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Telenor Networks

Test descriptions
for Signalling System No.7
national interconnect
between Telenor Networks
and another telecom operator
Telenor Norwegian national interconnect ISUP v2:

ISDN-H.323 end-to-end

H.323-SS7 Gateway/H.323 – ISUP signalling

IP telephony interworking with PSTN/ISDN

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1.   INTRODUCTION

1.1   Purpose and scope

The standard Telenor national interconnect agreement specifies interconnect tests for the transit
ISUP case, the end-to-end case for ISDN-ISDN, ISDN-analogue, ISDN-GSM. However, testing
when one end is terminated on an IP telephony gateway is not previously been described. Until
2002 this has not been a problem, because IP telephony (e.g. H.323 and SIP) has usually been
connected to the PSTN/ISDN behind an ISDN access. However, from now on SIP-ISUP and
H.323-ISUP gateways are expected to be introduced in the network in a more significant scale, and
the need arises for test specifications to be used for end-to-end interconnect test with TELENOR
when such gateways are part of the configuration.

This document specifies a set of test cases for national interconnect with TELENOR when
TELECOM OPERATOR terminates the calls on an H.323-ISUP gateway. A description of each
test case is given. This includes the purpose of the test case, the test environment, the test
procedures and the expected results. In the test descriptions, the "ISUP simulator" shall be
substituted with the TELENOR POI when the test is performed as an interconnect test. TELENOR
will actually use an ISUP or DSS1 simulator when testing, but the simulator will be located behind
the POI.

This document is a first version, and will be updated based on experience.

The protocol interworking requirements on both the H.323 side and the ISUP side are decided by
the network configuration and the SS7 interface protocol requirements. The network configuration
to be tested will be the H.323-ISUP gateway as a gateway between an H.323 IP telephony
application on the public Internet and the Norwegian national PSTN/ISDN network on the national
interconnect interface. Test of interworking between an H.323 IP telephony application on a secure
IP VPN dedicated to a specific customer (company) and the Norwegian national PSTN/ISDN
network on the national interconnect interface is also described (this configuration is different for
the CLIP/CLIR services).

In this document only application layer protocol tests are described (i.e. H.323 and ISUP).
Appropriate tests for OSI protocol layers 2 and 3 (MTP layer 2 and MTP layer 3) are described in
another part of the Telenor standard national interconnect test descriptions.

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2.   TEST CASE SPECIFICATIONS

2.1   Blocking, unblocking

See also appropriate tests in another part of the Telenor test descriptions for national interconnect to the Norwegian public PSTN/ISDN:

National interconnect gateway ISUP signalling compatibility test list.

TELENOR exchange:...................... .... " :......................			Q.784 basic call tests			Page: 1
Q.784 test no.	**Test case**	**Remark**	**Date**	**Result**	**Comments**	
1.3.1.1	CGB and CGU received					
1.3.1.2	CGB and CGU sent					
1.3.2.1	BLO received					
1.3.2.2	BLO sent					
1.3.2.3	Blocking from both ends; removal of blocking from one end					

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2.2   Call from ISDN to H.323

2.2.1   Bearer service speech, en bloc operation

Test result:	
Test object:	Bearer service speech for H.323 signalling, en bloc operation.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with en bloc operation can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the ISUP and H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 2.2.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
1.	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
2.	H.323 terminal ringing	Alerting
3.	H.323 User answers the call.	Connection is established
4.	ISDN User disconnects.	Release.
5.		
6.		

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2.2.2   Bearer service speech, with HLC

Test result:	
Test object:	Bearer service speech for H.323 signalling, with HLC.
Test purpose:	The purpose of this test case is to verify that the speech bearer service can be provided for a call from ISDN with HLC indication to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
7.	ISUP simulator calls H.323 User.	Q.764 IAM (TMR=speech, USI=speech, ATP:HLC=Telephony) H.225 SETUP (BC=speech, no HLC)
8.	H.323 terminal ringing	Alerting
9.	H.323 User answers the call.	Connection is established
10	H.323 User disconnects.	Release.
11		
12		

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2.2.3   Bearer service speech, ordinary call with various indications in alerting

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with various indications in alerting.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with various indications in alerting can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The following indications are verified in alerting: no progress indicator/ pi#1/pi #2.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
13	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
14	H.323 terminal ringing	Alerting: H.225 ALERTING Q.764 ACM
15	H.323 User answers the call.	Connection is established
16	H.323 User disconnects.	Release.
17		
18		

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2.2.4   Bearer service speech, ordinary call with call progress

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with call progress message.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with progress message can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
19	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
20	Address complete	H.225 Call proceeding Q.764 ACM
21	H.323 terminal ringing	H.225 ALERTING Q.764 CPG
22	H.323 User answers the call.	Connection is established
23	H.323 User disconnects.	Release.
24		
25		

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2.2.5   Bearer service speech, ordinary call with various indications in connect

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with various indications in connect.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with various indications in connect can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The following indications are verified in connect: no progress indicator/ pi#1/ pi #2.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
26	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
27	H.323 User answers the call.	H.225 Connect Q.764 CON
28	H.323 User disconnects.	Release.
29		
30		

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2.2.6   Bearer service speech, calling party clears before address complete

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before address complete.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with the calling party clears before address complete can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 3.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
31	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
32	ISUP simulator sends REL(16)	Release
33		
34		

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2.2.7   Bearer service speech, calling party clears before answer

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with the calling party clears before answer can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 3.2.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
35	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
36	H.323 terminal ringing	Alerting: H.225 ALERTING Q.764 ACM
37	ISUP simulator sends REL(16)	Release
38		
39		

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2.2.8   Bearer service speech, calling party clears after answer

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears after answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with calling party clears after answer can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 3.3.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
40	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
41	H.323 terminal ringing	Alerting
42	H.323 User answers the call.	Connection is established
43	ISUP simulator sends REL(16).	Release.
44		
45		

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2.2.9   Bearer service speech, called party clears after answer

