

SIP-I Interworking Test Cases Version 1.1 27 September 2012

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Table of Contents

1	Intro	Introduction 3			
	1.1	Overview	3		
	1.2	Document Cross-References	3		
	1.3	Abbreviations	3		
2	Sum	mary of Test Cases	4		
3	Com	mon Configurations and Assumptions	5		
4	Com	mon Information	6		
5	Test	Cases	6		
An	nex A	Document Management	48		
	A.1	Document History	48		

1 Introduction

1.1 Overview

This document should be read by organisations interested in executing SIP-I Interworking Tests.

The document should be used in conjunction with [1] IR.86 Test Execution Instructions and [2] IR.83 SIP-I Interworking Description in order to prepare for and execute SIP-I Interworking tests.

Each participant in SIP-I Interworking testing should modify this document with additional test cases as desired. The document should then be used by test personnel as a worksheet during testing and annotate accordinly. The completed worksheet whould be given to the test manager for management report preparation.

1.2 Document Cross-References

Ref	Doc Number	Title
[1]	IR.86	IPX Test Execution Instructions
[2]	IR.83	SIP-I Interworking Description
[3]	ITU-T Q.1912.5	Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control Protocol or ISDN User Part

1.3 Abbreviations

Term	Definitions
AMR	Adaptive Multi-Rate
BAIC	Barring of All Incoming Calls
BAOC	Barring of All Outgoing Calls
BOIC	Barring of Outgoing International Calls
CDR	Call Detail Record
CFB	Call Forwarding on Busy
CFNR	Call Forwarding on No Reply
CFN	Confusion Message (ISUP)
CFU	Call Forwarding Unconditional
CFNRc	Call Forwarding on Mobile Subscriber Not Reachable
CFNRy	Call Forwarding on No Reply
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CNAP	Calling Name Presentation
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CPN	Called Party Number
DTMF	Dual Tone Multiple Frequency
E2E	End-to-end
EFR	Enhanced Full Rate
End-to-end	End-to-end means from Service Provider premises to Service Provider premises
	thus, Service Provider core and access networks are excluded.
FNO	Fixed Network Operator or Wireline Operator
G.711	An audio data compression algorithm specificed by ITU-T
G.729	An audio data compression algorithm specified by ITU-T

Term	Definitions
GPRS	General Packat Radio Service
GRX	GPRS Roaming eXchange
GSM-EFR	Enchanced Full Rate codec of GSM
GSMA	GSM (Groupe Spéciale Mobile) Association
IBCF	Interconnect Border Control Function
IETF	Internet Engineering Taskforce
IOP	Interoperability
INT Format	Called and calling party numbers are presented in international format
IP	Internet Protocol
IPX	IP Packet eXchange. A private managed backbone providing guaranteed QoS, security and cascading payments. The IPX is a network of networks provided by the whole group of interconnected IPX Provider's networks.
IPX P	IPX Provider. A business entity (such as an IP Carrier) offering IP interconnect
	Providers for one or many IPX services compliant with the IPX operation criteria
	and compliant with the defined SLA and interconnect agreement for that end-to- end service.
IREG	Interworking and Roaming Expert Group
ISUP	Integrated Services Digital Network User Part
ITU	International Telecommunications Union
MGW	Media Gateway
MNO	Mobile Network Operator (GSM)
MOS	Mean Opinion Score
MOS-LQO	Mean Opinion Score – Listening Quality Objective
ms	Millisecond
MSC-S	Mobile Switching Centre – Server
MSP	Multiple Subscriber Profile
NB-AMR	Narror Band AMR
NTP	Network Time Protocol
PCI	(IPX) Pre Commercial Implementation, a GSMA project
PRD	Permanent Reference Document
PVI	Packet Voice Interworking
QoS	Quality of Service
RFC	Request for Change
SBC	Session Border Controller
SDO	Standard Developing Organization
SIP	Session Initiation Protocol
SIP-I	SIP with encapsulated ISUP
SP	Service Provider. A business entity entering into a contractual relationship with
	IPX Provider(s) which offers services to final users providing termination (origin
	and destination) for IP services traffic. Thus, "service provider" includes MNOs, FNOs (for example, fixed broadband operators and NGNs), ISPs, ASPs and
	Similar entities.
	Less Execution Leam
	User Equipment
	Unstructured Supplementary Service Data
UUS	User to User Signaling (on ISDN)

2 Summary of Test Cases

Test cases are group into logical groups for easy interpretation. These groupings are indicated in **Error! Reference source not found.**;

Test Numbers	Test Section
100 Series	Basic call tests, for example:
 Voice Call Tests 	A calling B, A releases the call
	B calling A, A releases the call
	Calls longer than 1 hour
	DTMF
	Abandoned calls
	Rejected calls
	Calls not answered in time
	Busy
	Out of coverage
	Powered down devices
	Unallocated numbers
200 Series	Supplementary service tests, for example:
 Supplementary Services 	 Calling Line Identity Restriction (CLIR)
Tests	 Call forward unconditional (CFU)
	 Call forward no response (CFNR)
	Hold
	Multi-party call
300 Series	Cascade billing specific tests, for example:
 CDR Validation Tests 	Call release after 1 second
	Call release after 25 hours
	Calls to a barred number
400 Series	Two Quality of Service tests: 30 x 2 minute calls and measuring the
 Voice Quality Tests 	voice quality using Mean Opinion Score.
500 Series	Calls using other codecs, for example
– Codec Tests	NB-AMR, G.729, GSM-EFR
600 Series	Setup and release of data, fax and CS video
- Other Service Tests	
1000 Series	IPX tests, for example:
- IPX Specific Tests	Blacklisting unauthorised connections
	Source verification
	Next hop verification
	Rate limiting
	Link flapping
	Platform redundancy These tests are articles and and any instantiation
	These tests are optional and only applicable where IPX network is
1100 Sorios	Optional tests, only applicable in the case where participants want to
- Particinant Specific	specify additional tests
Tests	

Table 1: Test Case Groups

3 Common Configurations and Assumptions

The following configurations are common across all test cases;

- Called and calling party numbers are presented in INT format
- IP addressing is based on version 4
- Each operator should implement DNS resolving method for FQDNs and load sharing mechanism.
- GRX domain name space (i.e. mncxxx.mccxxx.gprs) will be used for FQDNs

It is assumed that the tests are to be run on each of the test platforms (SP A and SP B).

The terminating operator is responsible to check validity/correctness of the originating number presentation format.

Systems clocks must be synchronized correctly to support charging and QoS analysis. Note that for TC-501 Objective Voice Quality Measurement, time clocks of all systems under the test must be within \pm 30 seconds synchronisation. A common NTP source, stratum 3 or better should be used.

[1] IR.83 SIP-I Interworking Description defines a generic SIP-I profile to be used for the Packet Voice Interworking over the IPX between (mobile) SPs. SIP-I aware components in the test infrastructure should be configured to conform with this profile. Default SIP retransmission timers should be used/configured in/to network elements as defined in [3]. Optimal value should be found out during evaluation in order to find fast rerouting. The control plane traffic (i.e. SIP over UDP/TCP) is assumed to use the default port 5060. It is assumed that cause codes for call releases is checked.

Traffic in both the signalling plane and user plane will use QoS parameters. Conversational class expedited forwarding is recommended. SIP-I signalling packets sould use Interactive 1. Interactive class 1 using the AF31 per-hop behaviour (PHB).

Codec G.711 A-law is used as default voice codec if not otherwise stated. A 20 ms packetisation period for voice should be used in RTP. This has been found to be optimal however, trialists are encouraged to test how different configurations impact quality. The user plane traffic (i.e. RTP/RTCP) is configured to use port range 1064->

4 **Common Information**

Common information should be captured here, to facilitate use of this document as a worksheet.

Format	
INT format	+
IPv4 Format	
INT format	+
IPv4 Format	
	Format INT format IPv4 Format INT format IPv4 Format

5 Test Cases

100 Series - Voice Call Tests

Note: Not all the results of tests in 100 Series will be visible to the IPX provider. Testers should coordinate test executions so that all information is gathered, thereby identifying specific IP behaviour in all legs of the end to end path.

