

ETSI TS 186 021-2 V2.1.1 (2009-07)

Technical Specification

**Telecommunications and Internet converged Services and
Protocols for Advanced Networking (TISPAN);
PSTN/ISDN simulation services;
Completion of Communications to Busy Subscriber (CCBS)
Completion of Communications by No Reply (CCNR);
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/84c7ae58-eccc-4019-a973-04e0561d387f/etsi-ts-186-021-2-v2.1.1-2009-07>



Reference

DTS/TISPAN-06041-2-NGN-R2

Keywords

CCBS, CCNR, IMS, testing, TSS&TP

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2009.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™**, **TIPHON™**, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

LTE™ is a Trade Mark of ETSI currently being registered

for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definitions and abbreviations.....	6
3.1 Definitions.....	6
3.2 Abbreviations	6
4 Test Suite Structure (TSS).....	6
4.1 Configuration	6
5 Test Purposes (TP)	8
5.1 Introduction	8
5.1.1 TP naming convention	8
5.1.2 Test strategy.....	8
5.2 Actions at the originating AS	9
5.2.1 CC Invocation.....	9
5.2.2 CC Revocation.....	15
5.2.3 CC Operation	18
5.3 Actions at the terminating AS	32
5.3.1 CC possible indication	32
5.3.2 CC Invocation.....	34
5.3.3 CC Revocation.....	38
5.3.4 CC Operation	40
5.4 Interaction of Call-Completion with other services.....	59
5.4.1 Communication diversion services (CDIV).....	59
History	67

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 2 of a multi-part deliverable covering test suite structure and test purposes for the Completion of Communications to Busy Subscriber (CCBS) Completion of Communications by No Reply (CCNR), 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) proforma specification".

1 Scope

The present document specifies the test suite structure and test purposes of the Completion of Communications to Busy Subscriber (CCBS) service and the Completion of Communication on no Reply (CCNR) service, based on stage three of the IMS simulation services. Within the Next Generation Network (NGN) the stage 3 description is specified using the IP-Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP).

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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 indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI TS 183 042 (V2.1.1): "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN Simulation Services; Completion of Communications to Busy Subscriber (CCBS), Completion of Communications by No Reply (CCNR); Protocol Specification".
- [2] ETSI TS 186 021-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Completion of Communications to Busy Subscriber (CCBS) Completion of Communications by No Reply (CCNR); Part 1: Protocol Implementation Conformance Statement (PICS)".

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in [1] apply.

4 Test Suite Structure (TSS)

CC			
originating_AS	Invocation		CC_N01_xxx
	Revocation		CC_N02_xxx
	Operation		CC_N03_xxx
terminating_AS	possibleIndication		CC_N04_xxx
	Invocation		CC_N05_xxx
	Revocation		CC_N06_xxx
Interaction	CCOperation		CC_N07_xxx
	CDIV		CC_N08_xxx

4.1 Configuration

The scope of the current specification 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.

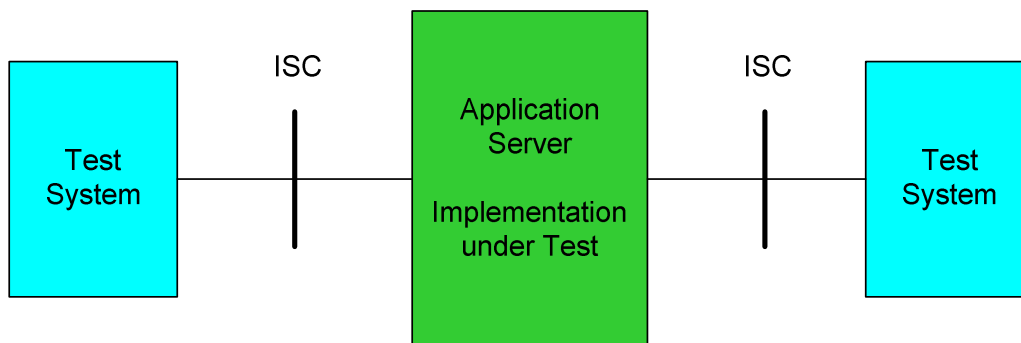


Figure 1: Applicable interface to test AS functionalities

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.