Test result:		
Test object:		Bearer service speech for H.323 signalling, called party clears after answer.
Test purpose:		The purpose of this test case is to verify that the speech bearer service with called party clears after answer can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
		See Q.784 test no. 3.4.
Test case dependencies:		Infrastructure in place. CPEs with H.323 application available.
Test Set-up:		ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:		Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:		**Expected Results:**
46	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
47	H.323 terminal ringing	Alerting
48	H.323 User answers the call.	Connection is established
49	H.323 User disconnects.	Release.
50		
51		

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2.2.10   Bearer service speech, validate a set of known causes for release

Test result:	
Test object:	Bearer service speech for H.323 signalling, validate a set of known causes for release.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with a set of known causes for release can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 4.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The cause values of table 5/H.225 are validated.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:	**Expected Results:**
52	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
53	H.323 User disconnects.	Release.
54		
55		

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2.2.11   64 kbit/s unrestricted bearer service, successful call setup

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, successful call setup.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 7.1.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
56	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
57	H.323 terminal ringing	Alerting
58	H.323 User answers the call.	Connection is established
59	H.323 User disconnects.	Release.
60		
61		

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2.2.12   64 kbit/s unrestricted bearer service, unsuccessful call setup

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, unsuccessful call setup.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided with unsuccessful call setup for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 7.1.2.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
62	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
63	H.323 User disconnects.	Release (cause 31).
64		
65		

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2.2.13   64 kbit/s unrestricted bearer service, with rate adaptation

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, with rate adaptation indicated in BC.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW with rate adaptation, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. The rates to be verified are 9.6 kbit/s, 14.4 kbit/s, 56 kbit/s.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
66	ISUP simulator calls H.323 User.	Q.764 IAM (USI= 64 kbit/s with rate adaptation) H.225 SETUP
67	H.323 terminal ringing	Alerting
68	H.323 User answers the call.	Connection is established
69	H.323 User disconnects.	Release.
70		
71		

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2.2.14   3.1 kHz audio bearer service, successful call setup, from ISDN access

Test result:	
Test object:	3.1 kHz audio bearer service for H.323 signalling, successful call setup, from ISDN access.
Test purpose:	The purpose of this test case is to verify that the 3.1 kHz audio unrestricted bearer service can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 7.2.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
72	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
73	H.323 terminal ringing	Alerting
74	H.323 User answers the call.	Connection is established
75	H.323 User disconnects.	Release.
76		
77		

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2.2.15   3.1 kHz audio bearer service, successful call setup, from analogue access

Test result:		
Test object:		3.1 kHz audio bearer service for H.323 signalling, successful call setup, from analogue access.
Test purpose:		The purpose of this test case is to verify that the 3.1 kHz audio unrestricted bearer service can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.784 test no. 7.2.1.
Test case dependencies:		Infrastructure in place. CPEs with H.323 application available.
Test Set-up:		ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:		Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:		**Expected Results:**
78	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
79	H.323 terminal ringing	Alerting
80	H.323 User answers the call.	Connection is established
81	H.323 User disconnects.	Release.
82		
83		

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2.2.16   Multi-use bearer service, successful call setup with fallback to speech

Test result:	
Test object:	Multi-use audio bearer service for H.323 signalling, successful call setup with fallback to speech.
Test purpose:	The purpose of this test case is to verify that a call with the multi-use bearer service can be successfully completed with fallback to speech for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN. See Q.931, sections 5.11 and 5.12 and Q.764, section 2.5.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
84	ISUP simulator calls H.323 User.	Q.764 IAM (TMR= 64 kbit/s unrestricted preferred, USI= speech, USI prime= UDI-TA, ATP:HLC1=Telephony,HLC2=Audiovisual) H.225 SETUP (BC= speech, HLC= Telephony)
85	H.323 terminal ringing	Alerting (pi#5) Q.764 ACM (TMU=speech)
86	H.323 User answers the call.	Connection is established
87	H.323 User disconnects.	Release.
88		
89		

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2.2.17   Closed User Group public supplementary service, outgoing access allowed

Test result:	
Test object:	Bearer service speech for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with CUG outgoing access allowed can be provided for a call from ISDN to H.323 through an ISUP-H.323 GW, that the ISUP and H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
90	ISUP simulator calls H.323 User.	Q.764 IAM (Optional forward call indicators indicating "CUG call, outgoing access allowed") H.225 SETUP
91	H.323 terminal ringing	Alerting
92	H.323 User answers the call.	Connection is established
93	ISDN User disconnects.	Release.
94		
95		

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2.2.18   Closed user group public supplementary, outgoing access not allowed

Test result:	
Test object:	Bearer service speech for H.323 signalling, CUG outgoing access not allowed.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with a CUG outgoing access not allowed is properly rejected by the gateway for a call from ISDN to H.323 through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
96	ISUP simulator calls H.323 User.	Q.764 IAM (Optional forward call indicators indicating "CUG call, outgoing access not allowed") H.225 SETUP
97	GW rejects call.	Release.
98		
99		

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2.2.19   Public supplementary service UUS1 implicit from non H.323 user, text message

Test result:	
Test object:	Supplementary service UUS1, text message for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that UUI with a text message (UUI contents = IA5 characters) can be included in Q.764 IAM for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the UUS1 implicit bearer service are correct, and that correct response is provided to the ISDN. See Q.785 test no. 1.1.1.1.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
1(	ISUP simulator calls H.323 User with UUI = IA5 characters.	Q.764 IAM (UUI contents = IA5 characters) H.225 SETUP (no UUI)
1(	H.323 terminal ringing	Alerting
1(	H.323 User answers the call.	Connection is established
1(	H.323 User disconnects.	Release.
1(		
1(		

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2.2.20   Public supplementary service UUS2 from non H.323 user, text message

Test result:	
Test object:	Supplementary service UUS2, text message for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that UUI with a text message (UUI contents = IA5 characters) can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the UUS2 supplementary service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
10	ISUP simulator calls H.323 User with UUS2 non essential request.	Q.764 IAM (UUI contents = IA5 characters) H.225 SETUP (no UUI)
10	H.323 terminal ringing	Alerting (UUS2 acceptance)
10	UUI transfer	Q.764 UUI (UUI contents = IA5 characters) No UUI in H.225
10	H.323 User answers the call.	Connection is established
11	H.323 User disconnects.	Release.
11		
11		