Ref # (Ref # i PVI101	# TC-101a n IPX PCI Project was	Short call setup from User A to User B, User A releases ca	II		
	Test Purpose : To verify that a short call, i.e. less than Session-Expires, is established and released successfully between two mobile subscribers.				
Т	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No	
3	Is User A's mobile n	umber presented correctly in User B's terminal?	Yes	No	
4	Accept call at User E	3			
5	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No	
6	Can speech from U	lser B be heard and understood at User A during 60 sec?	Yes	No	
7	Clear call at User A				
8	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
9	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
10	Is CDR created co	prrectly in each network entity?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gene	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI102)	† TC-101b n IPX PCI Project was	Short call setup from User A to User B, User B releases call		
	Test Purpose:	To verify that a short call, i.e. less than Session-Expires, is e released successfully between two mobile subscribers.	stablishe	d and
Т	est preconditions:	Supplementary Services are not activated		
Step	Test description		Verdict	
_			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No
3	Is User A's mobile n	umber presented correctly in User B's terminal?	Yes	No
4	Accept call at User E	3		
5	Can speech from Us	er A be heard and understood at User B?	Yes	No
6	Can speech from U	ser B be heard and understood at User A?	Yes	No
7	Clear call at User B			
8	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
9	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
10	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	ution date: /	/ Time: : Overall result: Full Pass / Pa	rtial Pass	/ Failed
Gener	ral observations or	specific explanations in the case of partial pass or failed t	est:	
		· · ·		

Ref # TC-101c (Ref # in IPX PCI Project was PVI103)		Short call setup from User B to User A, User A releases call		
Test Purpose:		To verify that a short call, i.e. less than Session-Expires, is established and released successfully between two mobile subscribers. This test case is a repetition of TC-101 with calling and called parties reversed.		d and is a
Test preconditions:		Supplementary Services are not activated		
Step Test description			Verdict	
			Pass	Fail

10	Is CDR created correctly in each network entity?	Yes	No
8 9	Is call setup related signalling handled correctly between MSC-Ss?	Yes	NO NO
7	Clear call at User A	Maria	NL.
6	Can speech from User B be heard and understood at User A?	Yes	No
4 5	Can speech from User A be heard and understood at User B?	Yes	No
3	Is User B's mobile number presented correctly in User A's terminal?	Yes	No
1 2	Initiate new call from User B to the address of User A Is User A's terminal alerting (visual or audible indication)?	Yes	No

Ref # (Ref # ir PVI104)	t TC-101d n IPX PCI Project was	Short call setup from User B to User A, User B releases call		
	Test Purpose:	To verify that a short call, i.e. less than Session-Expires, is e released successfully between two mobile subscribers. This repetition of TC-102 with calling and called parties reversed.	stablishe test case	d and is a
Т	est preconditions:	Supplementary Services are not activated.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3	Is User B's mobile nu	umber presented correctly in User A's terminal?	Yes	No
4	Accept call at User A	N .		
5	Can speech from Us	er A be heard and understood at User B?	Yes	No
6	Can speech from U	ser B be heard and understood at User A?	Yes	No
7	Clear call at User B			
8	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
9	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
10	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed			
Gener	General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-102a (Ref # in IPX PCI Project was PVI105)		Long call setup from User A to User B, User A releases call		
	Test Purpose:	To verify that a long call, i.e. more than Session-Expires, is released successfully between two mobile subscribers. In a purpose is to test long call (i.e. more than 1 hour), and SIP related functionality for that.	establishe ddition, th session tir	ed and e mer
Test preconditions:		Supplementary Services are not activated. Both originating and terminating end point supports session timer extension. Session timer is set to 3600 seconds.		
Step	Test description		Verdict	
-			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No
3	Is User A's mobile nu	umber presented correctly in User B's terminal?	Yes	No
4	Accept call at User B			
5	Can speech from Us	er A be heard and understood at User B during 1 hour?	Yes	No
6	Can speech from U	ser B be heard and understood at User A during 1 hour?	Yes	No
7	Clear call at User A			

8 Is call setup related signalling handled correctly between MSC-Ss?	Yes	No				
9 Is call release related signalling handled correctly between MSC-Ss?	Yes	No				
10 Is CDR created correctly in each network entity?	Yes	No				
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						
General observations or specific explanations in the case of partial pass or failed test:						

Ref # (Ref # in PVI106)	Ref # TC-102b Long call setup from User B to User A, User B releases call Ref # in IPX PCI Project was VI106)			
	Test Purpose:	To verify that a long call, i.e. more than Session-Expires, is released successfully between two mobile subscribers. In ac purpose is to test long call (i.e. more than 1 hour), and SIP s related functionality for that.	establishe ddition, the session tin	ed and e ner
Test preconditions: Supplementary Services are not activated. Both originating and terminating end point supports session timer extension. Session timer is set to 3600 seconds.			nating 00	
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3 4	Is User B's mobile nu Accept call at User A	umber presented correctly in User A's terminal?	Yes	No
5	Can speech from Us	er A be heard and understood at User B during 1 hour?	Yes	No
6 7	Can speech from U Clear call at User B	ser B be heard and understood at User A during 1 hour?	Yes	No
8	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
9	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
10	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI107)	# TC-103a n IPX PCI Project was	DTMF transfer in-band from User A to User B, in-band		
	Test Purpose:	To verify that DTMFs are transferred correctly between ope environment.	erators ove	ər IPX
Т	est preconditions:	Supplementary Services are not activated.		
Step	Step Test description Verdict			
			Pass	Fail
1 2 3	Initiate new call from User A sends all DTI <i>Can DTMFs (i.e. 0</i>	User A to voice mail address of User B MFs to voice mail .9, #,*,B and C) from User A be understood at voice mail	Yes	No
4 5	service? Clear call at User A	I signalling handled correctly between MSC-Ss?	Yes	No
6 7	Is call release rela	ted signalling handled correctly between MSC-Ss? prrectly in each network entity?	Yes	No No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir PVI108)	# TC-103b n IPX PCI Project was	DTMF transfer in-band from User B to User A, in-band			
	Test Purpose:	To verify that DTMFs are transferred correctly between ope environment.	rators ove	er IPX	
Т	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to voice mail address of User A			
2	User B sends all DTI	MFs to voice mail			
3	Can DTMFs (i.e. 0 service?	.9, #,*,B and C) from User B be understood at voice mail	Yes	No	
4	Clear call at User B				
5	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
6	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	prrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref #	[±] TC-104a	Abandoned Call i.e. caller discards (from A to B)		
(Ref # ir PVI109)	n IPX PCI Project was			
	Test Purpose : To verify that a call is released successfully when originating user abandons the call after the ringing has started (i.e. release during call setup)			andons
T	est preconditions:	Supplementary Services are not activated.		
Step	Step Test description Verdict			
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No
3	Abandon call during	call setup time at User A		
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
5	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
6	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			
Gener	al observations or	specific explanations in the case of partial pass or failed t	est:	

Ref #	# TC-104b	Abandoned Call i.e. caller discards (from B to A)		
(Ref # in PVI110	n IPX PCI Project was			
	Test Purpose:	To verify that a call is released successfully when originating	ng user a	bandons
		the call after the ringing has started (i.e. release during call s	setup)	
Т	est preconditions:	Supplementary Services are not activated.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No
3	Abandon call during	call setup time at User B		
4	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No
5	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
6	Is CDR created co	prrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Genei	General observations or specific explanations in the case of partial pass or failed test:			