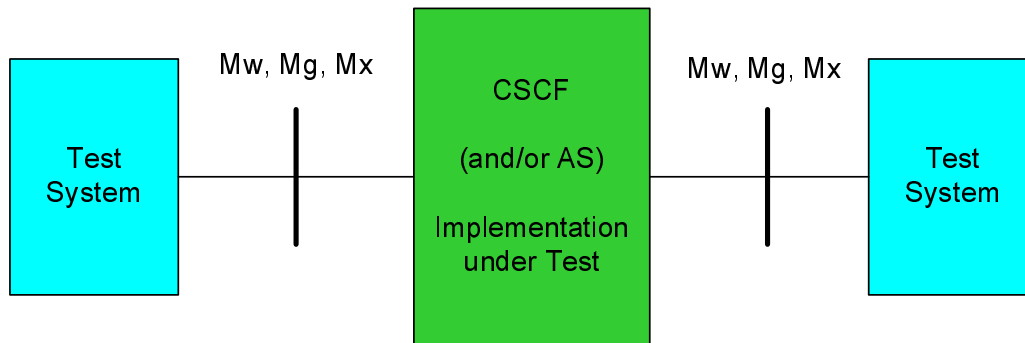


Figure 2: Applicable interfaces to test using the (generic) NNI interface

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.

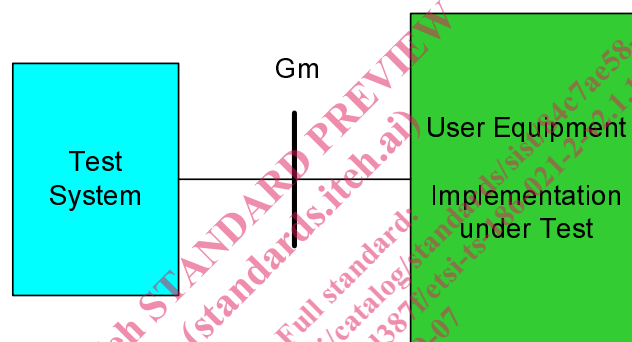


Figure 3: Applicable configuration to test the User Equipment

Testing of the IBCF functionality: The IBCF is the division between the trusted and the untrusted networks.

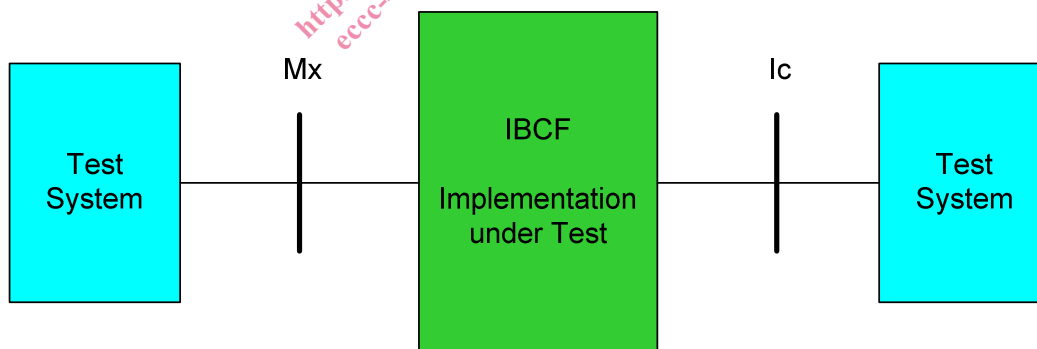


Figure 3: Applicable configuration to test the IBCF

If the Mx interface is not accessible it is also applicable to perform the test of the IBCF 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.

5 Test Purposes (TP)

5.1 Introduction

For each test requirement 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. "CC"
<iut>	=	type of IUT:	U User - equipment N Network
<group>	=	group	2 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001 to 999)

5.1.2 Test strategy

As the base standard TS 183 042 [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 186 021-1 [2]. The criteria applied include the following:

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

5.2 Actions at the originating AS

5.2.1 CC Invocation

TSS	TP	Reference	Selection expression																																													
CC/originating_AS/Invocation	CC_N01_001	4.5.4.2.1																																														
Test purpose <i>Successful CCBS request.</i>																																																
<p>A 486 (Busy Here) is received from the terminating AS containing a Call-Info header field a purpose parameter set to call-completion and the m parameter is set to BS. Ensure that the AS withholds the 486 and sends a 183 Session Progress and starts to play an announcement to inform the originating user that Call Completion is possible. The originating user activates via inband interaction the CCBS call completion service. Ensure that the AS sends a SUBSCRIBE to the terminating AS. The NOTIFY received from the terminating AS confirms the successful invocation of the CC service.</p>																																																
Preconditions:																																																
SIP header values: 486 Busy Here: Call-Info: <sip:UE-B>;purpose=call-completion;m=BS SUBSCRIBE sip:T-AS;m=BS From:<UE-A> To:<UE-B> Contact:<O-AS> Event:call-completion NOTIFY sip:O-AS Event:call-completion Content-Type: application/call-completion state: queued service-retention																																																
Comments:																																																
<table style="width:100%; border:none;"> <tr> <td style="width:33%;">SIP 1 (ISC)</td> <td style="width:33%; text-align:center;">SUT</td> <td style="width:33%;">SIP 2 (ISC)</td> </tr> <tr> <td>INVITE</td> <td style="text-align:center;">→</td> <td>INVITE</td> </tr> <tr> <td>100 Trying</td> <td style="text-align:center;">←</td> <td>100 Trying</td> </tr> <tr> <td>183 Session Progress</td> <td style="text-align:center;">←</td> <td>486 (Busy Here)</td> </tr> <tr> <td></td> <td style="text-align:center;">→</td> <td>ACK</td> </tr> <tr> <td colspan="3" style="text-align:center;">Announcement that CCBS is possible</td> </tr> <tr> <td colspan="3" style="text-align:center;">Inband-interaction procedures for the CC activation</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>202 Accepted</td> </tr> <tr> <td></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> <tr> <td colspan="3" style="text-align:center;">Confirm to the caller that the invocation was successful</td> </tr> <tr> <td>486 (Busy Here)</td> <td style="text-align:center;">←</td> <td></td> </tr> <tr> <td>ACK</td> <td style="text-align:center;">→</td> <td></td> </tr> <tr> <td colspan="3" style="text-align:center;">Apply post test routine</td> </tr> </table>				SIP 1 (ISC)	SUT	SIP 2 (ISC)	INVITE	→	INVITE	100 Trying	←	100 Trying	183 Session Progress	←	486 (Busy Here)		→	ACK	Announcement that CCBS is possible			Inband-interaction procedures for the CC activation				→	SUBSCRIBE		←	202 Accepted		←	NOTIFY		→	200 OK NOTIFY	Confirm to the caller that the invocation was successful			486 (Busy Here)	←		ACK	→		Apply post test routine		
SIP 1 (ISC)	SUT	SIP 2 (ISC)																																														
INVITE	→	INVITE																																														
100 Trying	←	100 Trying																																														
183 Session Progress	←	486 (Busy Here)																																														
	→	ACK																																														
Announcement that CCBS is possible																																																
Inband-interaction procedures for the CC activation																																																
	→	SUBSCRIBE																																														
	←	202 Accepted																																														
	←	NOTIFY																																														
	→	200 OK NOTIFY																																														
Confirm to the caller that the invocation was successful																																																
486 (Busy Here)	←																																															
ACK	→																																															
Apply post test routine																																																

TSS	TP	Reference	Selection expression															
CC/originating_AS/Invocation	CC_N01_002	4.5.4.2.1																
Test purpose <i>CCBS not possible, no CCBS indication received.</i>																		
<p>A 486 (Busy Here) is received from the terminating user containing and no Call-Info header field is contained. The originating AS does not starts announcement to provide the activation of the call completion service and pass thru the 486 response.</p>																		
Preconditions:																		
SIP header values: 486 Busy Here:																		
Comments:																		
<table style="width:100%; border:none;"> <tr> <td style="width:33%;">SIP 1 (ISC)</td> <td style="width:33%; text-align:center;">SUT</td> <td style="width:33%;">SIP 2 (ISC)</td> </tr> <tr> <td>INVITE</td> <td style="text-align:center;">→</td> <td>INVITE</td> </tr> <tr> <td>100 Trying</td> <td style="text-align:center;">←</td> <td>100 Trying</td> </tr> <tr> <td>486 (Busy Here)</td> <td style="text-align:center;">←</td> <td>486 (Busy Here)</td> </tr> <tr> <td>ACK</td> <td style="text-align:center;">→</td> <td>ACK</td> </tr> </table>				SIP 1 (ISC)	SUT	SIP 2 (ISC)	INVITE	→	INVITE	100 Trying	←	100 Trying	486 (Busy Here)	←	486 (Busy Here)	ACK	→	ACK
SIP 1 (ISC)	SUT	SIP 2 (ISC)																
INVITE	→	INVITE																
100 Trying	←	100 Trying																
486 (Busy Here)	←	486 (Busy Here)																
ACK	→	ACK																