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2.2.21   Public supplementary service UUS3 from non H.323 user, text message

Test result:	
Test object:	Supplementary service UUS2, text message for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that UUI with a text message (UUI contents = IA5 characters) can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the UUS3 supplementary service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
11	ISUP simulator calls H.323 User with UUS2 non essential request.	Q.764 IAM (UUI contents = IA5 characters) H.225 SETUP (no UUI)
11	H.323 terminal ringing	Alerting (UUS2 acceptance)
11	UUI transfer	Q.764 UUI (UUI contents = IA5 characters) No UUI in H.225
11	H.323 User answers the call.	Connection is established
11	H.323 User disconnects.	Release.
11		
11		

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2.2.22   Public supplementary service Diversion, forwarded call from ISDN

Test result:	
Test object:	Public supplementary service Diversion for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that redirecting number can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public supplementary service Diversion are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
12	ISUP simulator calls H.323 User with forwarded call (CFU).	Q.764 IAM (Redirection information, Redirecting number, Original called number)
		H.225 SETUP (no redirecting number)
12	H.323 terminal ringing	Alerting
12	H.323 User answers the call.	Connection is established
12	H.323 User disconnects.	Release.
12		
12		

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2.2.23   Public supplementary service Diversion, call to be forwarded by H.323 with public CD capability in H.323 gateway

Test result:	
Test object:	Public supplementary service Diversion for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that an H.323 gateway with public Call Deflection capability can forward a call back to ISDN with the correct CD (partial rerouting) procedures included in H.323 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the signalling procedures for the public supplementary service Diversion are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
12	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
12	H.323 terminal invokes call diversion	
12	Gateway forwards call to ISDN	Q.764 IAM on ISUP leg 2 and Q.764 ACM on ISUP leg 1. Note that Redirection number and Call diversion information are not included in ACM. - In case the H.323 user is on a secure IP VPN dedicated to a specific subscriber (company): Redirection Information, Redirecting number and Original called number are included in IAM. - In case the H.323 user is not on a secure IP VPN dedicated to a specific subscriber (company): Redirection Information (not Redirecting number and Original called number) is included in IAM.
12	H.323 User answers the call.	Connection is established
13	H.323 User disconnects.	Release.
13		
13		

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2.2.24   Public supplementary services TP from non H.323 user

Test result:	
Test object:	Public supplementary services TP, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public TP can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public TP supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
1:	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
1:	H.323 terminal ringing	Alerting
1:	H.323 User answers the call.	Connection is established
1:	Suspend/Resume (ISDN user initiated)	Q.764 SUS (user initiated) No notification in H.225 Q.764 RES (user initiated) No notification in H.323
1:	H.323 User disconnects.	Release.
1:		
1:		

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2.2.25   Public supplementary services CONF/3PTY from non H.323 user

Test result:	
Test object:	Public supplementary services CONF/3PTY, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public CONF/3PTY can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public CONF/3PTY supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
1↵	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
1↵	H.323 terminal ringing	Alerting
1↵	H.323 User answers the call.	Connection is established
1↵	CONF/3PTY Notification	Q.764 CPG (CONF/3PTY notification) No notification in H.225
1↵	H.323 User disconnects.	Release.
1↵		
1↵		

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2.2.26   Public supplementary services HOLD from non H.323 user

Test result:	
Test object:	Public supplementary services HOLD, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public HOLD can be included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public HOLD supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
14	ISUP simulator calls H.323 User.	Q.764 IAM H.225 SETUP
14	H.323 terminal ringing	Alerting
14	H.323 User answers the call.	Connection is established
15	HOLD Notification	Q.764 CPG (HOLD notification) No notification in H.225
15	H.323 User disconnects.	Release.
15		
15		

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2.2.27 Private (H.450) supplementary service Call transfer from remote H.323 user

Test result:	
Test object:	Private supplementary services Call transfer, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private call transfer can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call transfer supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.2 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
1ε	ISUP simulator calls H.323 User.	Q.764 IAM with UUS3 request H.225 SETUP
1ε	H.323 terminal ringing	Alerting with UUS3 acceptance
1ε	H.323 User answers the call 1.	Connection is established
1ε	H.323 User initiates call 2	Setup, alerting, connection is established
1ε	Private (H.450) Call transfer between call 1 and call 2 is activated by H.323 User.	Q.764 USR with H.450 APDU in UUI H.225 FACILITY with H.450 APDU in UUI The two calls are connected in the user plane in the H.323 gateway
1ε	ISDN User disconnects.	Release.
1ε		
1ε		

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2.2.28   Private (H.450) supplementary service Diversion, call from remote H.323 user

Test result:	
Test object:	Private supplementary services Call transfer, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private diversion can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call diversion supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.3 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
16	ISUP simulator calls H.323 User 1.	Q.764 IAM with UUS1 implicit request
16	H.323 gateway diverts the call (CFU) to H.323 User 2	H.225 SETUP with H.450 APDU in UUI
16	H.323 User 2 terminal ringing	Alerting with UUS1 acceptance and H.450 APDU in UUI
16	H.323 User 2 answers the call.	Connection is established
16	ISDN User disconnects.	Release.
16		
16		

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2.2.29 Private (H.450) supplementary service HOLD, call from remote H.323 user

Test result:	
Test object:	Private supplementary service HOLD, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Call hold can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call hold supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.4 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
16	ISUP simulator calls H.323 User.	Q.764 IAM with UUS3 request H.225 SETUP
17	H.323 User terminal ringing	Alerting with UUS3 acceptance
17	H.323 User answers the call.	Connection is established
17	H.323 User puts the call on hold	H.225 FACILITY with H.450 APDU in UUI Q.764 USR with H.450 APDU in UUI
17	ISDN User disconnects.	Release.
17		
17		

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2.2.30   Private (H.450) supplementary service Call park and call pickup, call from remote H.323 user