Ref #	Ref # TC-105a Rejected call i.e. callee discards (from A to B)				
(Ref # i PVI111	(Ref # in IPX PCI Project was PVI111)				
	Test Purpose: To verify that a call is released successfully when the terminating user refuses the call during ringing time				
Т	Test preconditions:	Supplementary Services are not activated.			
Step	Step Test description Verdict				
-			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No	
3	User B rejects call du	uring call setup time			
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
5	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
6	Is CDR created co	rrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gene	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI112)	TC-105b IPX PCI Project was	Rejected call i.e. callee discards (from B to A)		
	Test Purpose:	To verify that a call is released successfully when the termin	nating us	er
		refuses the call during ringing time		
T	est preconditions:	Supplementary services are not activated.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	at User B to the address of User A		
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3	User A rejects call du	uring call setup time		
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
5	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
6	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			
Gener	General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-106a Called party does not answer (from A to B) (Ref # in IPX PCI Project was PVI113) Called party does not answer (from A to B)					
Test Purpose:To verify that a call is released successfully when the called party does not answer (i.e. timer expires)				es not	
Test p	preconditions:	Supplementary Services are not activated.			
Step Test description Verdict					
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No	
3	User B does not ans	wer during call setup time			
4	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
5	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
6	Is CDR created co	prrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Genei	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI114)	TC-106b IPX PCI Project was	Called party does not answer (from B to A)			
	Test Purpose:	To verify that a call is released successfully when the called answer (i.e. timer expires)	party doe	s not	
T	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No	
3	User A does not ans	wer during call setup time			
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
5	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
6	Is CDR created co	rrectly in each network entity?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir PVI115)	t TC-107a n IPX PCI Project was	Called party busy (A to B)		
	Test Purpose:	To verify that a call is setup and released successfully when busy	the calle	d party is
Т	est preconditions:	Supplementary Services are not activated. User B has ongoin	ng call.	
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No
3	User B is busy			
4	Does User A hear bu	usy tone?	Yes	No
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
6	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
7	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			
Gener	General observations or specific explanations in the case of partial pass or failed test:			

Ref # (Ref # in PVI116)	# TC-107b n IPX PCI Project was	Called party busy (B to A)			
	Test Purpose:	To verify that a call is setup and released successfully when busy	the calle	d party is	
Т	est preconditions:	Supplementary Services are not activated. User A has ongo	ing call.		
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No	
3	User A is busy				
4	Does User B hear bu	isy tone?	Yes	No	
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	rrectly in each network entity?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI117)	# TC-108a n IPX PCI Project was	Called party not reachable, no IMSI detach (A to B)		
	Test Purpose:	To verify that a call is setup and released successfully wh not reachable	en the calle	ed party is
Т	est preconditions:	Supplementary Services are not activated. The called par battery.	ty has remo	oved
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	User B is out of cove	erage		
3	Does User A hear co	prrect announcement?	Yes	No
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
5	Is correct SIP cause	e code (i.e.480) returned by terminating MSC-S?	Yes	No
6	Is call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No
7	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # i PVI118	# TC-108b n IPX PCI Project was	Called party not reachable, no IMSI detach (B to A)		
	Test Purpose:	To verify that a call is setup and released successfully wher not reachable	n the calle	d party is
Т	est preconditions:	Supplementary Services are not activated. The called party battery.	has remo	oved
Step	Test description		Verdict	
			Pass	Fail
1 2 3	Initiate new call from User A is out of cove Does User B hear co	User B to the address of User A erage prrect announcement?	Yes	No
4 5 6 7	Is call setup related Is correct SIP cause Is call release rela Is CDR created co	I signalling handled correctly between MSC-Ss? e code (i.e.480) returned by terminating MSC-S? ted signalling handled correctly between MSC-Ss? prrectly in each network entity?	Yes Yes Yes Yes	No No No No
Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ii PVI119	t TC-109a n IPX PCI Project was	Called party not reachable (A to B), IMSI detach		
	Test Purpose:	To verify that a call is setup and released successfully when not reachable	en the calle	ed party is
Test preconditions: Supplementary Services are not activated. The called party has done IMS detach, UE powered down using the power off button.			e IMSI	
Step	Test description		Verdict	
			Pass	Fail
1 2 3 4	Initiate new call from User B has done IMS Does User A hear co Is call setup related	User A to the address of User B SI detach prrect announcement? signalling handled correctly between MSC-Ss?	Yes	No No

5 Is correct SIP cause code (i.e.??) returned by terminating MSC-S? Yes No							
6 Is call release related signalling handled correctly between MSC-Ss?	Yes	No					
7 Is CDR created correctly in each network entity?	Yes	No					
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed							
General observations or specific explanations in the case of partial pass or failed test:							

Ref # (Ref # in PVI120)	TC-109b IPX PCI Project was	Called party not reachable (B to A), IMSI detach			
	Test Purpose:	To verify that a call is setup and released successfully when not reachable	n the calle	d party is	
Т	est preconditions:	Supplementary Services are not activated. The called party	has done	IMSI	
		detach, UE powered down using the power off button.			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	User A has done IMS	SI detach			
3	Does User B hear co	prrect announcement?	Yes	No	
4	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
5	Is correct SIP cause	e code (i.e.??) returned by terminating MSC-S?	Yes	No	
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	rrectly in each network entity?	Yes	No	
Execu	tion date: /	/ Time: : Overall result: Full Pass / Pa	artial Pass	/ Failed	
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref #	t TC-110a	Unallocated number (A party)				
(Ref # ir PVI120	n IPX PCI Project was					
	Test Purpose:	To verify that a call is setup and released successfully when	n calling to	С		
		unallocated number of other operator				
Т	est preconditions:	Supplementary Services are not activated. Selected numbe	r is unallo	ocated		
		number from other operators number space				
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate new call from	User A to unallocated number of other operator				
2	Does User A hear co	prrect announcement?	Yes	No		
3	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No		
4	Is correct SIP cause	e code (i.e.404) returned by terminating MSC-S?	Yes	No		
5	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
6	Is CDR created co	rrectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref # TC-110b (Ref # in IPX PCI Project was PVI120c)	Unallocated number (B party)
Test Purpose:	To verify that a call is setup and released successfully when calling to
	unallocated number of other operator
Test preconditions:	Supplementary Services are not activated. Selected number is unallocated
	number from other operators number space

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Step	Test description					
		Pass	Fail			
1	Initiate new call from User B to unallocated number of other operator					
2	Does User B hear correct announcement?	Yes	No			
3	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No			
4	Is correct SIP cause code (i.e.404) returned by terminating MSC-S?	Yes	No			
5	Is call release related signalling handled correctly between MSC-Ss?	Yes	No			
6	Is CDR created correctly in each network entity?	Yes	No			
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref #	Lef # TC-111a Dialled number too short (A party) Ref # in IPX PCI Project was Dialled number too short (A party)				
PVI121a	a)				
	Test Purpose:	To verify that correct response is received when too short nu the recipient can not be found	umber is u	used and	
Т	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
-			Pass	Fail	
1	Initiate new call from	User A to the incomplete address of User B			
2	ls 484 Address incor	mplete received from User B side?	Yes	No	
3	Clear call at User A				
4	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
5	Is CDR created co	prrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir	TC-111b IPX PCI Project was	1b Dialled number too short (B party)			
PVI121b))				
	Test Purpose:	To verify that correct response is received when too short nu the recipient can not be found	umber is	used and	
T	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
-			Pass	Fail	
1	Initiate new call from	User B to the incomplete address of User A			
2	Is 484 Address incor	mplete received from User A side?	Yes	No	
3	Clear call at User A				
4 5	Is call setup related	l signalling handled correctly between MSC-Ss? rrectly in each network entity?	Yes Yes	No No	
Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

200 Series - Supplementary Services Tests

Note: Not all the results of tests in 200 Series will be visible to the IPX provider. Testers should coordinate test executions so that all information is gathered, thereby identifying specific IP behaviour in all legs of the end to end path.

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Ref #	f # TC-201a Calling Line Identification Restriction (CLIR), (A to B)					
(Ref # ir PVI201)	n IPX PCI Project was					
	Test Purpose:	To verify that Calling Line Identification Restriction works co	rrectly			
Т	est preconditions:	Configure User A to use CLIR supplementary service				
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate new call from	User A to the address of User B				
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No		
3	Is User A's mobile n	umber presented as unknown number in User B's terminal?	Yes	No		
4	Clear call at User A					
5	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No		
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
7	Is CDR created co	prrectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref #	ŧ TC-201b	Calling Line Identification Restriction (CLIR), (B to A)			
(Ref # ir PVI202)	Ref # in IPX PCI Project was VI202)				
	Test Purpose:	To verify that Calling Line Identification Restriction works co	rrectly		
Т	est preconditions:	Configure User B to use CLIR supplementary service			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Is User A's terminal	alerting (visual or audible indication)?	Yes	No	
3	Is User B's mobile n	umber presented as unknown number in User A's terminal?	Yes	No	
4	Clear call at User B				
5	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	prrectly in each network entity?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	General observations or specific explanations in the case of partial pass or failed test:				

1.