TSS CC/originating_AS/Invocation	TP CC_N01_003	Reference 4.5.4.2.1	Selection expression
Test purpose CCBS not possible, A CC queue limit has been exceeded.			
Ensure that the AS does not offer the activation of the call completion service if the user A CCBS queue limit has been exceeded. The 486 is passed thru.			
Preconditions: CCBS queue limit exceeded			
SIP header values: 486 Busy Here: Call-Info: <sip:UE-B>;purpose=call-completion;m=BS			
Comments:			
SIP 1 (ISC)	SUT	SIP 2 (ISC)	
	Set the A queue to limit		
INVITE	→	→	INVITE
100 Trying	←	←	100 Trying
486 (Busy Here)	←	←	486 (Busy Here)
ACK	→	→	ACK

TSS CC/originating_AS/Invocation	TP CC_N01_004	Reference 4.5.4.2.1	Selection expression PICS 1/3
Test purpose CCBS not possible, further identical request (communication parameters).			
Ensure that the AS does not offer the activation of the CCBS call completion service if a request was activated for an identical communication, determined by the stored basic communication information.			
Preconditions:			
SIP header values: 486 Busy Here: Call-Info: <sip:UE-B>;purpose=call-completion;m=BS			
Comments:			
SIP 1 (ISC)	SUT	SIP 2 (ISC)	
	Invoke a successful CCBS request		
INVITE	→	→	INVITE
100 Trying	←	←	100 Trying
486 (Busy Here)	←	←	486 (Busy Here)
ACK	→	→	ACK

TSS	TP	Reference	Selection expression																																																			
CC/originating_AS/Invocation	CC_N01_005	4.5.4.2.1																																																				
Test purpose <i>CCNR successful request.</i>																																																						
<p>A 180 (Ringing) is received from the terminating AS containing a Call-Info header field a purpose parameter set to call-completion and the m parameter is set to BS. Ensure that the sends a 180 (Ringing) without the Call-Info header and starts to play an announcement to inform the originating user that Call Completion is possible. The originating user activates via inband interaction the CCNR call completion service. Ensure that the AS sends a SUBSCRIBE to the terminating AS. The NOTIFY received from the terminating AS confirms the successful invocation of the CC service.</p>																																																						
Preconditions:																																																						
SIP header values: 180 Ringing 2: Call-Info: <sip:UE-B>;purpose=call-completion;m=NR SUBSCRIBE sip:T-AS;m=NR From:<UE-A> To:<UE-B> Contact:<O-AS> Event:call-completion NOTIFY sip:O-AS Event:call-completion Content-Type: application/call-completion state: queued service-retention																																																						
Comments:																																																						
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; text-align: left;">SIP 1 (ISC)</th> <th style="width: 10%; text-align: center;">SUT</th> <th style="width: 30%; text-align: right;">SIP 2 (ISC)</th> </tr> </thead> <tbody> <tr> <td>INVITE</td> <td style="text-align: center;">→</td> <td>INVITE</td> </tr> <tr> <td>100 Trying</td> <td style="text-align: center;">←</td> <td>100 Trying</td> </tr> <tr> <td></td> <td></td> <td>180 Ringing 1</td> </tr> <tr> <td>180 Ringing 2</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">Announcement that CCNR is possible</td> </tr> <tr> <td colspan="3" style="text-align: center;">Inband-interaction procedures for the CC activation</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>202 Accepted</td> </tr> <tr> <td></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> <tr> <td colspan="3" style="text-align: center;">Confirm to the caller that the invocation was successful</td> </tr> <tr> <td>CANCEL</td> <td style="text-align: center;">→</td> <td>CANCEL</td> </tr> <tr> <td>200 OK CANCEL</td> <td style="text-align: center;">←</td> <td>200 OK CANCEL</td> </tr> <tr> <td>487 Request Terminated</td> <td style="text-align: center;">←</td> <td>487 Request Terminated</td> </tr> <tr> <td>ACK</td> <td style="text-align: center;">→</td> <td>ACK</td> </tr> <tr> <td colspan="3" style="text-align: center;">Apply post test routine</td> </tr> </tbody> </table>				SIP 1 (ISC)	SUT	SIP 2 (ISC)	INVITE	→	INVITE	100 Trying	←	100 Trying			180 Ringing 1	180 Ringing 2	←		Announcement that CCNR is possible			Inband-interaction procedures for the CC activation				→	SUBSCRIBE		←	202 Accepted		←	NOTIFY		→	200 OK NOTIFY	Confirm to the caller that the invocation was successful			CANCEL	→	CANCEL	200 OK CANCEL	←	200 OK CANCEL	487 Request Terminated	←	487 Request Terminated	ACK	→	ACK	Apply post test routine		
SIP 1 (ISC)	SUT	SIP 2 (ISC)																																																				
INVITE	→	INVITE																																																				
100 Trying	←	100 Trying																																																				
		180 Ringing 1																																																				
180 Ringing 2	←																																																					
Announcement that CCNR is possible																																																						
Inband-interaction procedures for the CC activation																																																						
	→	SUBSCRIBE																																																				
	←	202 Accepted																																																				
	←	NOTIFY																																																				
	→	200 OK NOTIFY																																																				
Confirm to the caller that the invocation was successful																																																						
CANCEL	→	CANCEL																																																				
200 OK CANCEL	←	200 OK CANCEL																																																				
487 Request Terminated	←	487 Request Terminated																																																				
ACK	→	ACK																																																				
Apply post test routine																																																						