Test result:	
Test object:	Private supplementary service Call park and call pickup, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Call park and call pickup can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call park and call pickup supplementary service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.5 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
17	ISUP simulator calls H.323 User.	Q.764 IAM with UUS3 request H.225 SETUP
17	H.323 User terminal ringing	Alerting with UUS3 acceptance
17	H.323 User answers the call.	Connection is established
17	H.323 User puts the call on park	H.225 FACILITY with H.450 APDU in UUI Q.764 USR with H.450 APDU in UUI
18	H.323 User picks up the call	H.225 SETUP and call establishment Q.764 USR with H.450 APDU in UUI
18	ISDN User disconnects.	Release.
18		
18		

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2.2.31   Private (H.450) supplementary service Call waiting, call from remote H.323 user

Test result:	
Test object:	Private supplementary service Call waiting, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Call waiting can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call waiting supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.6 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
18	H.323 User establishes call 1.	Call 1 is established
18	ISUP simulator calls H.323 User (call 2)	Q.764 IAM with UUS1 (implicit) request H.225 SETUP with H.450 APDU in UUI
18	H.323 User is notified of call 2	Alerting with UUS1 acceptance and H.450 APDU in UUI
18	H.323 User answers the call 2 and releases call 1.	Call 1 is released and connection is established for call 2
18	ISDN User disconnects.	Release.
18		
19		

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2.2.32   Private (H.450) supplementary service MWI, notification through ISUP from remote Message service provider

Test result:	
Test object:	Private supplementary service MWI, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private MWI can be supported in the H.323 gateway with appropriate information included in Q.931 signalling from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Message waiting indication supplementary services are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.7 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
1ⁱ	MWI indication from public ISDN network for H.323 User.	MWI in SCCP H.225 FACILITY with H.450 APDU in UUI
1ⁱ	H.323 User releases the message waiting indication	H.225 FACILITY with H.450 APDU in UUI MWI in SCCP
1ⁱ	ISDN User disconnects.	Release.
1ⁱ		
1ⁱ		

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2.2.33   Private (H.450) supplementary service Name identification, call from remote H.323 user

Test result:	
Test object:	Private supplementary service Name identification, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Name identification can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from ISDN to H.323 through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Name identification supplementary service are correct, and that correct response is provided to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.8 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
1ϛ	ISUP simulator calls H.323 User	Q.764 IAM with UUS1 (implicit) request and H.450 APDU in UUI
		H.225 SETUP with H.450 APDU in UUI
1ϛ	H.323 User terminal ringing	Alerting with UUS1 acceptance
1ϛ	H.323 User answers the call	Connection is established with H.450 APDU in UUI
1ϛ	ISDN User disconnects.	Release.
2ᴄ		
2ᴄ		

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2.3   Call from H.323 to ISDN

2.3.1   Bearer service speech, en bloc operation

Test result:		
Test object:	Bearer service speech for H.323 signalling, en bloc operation.	
Test purpose:	The purpose of this test case is to verify that the speech bearer service with en bloc operation can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 2.2.1.	
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.	
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.	
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.	
Test Procedure Steps:		**Expected Results:**
2(	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
2(	ISUP simulator sends ACM	Alerting
2(	ISUP simulator answers the call.	Connection is established
2(	H.323 User disconnects.	Release.
2(		
2(		

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2.3.2 Bearer service speech, with overlap operation

Test result:		
Test object:		Bearer service speech for H.323 signalling, with HLC.
Test purpose:		The purpose of this test case is to verify that the speech bearer service can be provided for a call from H.323 with overlap operation to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:		Infrastructure in place. CPEs with H.323 application available.
Test Set-up:		ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:		Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:		**Expected Results:**
20	H.323 User calls ISUP simulator.	H.225 SETUP H.225 INF Q.764 IAM
20	ISUP simulator sends ACM	Alerting
21	ISUP simulator answers the call.	Connection is established
21	H.323 User disconnects.	Release.
21		
21		

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2.3.3   Bearer service speech, ordinary call with various indications in alerting

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with various indications in alerting.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with various indications in alerting can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The following indications are verified in the ACM backward call indicators: Called party status indicator= "subscriber free" or "no indication", ISDN access indicator= "ISDN" or "Non ISDN".
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	**Expected Results:**
21	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
21	ISUP simulator sends ACM	Alerting: Q.764 ACM H.225 ALERTING/PROGRESS
21	ISUP simulator answers the call.	Connection is established
21	H.323 User disconnects.	Release.
21		
21		

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2.3.4   Bearer service speech, ordinary call with call progress

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with call progress message.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with progress message can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
2²	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
2²	ISUP simulator sends ACM	Q.764 ACM H.225 ALERTING
2²	ISUP simulator sends CPG	Q.764 CPG H.225 PROGRESS
2²	ISUP simulator answers the call.	Connection is established
2²	H.323 User disconnects.	Release.
2²		
2²		

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2.3.5   Bearer service speech, ordinary call with various indications in connect

Test result:	
Test object:	Bearer service speech for H.323 signalling, ordinary call with various indications in connect.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with various indications in connect can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The following indications are verified in connect: Called party status indicator= "subscriber free" or "no indication", ISDN access indicator= "ISDN" or "Non ISDN".
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
22	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
22	ISUP simulator answers the call.	Q.764 CON H.225 Connect
22	H.323 User disconnects.	Release.
23		
23		

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2.3.6   Bearer service speech, calling party clears before address complete

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before address complete.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with the calling party clears before address complete can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 3.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
2:	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
2:	H.323 User sends disconnect	Release
2:		
2:		

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2.3.7   Bearer service speech, calling party clears before answer

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with the calling party clears before answer can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 3.2.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
23	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
23	ISUP simulator sends ACM	Alerting: H.225 ALERTING Q.764 ACM
23	H.323 User sends disconnect	Release
23		
24		

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2.3.8   Bearer service speech, calling party clears after answer

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears after answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with calling party clears after answer can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 3.3.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
24	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
24	ISUP simulator sends ACM	Alerting
24	ISUP simulator answers the call.	Connection is established
24	H.323 User sends disconnect.	Release.
24		
24		

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2.3.9 Bearer service speech, called party clears after answer