Ref #	• TC-202a	Call Forwarding Unconditional (CFU), (A to B)			
(Ref # in	(Ref # in IPX PCI Project was				
PVI203)					
	Test Purpose:	To verify that Call Forwarding Unconditional works correctly	/		
T	est preconditions:	Configure User B to use CFU to A2			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Call is forwarded to	A2			
3	Is User A2's termina	l alerting (visual or audible indication)?	Yes	No	
4	Is User A2 informed	about forwarded call (visual)?	Yes	No	
5	Accept call at User A	.2			
6	Can speech from Us	er A be heard and understood at User A2?	Yes	No	
7	Can speech from U	ser A2 be heard and understood at User A?	Yes	No	
8	Clear call at User A				
9	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
10	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
11	Is CDR created co	rrectly in each network entity?	Yes	No	
Execu	tion date: /	/ Time: : Overall result: Full Pass / Pa	artial Pas	s / Failed	

General observations or specific explanations in the case of partial pass or failed test:

3. 4.				
Ref # (Ref # ir PVI204)	t TC-202b n IPX PCI Project was	Call Forwarding Unconditional (CFU), (B to A)		
	Test Purpose:	To verify that Call Forwarding Unconditional works correct	ly	
Т	est preconditions:	Configure User A to use CFU to B2		
Step	Test description		Verdict	
			Pass	Fail
1 2	Initiate new call from Call is forwarded to I	User B to the address of User A 32		
3 4 5	Is User B2's terminal Is User B2 informed a Accept call at User B2	alerting (visual or audible indication)? about forwarded call (visual)? 2	Yes Yes	No No
6 7 8	Can speech from Use Can speech from Us Clear call at User B	er B be heard and understood at User B2? er B2 be heard and understood at User B?	Yes Yes	No No
9 10 11	Is call setup related s Is call release related Is CDR created cor	signalling handled correctly between MSC-Ss? ed signalling handled correctly between MSC-Ss? rectly in each network entity?	Yes Yes Yes	No No No
Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref #	Ref # TC-203a Call Forwarding Unconditional (CFU), multiple CFU, (A to B)				
(Ref # i	n IPX PCI Project was				
PVI205)		<u> </u>		
	Test Purpose:	To verify that Call Forwarding Unconditional works correctly CFU	in case n	nultiple	
Т	est preconditions:	Configure User B to use CFU to A2, User A2 to use CFU to	B2, User	B2 to	
		use CFU to A3, User A3 to use CFU to B3, User B3 to use (CFU to A	4	
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Call is forwarded to	A2			
3	Call is forwarded to	B2			
4	Call is forwarded to	A3			
5	Call is forwarded to	B3			
6	Call is forwarded to	A4			
7	Is User A4's termina	l alerting (visual or audible indication)?	Yes	No	
8	Is User A4 informed	about forwarded call (visual)?	Yes	No	
9	Accept call at User A	4			
10	Can speech from Us	er A be heard and understood at User A4?	Yes	No	
11	Can speech from U	ser A4 be heard and understood at User A?	Yes	No	
12	Clear call at User A				
13	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
14	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
15	15 Is CDR created correctly in each network entity? Yes No				
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gene	ral observations or	specific explanations in the case of partial pass or failed	test:		

Ref # (Ref # in PVI206	Ref # TC-203b Call Forwarding Unconditional (CFU), multiple CFU, (B to A) (Ref # in IPX PCI Project was PVI206) Call Forwarding Unconditional (CFU), multiple CFU, (B to A)					
	Test Purpose : To verify that Call Forwarding Unconditional works correctly in case multiple CFU					
Т	est preconditions:	Configure User A to use CFU to B2, User B2 to use CFU to use CFU to B3, User B3 to use CFU to A3, User A3 to use CFU to A3, User A3, User A3 to use CFU to A3, User A3, User A3, User A3 to use CFU to A3, User A3, Us	A2, User CFU to B4	A2 to		
Step	Test description		Verdict			
-			Pass	Fail		
1	Initiate new call from	User B to the address of User A				
2	Call is forwarded to	B2				
3	Call is forwarded to	A2				
4	Call is forwarded to	B3				
5	Call is forwarded to	A3				
6	Call is forwarded to	B4				
7	Is User B4's terminal	l alerting (visual or audible indication)?	Yes	No		
8	Is User B4 informed	about forwarded call (visual)?	Yes	No		
9	Accept call at User B	4				
10	Can speech from Us	er B be heard and understood at User B4?	Yes	No		
11	Can speech from U	ser B4 be heard and understood at User B?	Yes	No		
12	Clear call at User B					
13	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No		
14	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
15	Is CDR created co	rrectly in each network entity?	Yes	No		
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # in PVI207	Ref # TC-204a Call Forwarding Unconditional (CFU), multiple CFU, (A to B) (Ref # in IPX PCI Project was PVI207) Call Forwarding Unconditional (CFU), multiple CFU, (A to B)				
	Test Purpose: To verify that Call Forwarding Unconditional works correctly in case multiple CFU				
Т	est preconditions:	Configure User B to use CFU to A2, User A2 to use CFU to use CFU to A3, User A3 to use CFU to B3, User B3 to use	B2, User CFU to A4	B2 to 4.	
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Call is forwarded to	A2			
3	Call is forwarded to	B2			
4	Call is forwarded to	A3			
5	Call is forwarded to	B3			
6	Call is forwarded to	A4			
7a	Call is forwarded to I	User A4's voice mail			
7b	Call is forwarded to o	other than A4's voice mail			
8a	Can speech from Us	er A be heard and understood at voice mail?	Yes	No	
8b	Has call been forwa	arded other than voice mail?	Yes	No	
9	Clear call at User A				
10	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
11	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
12	Is CDR created co	prrectly in each network entity?	Yes	No	
Execu	Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed				
Gene	ral observations or s	specific explanations in the case of partial pass or failed	test:		

Ref # TC-204b

Call Forwarding Unconditional (CFU), multiple CFU, (B to A)

(Ref # i PVI208	in IPX PCI Project was				
	Test Purpose : To verify that Call Forwarding Unconditional works correctly in case multiple CFU				
٦	Test preconditions:	Configure User A to use CFU to B2, User B2 to use CFU	J to A2, Use	r A2 to	
	-	use CFU to B3, User B3 to use CFU to A3, User A3 to u	<u>se CFU to B</u>	34	
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Call is forwarded to	B2		רי <u>ו</u> י	
3	Call is forwarded to	A2			
4	Call is forwarded to	B3			
5	Call is forwarded to	A3			
6	Call is forwarded to	B4			
7a	Call is forwarded to I	Jser B4's voice mail			
7b	Call is forwarded to o	other than B4's voice mail			
8a	Can speech from Us	er B be heard and understood at voice mail?	Yes	No	
8b	Has call been forwa	arded other than voice mail?	Yes	No	
9	Clear call at User A				
10	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
11	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
12	12 Is CDR created correctly in each network entity? Yes No				
Exec	ution date: /	/ Time: : Overall result: Full Pass	/ Partial Pas	s / Failed	
Gene	ral observations or	specific explanations in the case of partial pass or fail	ed test:		

Ref #	# TC-205a	Call Forwarding On No Reply (CFNR), (A to B)				
(Ref # i PVI209	in IPX PCI Project was					
	Test Purpose:	To verify that Call Forwarding On No Reply works correctly				
Г	Test preconditions:	Configure User B to use CFNR to A2.				
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate new call from	User A to the address of User B				
2	After timer has expi	red call is forwarded to User A2		· · · ·]		
3	Is User A2's termina	l alerting (visual or audible indication)?	Yes	No		
4	Is User A2 informed	about forwarded call (visual)?	Yes	No		
5	Clear call at User A	2				
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No		
7	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
8	Is CDR created co	rrectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gene	ral observations or	specific explanations in the case of partial pass or failed	test:			