TSS	TP	Reference	Selection expression																											
CC/originating_AS/Invocation	CC_N01_006	4.5.4.2.1																												
Test purpose <i>CCNR not possible, no CCBS indication received.</i>																														
<p>Ensure that the originating AS does not offer the call completion service if a 180 (Ringing) is received and a Call-Info header is not present. The 180 (Ringing) is passed unchanged.</p>																														
Preconditions:																														
SIP header values:																														
Comments:																														
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; text-align: left;">SIP 1 (ISC)</th> <th style="width: 10%; text-align: center;">SUT</th> <th style="width: 30%; text-align: right;">SIP 2 (ISC)</th> </tr> </thead> <tbody> <tr> <td>INVITE</td> <td style="text-align: center;">→</td> <td>INVITE</td> </tr> <tr> <td>100 Trying</td> <td style="text-align: center;">←</td> <td>100 Trying</td> </tr> <tr> <td></td> <td></td> <td>180 Ringing</td> </tr> <tr> <td>180 Ringing</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>CANCEL</td> <td style="text-align: center;">→</td> <td>CANCEL</td> </tr> <tr> <td>200 OK CANCEL</td> <td style="text-align: center;">←</td> <td>200 OK CANCEL</td> </tr> <tr> <td>487 Request Terminated</td> <td style="text-align: center;">←</td> <td>487 Request Terminated</td> </tr> <tr> <td>ACK</td> <td style="text-align: center;">→</td> <td>ACK</td> </tr> </tbody> </table>				SIP 1 (ISC)	SUT	SIP 2 (ISC)	INVITE	→	INVITE	100 Trying	←	100 Trying			180 Ringing	180 Ringing	←		CANCEL	→	CANCEL	200 OK CANCEL	←	200 OK CANCEL	487 Request Terminated	←	487 Request Terminated	ACK	→	ACK
SIP 1 (ISC)	SUT	SIP 2 (ISC)																												
INVITE	→	INVITE																												
100 Trying	←	100 Trying																												
		180 Ringing																												
180 Ringing	←																													
CANCEL	→	CANCEL																												
200 OK CANCEL	←	200 OK CANCEL																												
487 Request Terminated	←	487 Request Terminated																												
ACK	→	ACK																												

TSS CC/originating_AS/Invocation	TP CC_N01_007	Reference 4.5.4.2.1	Selection expression
Test purpose CCNR not possible, A CC queue limit has been exceeded.			
Ensure that the originating AS does not offered the call completion service if a 180 (Ringing) is received and a Call-Info header with a purpose parameter set to call-completion and a m parameter set to NR is received and the CCBS queue limit is exceeded.			
Preconditions: CCBS queue limit exceeded			
SIP header values: 180 Ringing 2: Call-Info: <sip:UE-B>;purpose=call-completion;m=NR			
Comments:			
SIP 1 (ISC)	SUT		SIP 2 (ISC)
	Set the A queue to limit		
INVITE	→	→	INVITE
100 Trying	←	←	100 Trying
180 Ringing 2	←	←	180 Ringing 1
CANCEL	→	→	CANCEL
200 OK CANCEL	←	←	200 OK CANCEL
487 Request Terminated	←	←	487 Request Terminated
ACK	→	→	ACK