Test result:		
Test object:		Bearer service speech for H.323 signalling, called party clears after answer.
Test purpose:		The purpose of this test case is to verify that the speech bearer service with called party clears after answer can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
		See Q.784 test no. 3.4.
Test case dependencies:		Infrastructure in place. CPEs with H.323 application available.
Test Set-up:		ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:		Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:		**Expected Results:**
24	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
24	ISUP simulator sends ACM	Alerting
24	ISUP simulator answers the call.	Connection is established
25	ISUP simulator sends REL.	Release.
25		
25		

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2.3.10   Bearer service speech, validate a set of known causes for release

Test result:	
Test object:	Bearer service speech for H.323 signalling, validate a set of known causes for release.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with a set of known causes for release can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 4.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals. The cause values of table 5/H.225 are validated.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
25	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
25	ISUP simulator sends REL.	Release.
25		
25		

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2.3.11   64 kbit/s unrestricted bearer service, successful call setup

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, successful call setup.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 7.1.1.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
25	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
25	ISUP simulator sends ACM	Alerting
25	ISUP simulator answers the call.	Connection is established
26	H.323 User disconnects.	Release.
26		
26		

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2.3.12   64 kbit/s unrestricted bearer service, unsuccessful call setup

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, unsuccessful call setup.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided with unsuccessful call setup for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 7.1.2.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
26	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
26	ISUP simulator sends REL (cause 31).	Release.
26		
26		

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2.3.13   64 kbit/s unrestricted bearer service, with rate adaptation

Test result:	
Test object:	64 kbit/s unrestricted bearer service for H.323 signalling, with rate adaptation indicated in BC.
Test purpose:	The purpose of this test case is to verify that the 64 kbit/s unrestricted bearer service can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW with rate adaptation, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. The rates to be verified are 9.6 kbit/s, 14.4 kbit/s, 56 kbit/s.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
26	H.323 User calls ISUP simulator.	H.225 SETUP (BCI= 64 kbit/s with rate adaptation) Q.764 IAM (USI= 64 kbit/s with rate adaptation)
26	ISUP simulator sends ACM	Alerting
26	ISUP simulator answers the call.	Connection is established
27	H.323 User disconnects.	Release.
27		
27		

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2.3.14   3.1 kHz audio bearer service, successful call setup, from ISDN access

Test result:		
Test object:	3.1 kHz audio bearer service for H.323 signalling, successful call setup, from ISDN access.	
Test purpose:	The purpose of this test case is to verify that the 3.1 kHz audio unrestricted bearer service can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 7.2.1.	
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.	
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.	
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.	
Test Procedure Steps:		**Expected Results:**
27	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
27	ISUP simulator sends ACM	Alerting
27	ISUP simulator answers the call.	Connection is established
27	H.323 User disconnects.	Release.
27		
27		

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2.3.15   3.1 kHz audio bearer service, successful call setup, from analogue access

Test result:		
Test object:	3.1 kHz audio bearer service for H.323 signalling, successful call setup, from analogue access.	
Test purpose:	The purpose of this test case is to verify that the 3.1 kHz audio unrestricted bearer service can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN. See Q.784 test no. 7.2.1.	
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.	
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.	
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.	
Test Procedure Steps:		**Expected Results:**
27	H.323 User calls ISUP simulator.	H.225 SETUP (BC = 3.1 kHz audio, pi#2) Q.764 IAM (USI = 3.1 kHz audio, ATP:pi#2)
28	ISUP simulator sends ACM	Alerting
28	ISUP simulator answers the call.	Connection is established
28	H.323 User disconnects.	Release.
28		
28		

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2.3.16   Bearer service speech, timer T7 expiry

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before address complete.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with T7 expiry before address complete can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
28	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
28	GW sends disconnect at expiry of timer Q.764-T7 (waiting for ACM)	Release
28		
28		

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2.3.17   Bearer service speech, timer T9 expiry

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with T9 expiry before answer can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
28	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
29	ISUP simulator sends ACM	Alerting: H.225 ALERTING Q.764 ACM
29	GW sends disconnect at expiry of timer Q.764-T9	Release
29		
29		

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2.3.18   Bearer service speech, SUS (network initiated)

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with SUS/RES(network initiated) can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
2S	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
2S	ISUP simulator sends ACM	Alerting: H.225 ALERTING Q.764 ACM
2S	ISUP simulator sends ANM	Connect
2S	ISUP simulator sends SUS(network initiated)	
2S	ISUP simulator sends RES(network initiated) 30 seconds after SUS	
2S	H.323 User sends disconnect 4 minutes after RES	Release

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2.3.19   Bearer service speech, timer T2 expiry

Test result:	
Test object:	Bearer service speech for H.323 signalling, calling party clears before answer.
Test purpose:	The purpose of this test case is to verify that the speech bearer service with timer T2 expiry can be provided for a call from H.323 to ISDN through an ISUP-H.323 GW, that the H.323 signalling procedures for the speech bearer service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
3(	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
3(	ISUP simulator sends ACM	Alerting: H.225 ALERTING Q.764 ACM
3(	ISUP simulator sends ANM	Connect
3(	ISUP simulator sends SUS(network initiated)	
3(	Gateway sends disconnect at expiry of timer Q.764-T2.	Release
3(		
3(		

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2.3.20   Public supplementary services TP from non H.323 user

Test result:	
Test object:	Public supplementary services TP, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public TP can be included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public TP supplementary services are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
30	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
30	ISUP simulator sends ACM	Alerting
30	ISUP simulator answers the call.	Connection is established
31	Suspend/Resume (ISDN user initiated)	Q.764 SUS (user initiated) No notification in H.225 Q.764 RES (user initiated) No notification in H.323
31	H.323 User disconnects.	Release.
31		
31		

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2.3.21   Public supplementary services CONF/3PTY from non H.323 user

Test result:	
Test object:	Public supplementary services CONF/3PTY, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public CONF/3PTY can be included in Q.764 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public CONF/3PTY supplementary services are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:	**Expected Results:**
31 H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
31 ISUP simulator sends ACM	Alerting
31 ISUP simulator answers the call.	Connection is established
31 CONF/3PTY Notification	Q.764 CPG (CONF/3PTY notification) No notification in H.225
31 H.323 User disconnects.	Release.
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2.3.22   Public supplementary services HOLD from non H.323 user