Ref # TC-205b Call Forwarding On No Reply (CFNR), (B to A) (Ref # in IPX PCI Project was PVI210) Call Forwarding On No Reply (CFNR), (B to A)				
	Test Purpose:	To verify that Call Forwarding On No Reply works correctly		
Test preconditions:		Configure User B to use CFNR to B2.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	After timer has expi	red call is forwarded to User B2		
3	ls User B2's termina	l alerting (visual or audible indication)?	Yes	No

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4	Is User B2 informed about forwarded call (visual)?	Yes	No
5	Clear call at User B2		
6	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release related signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created correctly in each network entity?	Yes	No
Exec	ution date: / / Time: : Overall result: Full Pass /	Partial Pass	s / Failed
Gen	ral observations or specific explanations in the case of partial pass or faile	d test:	

Ref #	ŧ TC-206a	Call Waiting (CW), (A to B)				
(Ref # ir	n IPX PCI Project was					
	Test Purpose:	To verify that Call Waiting indication works correctly between	networks	;		
Т	est preconditions:	Called party is busy and has CW activated.				
Step	Test description	1	/erdict			
		F	Pass	Fail		
1	Initiate new call from	User A to the address of User B				
2	Is User B's terminal a	alerting (visual or audible indication)?	′es	No		
3	Is User B informed a	bout waiting call (visual)?	′es	No		
4	Is User A informed a	bout waiting call (visual)?	′es	No		
5	Clear call at User A					
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No		
7	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
8	Is CDR created co	rrectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

5. 6.

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Ref # T	C-206b	Call Waiting (CW), (B to A)			
(Ref # in IPX	PCI Project was				
PVI212)	1212)				
	Test Purpose:	To verify that Call Waiting indication works correctly between	network	S	
Test	preconditions:	Called party is busy and has CW activated.			
Step Te	st description		Verdict		
			Pass	Fail	
1 Initia	ate new call from	User B to the address of User A			
2 Is U	lser A's terminal	alerting (visual or audible indication)?	Yes	No	
3 Is U	lser A informed a	bout waiting call (visual)?	Yes	No	
4 Is U	lser B informed a	bout waiting call (visual)?	Yes	No	
5 Cle	ear call at User B				
6 Iso	call setup related	I signalling handled correctly between MSC-Ss?	Yes	No	
7 /s	call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
8 /s	CDR created co	prrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General o	bservations or	specific explanations in the case of partial pass or failed to	est:		

Ref # (Ref # ir PVI213)	TC-207	Call Hold (CH) during single call		
	Test Purpose:	To verify that Call Hold during single call works correctly		
Т	est preconditions:			
Step	Test description		Verdict	
			Pass	Fail

Official Document IR.87 - SIP-I Interworking Test Cases Initiate new call from User A to the address of User B Is User B's terminal alerting (visual or audible indication)? Yes No 3 Accept call at User B Can speech from User A be heard and understood at User B? 4 Yes No 5 Can speech from User B be heard and understood at User A? Yes No User B puts call on hold 6 7 Is User A informed about call hold? Yes No 8 User B removes call on hold 9 Is User A informed about active call? Yes No User A puts call on hold 10 Is User B informed about call hold? Yes 11 No 12 User A removes call on hold 13 Is User B informed about active call? Yes No Clear call at User A 14 Is call setup related signalling handled correctly between MSC-Ss? 15 Yes No Is call release related signalling handled correctly between MSC-Ss? 16 Yes No Is CDR created correctly in each network entity? 17 Yes No Execution date: / / Time: **Overall result:** Full Pass / Partial Pass / Failed 1 General observations or specific explanations in the case of partial pass or failed test:

Ref #	# TC-208a	Multiparty (MPTY) call, (A to B)			
(Ref # in IPX PCI Project was					
PVI214)) Test Purpose [.]	To verify that MPTY works correctly			
т	est preconditions:	Note: Maximum of 4 parties on MPTY. 2 in each pair.			
Step	Test description	······································	Verdict		
F			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No	
3	Accept call at User E	3			
4	Can speech from Us	er A be heard and understood at User B?	Yes	No	
5	Can speech from U	ser B be heard and understood at User A?	Yes	No	
6	User A puts call on h	old			
7	Is User B informed a	bout call hold?	Yes	No	
8	User A initiates new	voice call to the address of User B2			
9	Is User B2's terminal	l alerting (visual or audible indication)?	Yes	No	
10	Accept call at User E	32			
11	Can speech from Us	er A be heard and understood at User B2?	Yes	No	
12	Can speech from U	ser B2 be heard and understood at User A?	Yes	No	
13	User A makes MPT				
14	Can speech from Us	er A be heard and understood at User B?	Yes	No	
15	Can speech from U	ser B be heard and understood at User A?	Yes	No	
16	Can speech from U	ser A be heard and understood at User B2?	Yes	No	
17	Can speech from U	ser B2 be heard and understood at User A?	Yes	No	
18	Clear call at User B				
19	Can speech from U	ser A be heard and understood at User B2?	Yes	No	
20	Can speech from U	ser B2 be heard and understood at User A?	Yes	No	
21	Clear call at User A		N		
22	is call setup related	signalling nandled correctly between MSC-Ss?	Yes	NO	
23	Is call release rela	tea signalling nanaled correctly between MSC-SS?	Yes	INO No	
24	IS CDR created co				
Execution date: / / I'lime: : Overall result: Full Pass / Partial Pass / Failed					
Gener	rai observations or s	specific explanations in the case of partial pass of fall	ea test:		

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Ref # TC-208bMultiparty (MPTY) call, (B to A)						
(Ref # ir PVI215)	n IPX PCI Project was					
	Test Purpose:	To verify that MPTY works correctly				
Т	est preconditions:	Note: Maximum of 4 parties on MPTY, 2 in each pair.				
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate new call from	User B to the address of User A				
2	Is User A's terminal	alerting (visual or audible indication)?	Yes	No		
3	Accept call at User A					
4	Can speech from Us	er A be heard and understood at User B?	Yes	No		
5	Can speech from U	ser B be heard and understood at User A?	Yes	No		
6	User B puts call on h	old				
1	Is User A informed a	bout call hold?	Yes	No		
8	User B initiates new	Voice call to the address of User A2	Mar	N.L.		
9	Is User A2's termina	alerting (visual or audible indication)?	Yes	NO		
10	Accept call at User A	AZ ar P ba baard and understand at Upar A22	Vee	No		
12	Can speech from U	er D be fiedru driu unuerstood at User A2?				
12	Lisor B makes MPT		Tes			
14	Can speech from Us	er B be heard and understood at User A?	Yes	No		
15	Can speech from U	ser A be heard and understood at User B?	Yes	No		
16	Can speech from U	ser B be heard and understood at User A2?	Yes	No		
17	Can speech from U	ser A2 be heard and understood at User B?	Yes	No		
18	, Clear call at User A					
19	Can speech from U	ser B be heard and understood at User A2?	Yes	No		
20	Can speech from U	ser A2 be heard and understood at User B?	Yes	No		
21	Clear call at User B					
22	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No		
23	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No		
24	Is CDR created co	rrectly in each network entity?	Yes	No		
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						
Gener	General observations or specific explanations in the case of partial pass or failed test:					

1							
Ref #	t TC-209a	Explicit Call Tra	nsfer (EC	T), (A to B)			
(Ref # ir	IPX PCI Project was						
PVI610	PVI610a)						
	Test Purpose:	To verify that Ex	plicit Cal	I Transfer works	s correctly		
Т	est preconditions:	Configure User	A, B and	C to use ECT s	supplementary servi	ice.	
Step	Test description	-			••••••	Verdict	
						Pass	Fail
1	Initiate new call from	User A to the ad	dress of l	Jser B			
2	Initiate new call from	User A to the ad	dress of l	Jser C			
3	Is User B's terminal a	alerting (visual or	audible i	ndication)?		Yes	No
4	Is User C's terminal	alerting (visual or	audible i	ndication)?		Yes	No
5	Can speech from Us	er A be heard an	d underst	ood at User B o	during 60 sec?	Yes	No
6	Can speech from Us	er A be heard an	d underst	tood at User C	during 60 sec?	Yes	No
7	Invoke ECT at User	A					
8	Can speech from U	ser B be heard a	nd unders	stood at User C	during 60 sec?	Yes	No
9	Can speech from U	ser C be heard a	nd unders	stood at User B	during 60 sec?	Yes	No
10	Was A's resources	released?				Yes	No
11	Clear call at User B						
12	Is call setup relate	d signalling handl	led correc	tly between MS	SC-Ss?	Yes	No
13	ls call release rela	ted signalling han	dled corr	ectly between l	MSC-Ss?	Yes	No
14	Is CDR created co	rrectly in each ne	twork en	tity?		Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						