TSS CC/originating_AS/Invocation	TP CC_N01_008	Reference 4.5.4.2.1	Selection expression PICS 1/3
Test purpose CCNR not possible, further identical request (communication parameters).			
Ensure that the AS does not offer the activation of the CCNR call completion service if a request was activated for an identical communication, determined by the stored basic communication information.			
Preconditions:			
SIP header values: 180 Ringing 1: Call-Info: <sip:UE-B>;purpose=call-completion;m=NR			
Comments:			
SIP 1 (ISC)	SUT		SIP 2 (ISC)
	Successful CCNR request		
INVITE	→	→	INVITE
100 Trying	←	←	100 Trying
180 Ringing 2	←	←	180 Ringing 1
	No offer to invoke CCNR		
CANCEL	→	→	CANCEL
200 OK CANCEL	←	←	200 OK CANCEL
487 Request Terminated	←	←	487 Request Terminated
ACK	→	→	ACK

TSS	TP	Reference	Selection expression																																										
CC/originating_AS/Invocation	CC_N01_009	4.5.4.2.1																																											
Test purpose <i>Unsuccessful CCBS request.</i>																																													
Ensure that the originating AS does not confirm the CCBS request to the originating user, if the request sent to the terminating AS is rejected by the terminating AS indicated in a NOTIFY request and the Subscription-State header is set to terminated.																																													
Preconditions:																																													
SIP header values: 486 Busy Here: Call-Info: <sip:UE-B>;purpose=call-completion;m=BS SUBSCRIBE sip:T-AS;m=BS From:<UE-A> To:<UE-B> Contact:<O-AS> Event:call-completion NOTIFY sip:O-AS Event:call-completion Subscription-State: terminated; reason=rejected																																													
Comments:																																													
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; text-align: left;">SIP 1 (ISC)</th> <th style="width: 10%; text-align: center;">SUT</th> <th style="width: 30%; text-align: right;">SIP 2 (ISC)</th> </tr> </thead> <tbody> <tr> <td>INVITE</td> <td style="text-align: center;">→</td> <td>INVITE</td> </tr> <tr> <td>100 Trying</td> <td style="text-align: center;">←</td> <td>100 Trying</td> </tr> <tr> <td></td> <td></td> <td>486 (Busy Here)</td> </tr> <tr> <td></td> <td></td> <td>ACK</td> </tr> <tr> <td>183 Session Progress</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;"> Announcement that CCBS is possible Inband-interaction procedures for the CC activation </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>202 Accepted</td> </tr> <tr> <td></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> <tr> <td colspan="3" style="text-align: center;"> Indication to the caller that the invocation was unsuccessful </td> </tr> <tr> <td>486 (Busy Here)</td> <td style="text-align: center;">←</td> <td></td> </tr> <tr> <td>ACK</td> <td style="text-align: center;">→</td> <td></td> </tr> </tbody> </table>				SIP 1 (ISC)	SUT	SIP 2 (ISC)	INVITE	→	INVITE	100 Trying	←	100 Trying			486 (Busy Here)			ACK	183 Session Progress	←		Announcement that CCBS is possible Inband-interaction procedures for the CC activation				→	SUBSCRIBE		←	202 Accepted		←	NOTIFY		→	200 OK NOTIFY	Indication to the caller that the invocation was unsuccessful			486 (Busy Here)	←		ACK	→	
SIP 1 (ISC)	SUT	SIP 2 (ISC)																																											
INVITE	→	INVITE																																											
100 Trying	←	100 Trying																																											
		486 (Busy Here)																																											
		ACK																																											
183 Session Progress	←																																												
Announcement that CCBS is possible Inband-interaction procedures for the CC activation																																													
	→	SUBSCRIBE																																											
	←	202 Accepted																																											
	←	NOTIFY																																											
	→	200 OK NOTIFY																																											
Indication to the caller that the invocation was unsuccessful																																													
486 (Busy Here)	←																																												
ACK	→																																												