Test result:	
Test object:	Public supplementary services HOLD, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that notification for public HOLD can be included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW, that the info is discarded by the H.323 gateway, that the H.323 signalling procedures for the public HOLD supplementary services are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
32	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM
32	ISUP simulator sends ACM	Alerting
32	ISUP simulator answers the call.	Connection is established
32	HOLD Notification	Q.764 CPG (HOLD notification) No notification in H.225
32	H.323 User disconnects.	Release.
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2.3.23   Private (H.450) supplementary service Call transfer from remote H.323 user

Test result:	
Test object:	Private supplementary services Call transfer, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private call transfer can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call transfer supplementary services are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.2 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
32	H.323 User calls ISUP simulator.	H.225 SETUP with UUS3 request Q.764 IAM with UUS3 request
32	ISUP simulator sends ACM	Alerting with UUS3 acceptance
33	ISUP simulator answers the call.	Connection is established
33	ISUP simulator indicates that Private (H.450) Call transfer between call 1 and call 2 is activated by remote ISDN User.	Q.764 USR with H.450 APDU in UUI H.225 FACILITY with H.450 APDU in UUI
33	ISDN User disconnects.	Release.
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2.3.24   Private (H.450) supplementary service HOLD, call to remote H.323 user

Test result:	
Test object:	Private supplementary service HOLD, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Call hold can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call hold supplementary services are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.4 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
3:	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM with UUS3 request
3:	H.323 User terminal ringing	Alerting with UUS3 acceptance
3:	H.323 User answers the call.	Connection is established
3:	ISDN User puts the call on hold	Q.764 USR with H.450 APDU in UUI H.225 FACILITY with H.450 APDU in UUI
3:	ISDN User disconnects.	Release.
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2.3.25 Private (H.450) supplementary service Call park and call pickup, call to remote H.323 user

Test result:	
Test object:	Private supplementary service Call park and call pickup, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Call park and call pickup can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Call park and call pickup supplementary service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.5 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
34	H.323 User calls ISUP simulator.	H.225 SETUP Q.764 IAM with UUS3 request
34	H.323 User terminal ringing	Alerting with UUS3 acceptance
34	H.323 User answers the call.	Connection is established
34	ISDN User puts the call on park	Q.764 USR with H.450 APDU in UUI H.225 FACILITY with H.450 APDU in UUI
34	ISDN User picks up the call	Q.764 USR with H.450 APDU in UUI H.225 FACILITY with H.450 APDU in UUI
34	ISDN User disconnects.	Release.
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2.3.26   Private (H.450) supplementary service Name identification, call to remote H.323 user

Test result:	
Test object:	Private supplementary service Name identification, notification for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that procedures for private Name identification can be supported in the H.323 gateway with appropriate information included in Q.931 signalling for a speech call from H.323 to ISDN through an ISUP-H.323 GW (e.g. H.450 APDU in UUI), that the H.323 signalling procedures for the private Name identification supplementary service are correct, and that correct response is provided to the H.323 User and to the ISDN.
Test case dependencies:	Infrastructure in place. CPEs with H.323 application available.
Test Set-up:	ISUP simulator towards ISUP-H.323 GW to H.323 user. CPEs switched on. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323, H.450.8 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
3ξ	H.323 User calls ISUP simulator	H.225 SETUP with H.450 APDU in UUI Q.764 IAM with UUS1 (implicit) request and H.450 APDU in UUI
3ξ	ISDN User terminal ringing	Alerting with UUS1 acceptance
3ξ	ISDN User answers the call	Connection is established with H.450 APDU in UUI
3ξ	ISDN User disconnects.	Release.
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2.4   Public and private (IP VPN) supplementary services CLIP/CLIR

The H.323 IP telephony application is on a secure IP VPN dedicated to a specific customer (company). A true E.164 number means that it is verified by the gateway that the number is within the (DDI) number series allocated to that customer. A false E.164 number means that it is verified by the gateway that the number is not within the (DDI) number series allocated to that customer.

In this test specification it is assumed that the H.323-ISUP gateway is located in Norway. For Calling party numbers received from the ISDN and coded with nature of address = "national(significant)number", the gateway shall add the Norwegian country code 47 and modify the nature of address to "international number" when passing the number to H.323.