General observations or specific explanations in the case of partial pass or failed test:

-				1	
Ref #	¢ TC-209b	Explicit Call Transfer (ECT), (B to A)			
(Ref # ir	(Ref # in IPX PCI Project was				
PVI610	b)				
	Test Purpose:	To verify that Explicit Call Transfer works correctly			
Т	est preconditions:	Configure User A, B and C to use ECT supplementary serv	/ice.		
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Initiate new call from	User B to the address of User C			
3	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No	
4	Is User C's terminal	alerting (visual or audible indication)?	Yes	No	
5	Can speech from Us	er B be heard and understood at User B during 60 sec?	Yes	No	
6	Can speech from Us	er B be heard and understood at User C during 60 sec?	Yes	No	
7	Invoke ECT at User	r B			
8	Can speech from U	lser A be heard and understood at User C during 60 sec?	Yes	No	
9	Can speech from U	lser C be heard and understood at User A during 60 sec?	Yes	No	
10	Was B's resources	released?	Yes	No	
11	Clear call at User A				
12	Is call setup relate	d signalling handled correctly between MSC-Ss?	Yes	No	
13	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
14	Is CDR created co	prrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:					
		· · ·			

7.

Ref # (Ref # in PVI)	Ref # TC-210a Connected Line Identification Presentation (COLP), (A to B) Ref # in IPX PCI Project was VI)					
	Test Purpose:	To verify that Connected Line Identif	ication Presentation wor	ks correc	tly	
Т	est preconditions:	Configure User A and User B to use	COLP supplementary se	ervice		
Step	Test description			Verdict		
				Pass	Fail	
1	Initiate new call from	User A to the address of User B				
2	Is User B's terminal a	lerting (visual or audible indication)?		Yes	No	
3	Is User A able to reti	eve User B's line identity?		Yes	No	
4	Clear call at User A					
5	Is call setup related	signalling handled correctly between	MSC-Ss?	Yes	No	
6	ls call release rela	ed signalling handled correctly betwe	en MSC-Ss?	Yes	No	
7	Is CDR created co	rectly in each network entity?		Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:						

Ref # TC-210b Connected Line Identification Presentation (COLP), (B to A) (Ref # in IPX PCI Project was PVI611b) Connected Line Identification Presentation (COLP), (B to A)				
	Test Purpose:	To verify that Connected Line Identification Presentation wo	rks correc	tly
Test preconditions:		Configure User A and User B to use COLP supplementary service		
Step	Test description		Verdict	
-			Pass	Fail

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Official Document IR.87 - SIP-I Interworking Test Cases		
1 Initiate new call from User B to the address of User A		
2 Is User A's terminal alerting (visual or audible indication)?	Yes	No
3 Is User B able to retrieve User A's line identity?	Yes	No
4 Clear call at User B		
5 Is call setup related signalling handled correctly between MSC-Ss?	Yes	No
6 Is call release related signalling handled correctly between MSC-Ss?	Yes	No
7 Is CDR created correctly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Par	tial Pass	/ Failed
General observations or specific explanations in the case of partial pass or failed to	est:	

Ref # (Ref # ir PVI612a	Ref # TC-211a Connected Line Identification Presentation Restriction (COLR), (A to B) Ref # in IPX PCI Project was VI612a) Connected Line Identification Presentation Restriction (COLR), (A to B)				
	Test Purpose:	To verify that Connected Line Identification Presentation Res correctly	triction w	/orks	
Т	est preconditions:	Configure User A and User B to use COLR supplementary se	ervice		
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No	
3	Is User B's line ident	ity restricted so that User A is not able to retrieve it?	Yes	No	
4	Clear call at User A				
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	rrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # in PVI612	TC-211b Connected Line Identification Presentation Restriction (COLR), (B to A) IPX PCI Project was IPX PCI Project was				
	Test Purpose:	To verify that Connected Line Identification Presentation Re correctly	striction v	works	
Т	est preconditions:	Configure User A and User B to use COLR supplementary s	service		
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User B to the address of User A			
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No	
3	Is User A's line ident	ity restricted so that User B is not able to retrieve it?	Yes	No	
4	Clear call at User B				
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
6	ls call release rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7	Is CDR created co	rrectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:					

300 Series - CDR Validation Tests

Note: In order to observe support for cascade billing, it is necessary to gather all CDRs from each leg in the end to path. Testers should coordinate test executions and CDR exchange,

so that all information is gathered, thereby identifying behaviour across the entire end to end path.

All CDRs produced should exchanged in a format that can be opened in a normal desktop application, for example *.xls or *.csv. The time of test measured at origination point must be included in the files. The first row in the file content should be the CDR field names

Ref # (Ref # ir PVI401)	TC-301a IPX PCI Project was	Very short (1 second) call, user	A releases the call		
	Test Purpose : To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call			g the	
T	est preconditions:	Supplementary Services are no	ot activated.		
Step	Test description			Verdict	
				Pass	Fail
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal a	lerting (visual or audible indicati	on)?	Yes	No
3	ls User A's mobile nu	mber presented correctly in Use	er B's terminal?	Yes	No
4	Accept call at User B				
5	Clear call at User A	after 1 second			
6	Is CDR created corr	ectly in each network entity?		Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	General observations or specific explanations in the case of partial pass or failed test:				

Ref #	ŧ TC-301b	Very short (1 second) call, user B releases the call			
(Ref # ir PVI402)	n IPX PCI Project was)				
	Test Purpose : To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call			ig the	
Т	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No	
3	Is User A's mobile n	umber presented correctly in User B's terminal?	Yes	No	
4	Accept call at User E	5			
5	Clear call at User B	after 1 second			
6	Is CDR created cor	rectly in each network entity?	Yes	No	
Execu Gener	Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # TC-302a (Ref # in IPX PCI Project was PVI403)	Very long (25 hour) call, user A releases the call	
Test Purpose:	To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call. For pairs on different time zones also to verify correct behaviour in CDRs.	
Test preconditions:	Supplementary Services are not activated.	
Step Test description		Verdict

		Pass	Fail			
1	Initiate new call from User A to the address of User B					
2	Is User B's terminal alerting (visual or audible indication)?	Yes	No			
3	Is User A's mobile number presented correctly in User B's terminal?	Yes	No			
4	Accept call at User B					
5	Clear call at User A after 25 hours					
6	Is CDR created correctly in each network entity?	Yes	No			
E	Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed					
G	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # in PVI404)	TC-302b IPX PCI Project was	Very long (25 hours)	call, use	r B releases the c	call		
	Test Purpose:	To verify that a CDR correct duration of ca behaviour in CDRs.	/partial C all. For pa	DRs is/are create airs on different tir	ed successfull me zones also	y indicatir to verify	ng the correct
Т	est preconditions:	Supplementary Serv	ices are	not activated			
Step	Test description					Verdict	
						Pass	Fail
1	Initiate new call from	User A to the address	s of User	В			
2	Is User B's terminal a	alerting (visual or aud	ible indica	ation)?		Yes	No
3	Is User A's mobile ກເ	umber presented corre	ectly in U	ser B's terminal?		Yes	No
4	Accept call at User B						
5	Clear call at User B	after 25 hours					
6	Is CDR created cor	rectly in each network	entity?			Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed							
General observations or specific explanations in the case of partial pass or failed test:							

