSCRIBE Event: message-summary Expires: 7200 Accept: application/simple-message-summary NOTIFY Event: message-summary Subscription-State: active Content-Type: application/simple-message-summary Messages-Waiting: yes voice-message: <a valid value> / <a valid value> (<a valid value> / <a valid value> )			
<b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes			
<b>Comments:</b> The "new-urgentmsgs SLASH old-urgentmsgs" is optional			
<b>ISC</b>			<b>SUT</b>
SUBSCRIBE	→		
<b>CASE A</b>			
200 OK (SUBSCRIBE)	←		
<b>CASE B</b>			
202 Accepted	←		
NOTIFY	←		
200 OK (NOTIFY)	→		

<b>TSS</b> Network/AS_ServedUser	<b>TP</b> MWI_N01_010	<b>MWI reference</b> 4.7.2.5, RFC 3842 [3] 3.5, 5.2	<b>Selection expression</b>																																												
<p><b>Test purpose:</b> <i>NOTIFY indicates state change due to a message after successful subscription</i></p> <p>Verify that after a successfully subscription a NOTIFY message is sent immediately. Afterwards verify that an additional NOTIFY request is sent with a body containing a message summary indicating "Messages-Waiting: yes" when a change in the subscribed state occurs, e.g. a new message has been received at the Message account. The From header tag and the Call-ID in the two NOTIFY requests are equal.</p>																																															
<p><b>SIP header:</b> SUBSCRIBE  Event: message-summary  Expires: 7200  Accept: application/simple-message-summary  NOTIFY 1  Event: message-summary  Subscription-State: active; expires=&lt;a valid value&gt;  Content-Type: application/simple-message-summary  NOTIFY 2  Event: message-summary  Subscription-State: active; expires=&lt;a valid value&gt;  Content-Type: application/simple-message-summary  Messages-Waiting: yes</p>																																															
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TSS Network/AS_ServedUser	TP MWI_N01_011	MWI reference 4.7.2.5, RFC 3842 [3] 3.5, 5.2	Selection expression PICS 3/3
<p><b>Test purpose:</b>  <i>NOTIFY indicates state change due to a message after successful subscription, opt-msg-headers are present</i></p> <p>Verify that after a successfully subscription a NOTIFY message is sent immediately. Afterwards verify that an additional NOTIFY request is sent with a body containing a message summary indicating "Messages-Waiting: yes" and containing opt-msg-headers that describe newly added message(s) when a change in the subscribed state occurs, e.g. a new message has been received at the Message account. The From header tag and the Call-ID in the two NOTIFY requests are equal.</p>			
<p><b>SIP header:</b> SUBSCRIBE</p> <p style="padding-left: 40px;">Event: message-summary  Expires: 7200  Accept: application/simple-message-summary</p> <p>NOTIFY 1</p> <p style="padding-left: 40px;">Event: message-summary  Subscription-State: active  Content-Type: application/simple-message-summary  Messages-Waiting: yes</p> <p>NOTIFY 2</p> <p style="padding-left: 40px;">Event: message-summary  Subscription-State: active  Content-Type: application/simple-message-summary  Messages-Waiting: yes</p> <p style="padding-left: 40px;">To: &lt;user1_public1@home1.net&gt;  From: &lt;user3_public1@home1.net&gt;  Message-ID: &lt;a valid value&gt;&gt;  Message-Context: voice-message</p>			
<p><b>Preconditions:</b> An arrangement exists with the service provider to deliver state changes</p>			
<p><b>Comments:</b> Any set of opt-msg-headers is acceptable for this test, the above code serves only as an example</p>			
<b>ISC</b>		<b>SUT</b>	
SUBSCRIBE	→		
<b>CASE A</b>			
200 OK (SUBSCRIBE)	←		
<b>CASE B</b>			
202 Accepted	←		
NOTIFY 1	←		
200 OK (NOTIFY)	→		
	<b>Action causes in a message summary state change</b>		
NOTIFY 2	←		
200 OK (NOTIFY)	→		

TSS Network/AS_ServedUser	TP MWI_N03_012	MWI reference 4.7.2.5, RFC 3842 [3] 3.1.4.2	Selection expression																																																
<b>Test purpose:</b> Refresh of subscription in a new dialogue  Verify that at any time before a subscription expires the subscription will be successfully refreshed by sending of a SUBSCRIBE request on a different dialog (different Call-Id and From-Tag) as the existing subscription. The From header tag and the Call-ID in the SUBSCRIBE 1 are unequal to the values in the SUBSCRIBE 2.																																																			
<b>SIP header:</b> SUBSCRIBE 1 Event: message-summary Expires: 7200 Accept: application/simple-message-summary SUBSCRIBE 2 Event: message-summary Expires: 7200 Accept: application/simple-message-summary																																																			
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<b>Comments:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left;">ISC</th> <th style="width: 10%;"></th> <th style="width: 40%; text-align: right;">SUT</th> </tr> </thead> <tbody> <tr> <td>SUBSCRIBE 1</td> <td style="text-align: center;">→</td> <td></td> </tr> <tr> <td><b>CASE A</b></td> <td></td> <td></td> </tr> <tr> <td>200 OK (SUBSCRIBE)</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td><b>CASE B</b></td> <td></td> <td></td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>NOTIFY</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>200 OK (NOTIFY)</td> <td style="text-align: center;">→</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>Refreshing of Subscription</b></td> </tr> <tr> <td>SUBSCRIBE 2</td> <td style="text-align: center;">→</td> <td></td> </tr> <tr> <td><b>CASE A</b></td> <td></td> <td></td> </tr> <tr> <td>200 OK (SUBSCRIBE)</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td><b>CASE B</b></td> <td></td> <td></td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>NOTIFY</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>200 OK (NOTIFY)</td> <td style="text-align: center;">→</td> <td></td> </tr> </tbody> </table>				ISC		SUT	SUBSCRIBE 1	→		<b>CASE A</b>			200 OK (SUBSCRIBE)	←		<b>CASE B</b>			202 Accepted	←		NOTIFY	←		200 OK (NOTIFY)	→		<b>Refreshing of Subscription</b>			SUBSCRIBE 2	→		<b>CASE A</b>			200 OK (SUBSCRIBE)	←		<b>CASE B</b>			202 Accepted	←		NOTIFY	←		200 OK (NOTIFY)	→	
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## 6 Compliance

An ATS which complies with the present document shall:

- a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 5;
- b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 4;
- c) use the same naming conventions for the test groups and test cases;
- d) maintain the relationship specified in clause 5 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection.

In the case of a) or b) above, a subset shall be used only where a particular Abstract Test Method (ATM) makes some TPs untestable. All testable TPs from clause 5 shall be included in a compliant ATS.

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## History

<b>Document history</b>		
V3.1.1	July 2010	Publication
V3.2.1	August 2011	Publication