2.4.1   CLI transfer, true E.164+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
35	H.323 User calls ISDN User through GK.	H.225 SETUP (true E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK Q.764 IAM (true E.164 nbr in Calling pty nbr parameter coded "user provided, verified and passed", H323_ID in UUI param) from GW to ISDN
35	ISDN terminal ringing	Alerting
35	ISDN User answers the call.	Connection is established
35	H.323 User disconnects.	Release.
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2.4.2   CLI transfer, false E.164+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
36	H.323 User calls ISDN User through GK.	H.225 SETUP (false E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK Q.764 IAM (default E.164 nbr in calling pty nbr parameter coded "network provided", H323_ID in UUI param) from GW to ISDN
36	ISDN terminal ringing	Alerting
36	ISDN User answers the call.	Connection is established
36	H.323 User disconnects.	Release.
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2.4.3   CLI transfer, only H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
37	H.323 User calls ISDN User through GK.	H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK Q.764 IAM (default E.164 nbr in calling pty nbr parameter coded "network provided", H323_ID in UUI param) from GW to ISDN
37	ISDN terminal ringing	Alerting
37	ISDN User answers the call.	Connection is established
37	H.323 User disconnects.	Release.
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2.4.4   CLI transfer, E.164+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
38	ISDN User calls H.323 User through GK.	Q.764 IAM (E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to GW H.225 SETUP (true E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
39	H.323 terminal ringing	Alerting
39	H.323 User answers the call.	Connection is established
39	ISDN User disconnects.	Release.
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2.4.5   No CLI received. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
40	ISDN User calls H.323 User through GK.	Q.764 IAM (no E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
40	H.323 terminal ringing	Alerting
40	H.323 User answers the call.	Connection is established
40	ISDN User disconnects.	Release.
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2.4.6   CLI transfer, only H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
41	ISDN User calls H.323 User through GK.	Q.764 IAM (no E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to GW H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
41	H.323 terminal ringing	Alerting
41	H.323 User answers the call.	Connection is established
41	ISDN User disconnects.	Release.
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2.4.7　CLI transfer, 2xE.164. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
42	ISDN User calls H.323 User through GK.	Q.764 IAM (1. E.164 nbr in Generic nbr param, 2. E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (1. E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
42	H.323 terminal ringing	Alerting
43	H.323 User answers the call.	Connection is established
43	ISDN User disconnects.	Release.
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2.4.8   CLI transfer, 2xE.164+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
44	ISDN User calls H.323 User through GK.	Q.764 IAM (1. E.164 nbr in Generic nbr param, 2. E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to GW
		H.225 SETUP (1. E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
44	H.323 terminal ringing	Alerting
44	H.323 User answers the call.	Connection is established
44	ISDN User disconnects.	Release.
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2.4.9   CLI transfer, PNP+E.164. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
4£	ISDN User calls H.323 User through GK.	Q.764 IAM (PNP nbr in Generic nbr param, E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (PNP nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
4£	H.323 terminal ringing	Alerting
4£	H.323 User answers the call.	Connection is established
4£	ISDN User disconnects.	Release.
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2.4.10   CLI transfer, E.164="presentation restricted". Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
46	ISDN User calls H.323 User through GK.	Q.764 IAM (calling pty nbr param coded "presentation restricted", no H323_ID in UUI param) from ISDN to GW H.225 SETUP (no calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
46	H.323 terminal ringing	Alerting
46	H.323 User answers the call.	Connection is established
47	ISDN User disconnects.	Release.
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2.4.11   CLI transfer, E.164(pres.restr.)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIR supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIR supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:		**Expected Results:**
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4ε	H.323 User calls ISDN User through GK.	H.225 SETUP (true E.164 nbr in calling pty nbr IE with indication of "presentation restricted", H323_ID in UUI IE) from H.3231 User to GK
		Q.764 IAM (true E.164 nbr in calling pty nbr param with indication of "presentation restricted", H323_ID in UUI param) from GW to ISDN
4ε	ISDN terminal ringing	Alerting
4ε	ISDN User answers the call.	Connection is established
4ε	H.323 User disconnects.	Release.
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2.4.12   CLI transfer, E.164(internat.foreign)+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
4ς	ISDN User calls H.323 User through GK.	Q.764 IAM (international Swedish E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to H.323 GW H.225 SETUP (international Swedish E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GK to H.323 User
4ς	H.323 terminal ringing	Alerting
4ς	H.323 User answers the call.	Connection is established
4ς	ISDN User disconnects.	Release.
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2.4.13   CLI transfer, E.164(internat.foreign)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	**Expected Results:**
5(	H.323 User calls ISDN User through GK.	H.225 SETUP (international Swedish E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.323 User to GK Q.764 IAM (international Swedish E.164 nbr in calling pty nbr param, H323_ID in UUI param) from GW to ISDN
5(	ISDN terminal ringing	Alerting
5(	ISDN User answers the call.	Connection is established
5(	H.323 User disconnects.	Release.
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2.4.14   CLI transfer, E.164(internat.domestic)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
51	H.323 User calls ISDN User through GK.	H.225 SETUP (international Norwegian E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.323 User to GK Q.764 IAM (national Norwegian E.164 nbr in calling pty nbr param, H323_ID in UUI param) from GW to ISDN
52	ISDN terminal ringing	Alerting
52	ISDN User answers the call.	Connection is established
52	H.323 User disconnects.	Release.
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2.5 Public and private (Internet) supplementary services CLIP/CLIR

The H.323 IP telephony application is directly or indirectly on the public Internet. A true E.164 number means that the calling subscriber has been authenticated by the gateway and it has been verified that the number is allocated to that subscriber. A false E.164 number means that the calling subscriber has not been authenticated by the gateway or it has not been verified that the number is allocated to that subscriber.

In this test specification it is assumed that the H.323-ISUP gateway is located in Norway. For Calling party numbers received from the ISDN and coded with nature of address = "national(significant)number", the gateway shall add the Norwegian country code 47 and modify the nature of address to "international number" when passing the number to H.323.