Ref # (Ref # ir PVI405)	TC-303a n IPX PCI Project was	Call to a barred number, A to B			
	Test Purpose:	To verify handling of unsuccessful call to a barred or no exis a CDR/partial CDRs is/are created successfully indicating th completed.	ting num at the ca	ber, that I was not	
Т	Test preconditions: Supplementary Services are not activated.				
Step	Test description		Verdict		
			Pass	Fail	
1	Initiate new call from	User A to other address than of User B			
2	Is CDR created con	rectly in each network entity?	Yes	No	
Execu Gener	Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # TC-303b (Ref # in IPX PCI Project was PVI406)	Call to a barred number, B to A
Test Purpose:	To verify handling of unsuccessful call to a barred or no existing number, that a CDR/partial CDRs is/are created successfully indicating that the call was not

		completed.				
Т	Test preconditions: Supplementary Services are not activated.					
Step	Test description				Verdict	
					Pass	Fail
1	1 Initiate new call from User B to other address than of User A					
2	Is CDR created cor	rectly in each netv	vork entity?		Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # ir PVI407)	TC-304a IPX PCI Project was	Call across day boundary, user A releases the call		
	Test Purpose:	To test CDR creation across day boundary. For pairs on different also to verify correct behaviour in CDRs. To verify that a CDF is/are created successfully indicating the correct duration of content.	erent time R/partial (call.	zones CDRs
Т	est preconditions:	Supplementary Services are not activated.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No
3	Is User A's mobile nι	imber presented correctly in User B's terminal?	Yes	No
4	Accept call at User B			
5	Clear call at User A	after crossing the day boundary or one hour		
6	Is CDR created corr	rectly in each network entity?	Yes	No
Execution date:/Time::Overall result:Full Pass / Partial Pass / FailedGeneral observations or specific explanations in the case of partial pass or failed test:				

		8.			
Ref #	^t TC-304b	Call across day boundary, user B releases the call			
(Ref # ir PVI408)	n IPX PCI Project was				
	Test Purpose:	To test CDR creation across day boundary. To verify that a C is/are created successfully indicating the correct duration of c	DR/partia all	al CDRs	
Т	est preconditions:	Supplementary Services are not activated.			
Step	Test description		Verdict		
-			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No	
3	Is User A's mobile nu	umber presented correctly in User B's terminal?	Yes	No	
4	Accept call at User B				
5	Clear call at User B	after crossing the day boundary or one hour			
6	Is CDR created con	rectly in each network entity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:				

400 Series - Voice Quality Tests

Ref # TC-401 (Ref # in IPX PCI Project was PVI501 part)	Objective Voice Quality Measurement
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	Test Purpose:	To verify that the IP transport characteristics of the IPX network are not introducing any significant voice quality problems.				
Т	Test preconditions:					
Step	Test description	Verdict				
-		Pass Fail				
1 2 4 5 6	TO BE WRITTEN					
Exect Gene	Execution date: / / [Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # i PVI501	# TC-402 in IPX PCI Project was part)	Subjective Voice Quality Measurement			
	Test Purpose:	To verify that the IP transport characteristics of the IPX netw introducing any significant voice quality problems. Basic aur regarding any voice quality degradation is also to be recorde NB. It should be noted the voice quality observations perforr is not an attempt to provide formal subjective testing (e.g. le subjective MoS score), but rather to augment the data collec objective voice quality testing.	vork are n al observa ed. med by th ading to a cted by th	ot ations e testers a e	
Т	Sest preconditions:				
Step	Test description		Verdict		
			Pass	Fail	
1 2 3					
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No	
Execu Gene	Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

500 Series - Codec Tests

Ref # (Ref # ir PVI601a	t TC-501a n IPX PCI Project was a)	Call from A to B using NB-AMR, A releases call		
	Test Purpose:	To verify that narrow band AMR codec can be used.		
Т	est preconditions:	NB-AMR selected as codec.		
Step	Test description		Verdict	
			Pass	Fail
1 2	Initiate new call from Accept call at User B	User A to the address of User B		

3	Can speech from User A be heard and understood at User B during 60 sec?	Yes	No	
4	Can speech from User B be neard and understood at User A during 60 sec?	Yes	NO	
5	Clear call at User A			
6	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No	
7	Is call release related signalling handled correctly between MSC-Ss?	Yes	No	
8	Is CDR created correctly in each network entity?	Yes	No	
9	Does the CDR contain correct information about the codec used?	Yes	No	
10	Was NB-AMR used during the call?	Yes	No	
11	Is ptime 20ms possible to use with this codec?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
-				

General observations or specific explanations in the case of partial pass or failed test:

Def	4 TO 5046	Call from B to A using NB AMP. B releases call		
Ref #	F 10-501D	Call HOTT D TO A USING IND-AWK, D TELEASES Call		
(Ref # i	n IPX PCI Project was			
PVI601	b)			
	Test Purpose:	To verify that narrow band AMR codec can be used.		
Т	est preconditions:	NB-AMR selected as codec.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Accept call at User A	N Contraction of the second		
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User B			
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	ls call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created con	rectly in each network entity?	Yes	No
9	Does the CDR cont	ain correct information about the codec used?	Yes	No
10	Was NB-AMR used	I during the call?	Yes	No
11	Is ptime 20ms poss	ible to use with this codec?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI602;	Ref # TC-502a (Ref # in IPX PCI Project was PV(602a)				
1 11002	Test Purpose:	To verify that codec negotiation can be used.			
Т	est preconditions:	Enable codec negotiation.			
Step	Test description		Verdict		
-			Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Accept call at User E	3			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No	
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No	
5	Clear call at User A				
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No	
8	Is CDR created con	rectly in each network entity?	Yes	No	
9	Does the CDR cont	ain correct information about the codec used?	Yes	No	
10	Was codec negotia	tion made using SDP offer/answer method?	Yes	No	
11	Is ptime 20ms poss	ible to use with this codec?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:					

Ref # TC-502b Call from B to A using codec negotiation to select codec, B releases call			call	
PVI602b)	PVI602b)			
Test Purpose:	To verify that codec negotiation can be used.			
Test preconditions:	Enable codec negotiation.			
Step Test description		Verdict		
		Pass	Fail	
1 Initiate new call from	User B to the address of User A			
2 Accept call at User A	4			
3 Can speech from Us	ser A be heard and understood at User B during 60 sec?	Yes	No	
4 Can speech from Us	ser B be heard and understood at User A during 60 sec?	Yes	No	
5 Clear call at User B				
6 Is call setup related	l signalling handled correctly between MSC-Ss?	Yes	No	
7 Is call release relat	ed signalling handled correctly between MSC-Ss?	Yes	No	
8 Is CDR created con	rrectly in each network entity?	Yes	No	
9 Does the CDR con	tain correct information about the codec used?	Yes	No	
10 Was codec negotia	tion made using SDP offer/answer method?	Yes	No	
11 Is ptime 20ms poss	sible to use with this codec?	Yes	No	
Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref #	[±] TC-503a	Call from A to B using G.729, A releases call			
(Ref # in	n IPX PCI Project was				
PVI603a	a)				
	Test Purpose:	To verify that G.729 codec can be used.			
Т	est preconditions:	G.729 selected as codec. At least one FNO involved.			
Step	Test description	\	/erdict		
		F	Pass	Fail	
1	Initiate new call from	User A to the address of User B			
2	Accept call at User B				
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	/es	No	
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	/es	No	
5	Clear call at User A				
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No	
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No	
8	Is CDR created con	rectly in each network entity?	Yes	No	
9	Does the CDR cont	ain correct information about the codec used?	Yes	No	
10	Was G.729 used du	iring the call?	Yes	No	
11	Is ptime 20ms poss	ible to use with this codec?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	al observations or s	specific explanations in the case of partial pass or failed test	st:		

Ref # ir (Ref # ir PVI603b	t TC-503b n IPX PCI Project was b)	Call from B to A using G.729, B releases call		
	Test Purpose:	To verify that G.729 codec can be used.		
Test preconditions:		G.729 selected as codec. At least one FNO involved.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		