2.5.1 CLI transfer, true E.164+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
5͞	H.323 User calls ISDN User through GK.	H.225 SETUP (true E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK Q.764 IAM (true E.164 nbr in Generic nbr param, H323_ID in UUI param) from GW to ISDN
5͞	ISDN terminal ringing	Alerting
5͞	ISDN User answers the call.	Connection is established
5͞	H.323 User disconnects.	Release.
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2.5.2   CLI transfer, false E.164+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
53	H.323 User calls ISDN User through GK.	H.225 SETUP (false E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK If the subscriber has been authenticated by the gateway: Q.764 IAM (E.164 nbr allocated to the subscriber in generic nbr param, H323_ID in UUI param) from GW to ISDN If the subscriber has not been authenticated by the gateway: Q.764 IAM (no E.164 nbr in generic nbr or calling pty nbr param, H323_ID in UUI param) from GW to ISDN
53	ISDN terminal ringing	Alerting
54	ISDN User answers the call.	Connection is established
54	H.323 User disconnects.	Release.
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2.5.3   CLI transfer, only H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:	**Expected Results:**
5£	H.323 User calls ISDN User through GK.	H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.3231 User to GK If the subscriber has been authenticated by the gateway: Q.764 IAM (E.164 nbr allocated to the subscriber in generic nbr param, H323_ID in UUI param) from GW to ISDN If the subscriber has not been authenticated by the gateway: Q.764 IAM (no E.164 nbr in generic nbr or calling pty nbr param, H323_ID in UUI param) from GW to ISDN
5£	ISDN terminal ringing	Alerting
5£	ISDN User answers the call.	Connection is established
5£	H.323 User disconnects.	Release.
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2.5.4   CLI transfer, E.164+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
56	ISDN User calls H.323 User through GK.	Q.764 IAM (E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to GW H.225 SETUP (E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
56	H.323 terminal ringing	Alerting
56	H.323 User answers the call.	Connection is established
56	ISDN User disconnects.	Release.
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2.5.5   No CLI received. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
57	ISDN User calls H.323 User through GK.	Q.764 IAM (no E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
57	H.323 terminal ringing	Alerting
57	H.323 User answers the call.	Connection is established
58	ISDN User disconnects.	Release.
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2.5.6   CLI transfer, only H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
5〔	ISDN User calls H.323 User through GK.	Q.764 IAM (no E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to GW H.225 SETUP (no E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
5〔	H.323 terminal ringing	Alerting
5〔	H.323 User answers the call.	Connection is established
5〔	ISDN User disconnects.	Release.
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2.5.7   CLI transfer, 2xE.164. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	**Expected Results:**
60	ISDN User calls H.323 User through GK.	Q.764 IAM (1. E.164 nbr in Generic nbr param, 2. E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (1. E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
60	H.323 terminal ringing	Alerting
60	H.323 User answers the call.	Connection is established
60	ISDN User disconnects.	Release.
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2.5.8   CLI transfer, 2xE.164+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	**Expected Results:**
61	ISDN User calls H.323 User through GK.	Q.764 IAM (1. E.164 nbr in Generic nbr param, 2. E.164 nbr in calling pty nbr param, H323_ID in UUI param from ISDN to GW) H.225 SETUP (1. E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
61	H.323 terminal ringing	Alerting
61	H.323 User answers the call.	Connection is established
61	ISDN User disconnects.	Release.
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2.5.9 CLI transfer, PNP+E.164. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
62	ISDN User calls H.323 User through GK.	Q.764 IAM (PNP nbr in Generic nbr param, E.164 nbr in calling pty nbr param, no H323_ID in UUI param) from ISDN to GW H.225 SETUP (PNP nbr in calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
63	H.323 terminal ringing	Alerting
63	H.323 User answers the call.	Connection is established
63	ISDN User disconnects.	Release.
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2.5.10　　　CLI transfer, E.164="presentation restricted". Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on H.323.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
64	ISDN User calls H.323 User through GK.	Q.764 IAM (calling pty nbr param coded "presentation restricted", no H323_ID in UUI param) from ISDN to GW H.225 SETUP (no calling pty nbr IE, H323_ID in UUI IE) from GW to H.323 User
64	H.323 terminal ringing	Alerting
64	H.323 User answers the call.	Connection is established
64	ISDN User disconnects.	Release.
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2.5.11   CLI transfer, E.164(pres.restr.)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIR supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIR supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.
Test Procedure Steps:	**Expected Results:**
65 H.323 User calls ISDN User through GK.	- H.225 SETUP (true E.164 nbr in calling pty nbr IE with indication of "presentation restricted", H323_ID in UUI IE) from H.3231 User to GK Q.764 IAM (true E.164 nbr in calling pty nbr param with indication of "presentation restricted", H323_ID in UUI param) from GW to ISDN - H.225 SETUP (false E.164 nbr in calling pty nbr IE with indication of "presentation restricted", H323_ID in UUI IE) from H.3231 User to GK If the subscriber has been authenticated by the gateway: Q.764 IAM (E.164 nbr allocated to the subscriber in generic nbr param with indication of "presentation restricted", H323_ID in UUI param) from GW to ISDN If the subscriber has not been authenticated by the gateway: Q.764 IAM (no E.164 nbr in generic nbr or calling pty nbr param, H323_ID in UUI param) from GW to ISDN
65 ISDN terminal ringing	Alerting
65 ISDN User answers the call.	Connection is established
65 H.323 User disconnects.	Release.
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2.5.12   CLI transfer, E.164(internat.foreign)+H323-ID. Call from ISDN to H.323.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		**Expected Results:**
66	ISDN User calls H.323 User through GK.	Q.764 IAM (international Swedish E.164 nbr in calling pty nbr param, H323_ID in UUI param) from ISDN to H.323 GW H.225 SETUP (international Swedish E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from GK to H.323 User
66	H.323 terminal ringing	Alerting
66	H.323 User answers the call.	Connection is established
66	ISDN User disconnects.	Release.
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2.5.13   CLI transfer, E.164(internat.foreign)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

	Test Procedure Steps:	Expected Results:
67	H.323 User calls ISDN User through GK.	H.225 SETUP (international Swedish E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.323 User to GK Q.764 IAM (international Swedish E.164 nbr in Generic nbr param, H323_ID in UUI param) from GW to ISDN
67	ISDN terminal ringing	Alerting
67	ISDN User answers the call.	Connection is established
67	H.323 User disconnects.	Release.
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2.5.14   CLI transfer, E.164(internat.domestic)+H323-ID. Call from H.323 to ISDN.

Test result:	
Test object:	CLIP supplementary service for H.323 signalling.
Test purpose:	The purpose of this test case is to verify that the CLIP supplementary service with E.164 CLI can be provided within H.323, that the H.323 signalling procedures for CLIP are correct, and relevant information forwarded to the user on ISDN.
Test case dependencies:	Infrastructure in place, GW and GK running.
Test Set-up:	CPEs switched on. Client/terminal and GW switched on and registered on GK. A protocol tester is used. Instrument with H.323 software monitoring the signalling is connected to the local Ethernet near the terminals.
Post-test actions:	Analyse the signalling procedures. Verify that they are correct according to ITU-T Recommendation H.323 and The Telenor standard national interconnect agreement.

Test Procedure Steps:		Expected Results:
68	H.323 User calls ISDN User through GK.	H.225 SETUP (international Norwegian E.164 nbr in calling pty nbr IE, H323_ID in UUI IE) from H.323 User to GK
		Q.764 IAM (international Norwegian E.164 nbr in Generic nbr param, H323_ID in UUI param) from GW to ISDN
69	ISDN terminal ringing	Alerting
69	ISDN User answers the call.	Connection is established
69	H.323 User disconnects.	Release.
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