GSM Association Official Document IR.87 - SIP-I Interworking Test Cases

2	Accept call at User A				
3	Can speech from User A be heard and understood at User B during 60 sec?	Yes	No		
4	Can speech from User B be heard and understood at User A during 60 sec?	Yes	No		
5	Clear call at User B				
6	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No		
7	Is call release related signalling handled correctly between MSC-Ss? Yes No				
8	Is CDR created correctly in each network entity? Yes No				
9	Does the CDR contain correct information about the codec used? Yes No				
10	Was G.729 used during the call?	Yes	No		
11	Is ptime 20ms possible to use with this codec?	Yes	No		
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:					

Call from A to B using GSM-EFR, A releases call Ref # TC-504a (Ref # in IPX PCI Project was . PVI604a) Test Purpose: To verify that GSM-EFR codec can be used. GSM-EFR selected as codec. Test preconditions: Step Test description Verdict Pass Fail Initiate new call from User A to the address of User B 2 Accept call at User B 3 Can speech from User A be heard and understood at User B during 60 sec? Yes No 4 Can speech from User B be heard and understood at User A during 60 sec? Yes No Clear call at User A 5 Is call setup related signalling handled correctly between MSC-Ss? Yes No 6 Is call release related signalling handled correctly between MSC-Ss? Yes No Is CDR created correctly in each network entity? Yes 8 No Does the CDR contain correct information about the codec used? Yes 9 No 10 Was GSM-EFR used during the call? Yes No Is ptime 20ms possible to use with this codec? Yes 11 No Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed 1 : General observations or specific explanations in the case of partial pass or failed test:

Ref # ir (Ref # ir PVI604b	t TC-504b n IPX PCI Project was	Call from B to A using GSM-EFR, B releases call		
	Test Purpose:	To verify that GSM-EFR codec can be used.		
Т	est preconditions:	GSM-EFR selected as codec.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Accept call at User A	N		
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User B			
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created con	rectly in each network entity?	Yes	No
9	Does the CDR cont	ain correct information about the codec used?	Yes	No
10	Was GSM-EFR use	ed during the call?	Yes	No
11	Is ptime 20ms poss	ible to use with this codec?	Yes	No
Execu	tion data: /	/ Time: Overall result: Full Pass / Page	tial Dace	/ Eailad

Execution date: / / **Time:** : **Overall result:** Full Pass / Partial Pass / Failed **General observations or specific explanations in the case of partial pass or failed test:**

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Ref # (Ref # in PVI605a	Ref # TC-505a SIP profile definition test, call from A to B using SIP preconditions, A releases the call VVI605a) VI605a			
	Test Purpose:	To verify that SIP preconditions can be used as defined in RI	FC 3312.	
Т	est preconditions:	SIP Preconditions enabled.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Accept call at User B			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User A			
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created con	rectly in each network entity?	Yes	No
9	Were SIP Precondi	tions processed correctly?	Yes	No
10	Were the conditions	s defined fulfilled?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI605	Ref # TC-505b (Ref # in IPX PCI Project was PVI605b)SIP profile definition test, call from B to A using SIP preconditions, B releases the call			
	Test Purpose:	To verify that SIP preconditions can be used as defined in R	FC 3312.	
Т	est preconditions:	SIP Preconditions enabled.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Accept call at User A			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User B			
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created corr	rectly in each network entity?	Yes	No
9	Were SIP Precondit	tions processed correctly?	Yes	No
10	Were the conditions	defined fulfilled?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
Gener	General observations or specific explanations in the case of partial pass or failed test:			

Ref # (Ref # ir PVI606a	t TC-506a n IPX PCI Project was a)	SIP profile definition test, call from A to B using SIP P-header extensions, A releases the call		
	Test Purpose: To verify that SIP P-header extensions can be used as defined in RFC 3455			C 3455.
Т	Test preconditions: SIP P-header extensions enabled.			
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User A to the address of User B		
2	Accept call at User B			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No

GSM Association Official Document IR.87 - SIP-I Interworking Test Cases

4	Can speech from User B be heard and understood at User A during 60 sec?	Yes	No		
5	Clear call at User A				
6	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No		
7	Is call release related signalling handled correctly between MSC-Ss?	Yes	No		
8	Is CDR created correctly in each network entity?	Yes	No		
9	Was P-charging vector processed correctly?	Yes	No		
1(0 Does CDR and P-charging vector information correlate?	Yes	No		
11	1 Were SIP P-header extensions processed correctly?	Yes	No		
12	2 Was P-charging vector processed correctly?	Yes	No		
13	3 Does CDR and P-charging vector information correlate?	Yes	No		
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
G	General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir PVI6068	ef # TC-506bSIP profile definition test, call from B to A using SIP P-header extensions, Bef # in IPX PCI Project was (1606b)releases the call			
	Test Purpose:	To verify that SIP P-header extensions can be used as defin	ed in RF	C 3455.
Т	est preconditions:	SIP P-header extensions enabled.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Accept call at User A			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User B			
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created con	rectly in each network entity?	Yes	No
9	Were SIP P-header	extensions processed correctly?	Yes	No
10	Was P-charging ve	ctor processed correctly?	Yes	No
11	Does CDR and P-c	harging vector information correlate?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # TC-507a (Ref # in IPX PCI Project was PVI607a)	SIP profile definition test, call from A to B using SIP Asserted Identity, A releases the call			
Test Purpos	e: To verify that SIP Asserted Identity can be used as defined	d in RFC 3	325.	
Test precondition	s: SIP Asserted Identity enabled.			
Step Test description		Verdict		
		Pass	Fail	
1 Initiate new call f	om User A to the address of User B			
2 Accept call at Us	er B			
3 Can speech from	User A be heard and understood at User B during 60 sec?	Yes	No	
4 Can speech from	User B be heard and understood at User A during 60 sec?	Yes	No	
5 Clear call at Use	A			
6 Is call setup rela	ted signalling handled correctly between MSC-Ss?	Yes	No	
7 Is call release re	lated signalling handled correctly between MSC-Ss?	Yes	No	
8 Is CDR created	correctly in each network entity?	Yes	No	
9 Were SIP Asser	ted Identity extensions processed correctly?	Yes	No	
10 Does the SIP As	serted Identity match with the expected identity?	Yes	No	
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir PVI607b	Ref # TC-507bSIP profile definition test, call from B to A using SIP Asserted Identity, B(Ref # in IPX PCI Project was PVI607b)releases the call			
	Test Purpose:	To verify that SIP Asserted Identity can be used as defined in	n RFC 33	25.
T	est preconditions:	SIP Asserted Identity enabled.		
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from	User B to the address of User A		
2	Accept call at User A			
3	Can speech from Us	er A be heard and understood at User B during 60 sec?	Yes	No
4	Can speech from Us	er B be heard and understood at User A during 60 sec?	Yes	No
5	Clear call at User B		_	
6	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
7	ls call release relate	ed signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created cor	rectly in each network entity?	Yes	No
9	Were SIP Asserted	Identity extensions processed correctly?	Yes	No
10	Does the SIP Asser	ted Identity match with the expected identity?	Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			
Gener	General observations or specific explanations in the case of partial pass or failed test:			

Ref # (Ref # ir PVI608a	† TC-508a n IPX PCI Project was a)	DTMF transfer from A to B, out-of-band Project was		
	Test Purpose:	To verify that DTMFs are transferred correctly between ope environment.	rators ove	er IPX
Т	Test preconditions: Supplementary Services are not activated. NB-AMR used. RTP payload according to IETF RFC 4733.			bad
Step	Test description		Verdict	
-			Pass	Fail
1 2	Initiate new call from User B User A sends all DTI	User A to voice mail address (or conference bridge etc) of WFs to User B		
3 ⊿	Can DTMFs (i.e. 0	9, #,*,B and C) from User A be understood at User B?	Yes	No
5 6 7	Is call setup related Is call release related Is CDR created co	signalling handled correctly between MSC-Ss? ted signalling handled correctly between MSC-Ss? rrectly in each network entity?	Yes Yes Yes	No No No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # ir PVI608b	t TC-508b n IPX PCI Project was	DTMF transfer from B to A, out-of-band		
	Test Purpose:	To verify that DTMFs are transferred correctly between open environment.	rators ove	r IPX
Test preconditions:		Supplementary Services are not activated. NB-AMR used. F according to IETF RFC 4733.	RTP paylo	ad
Step Test description			Verdict	
			Pass	Fail
1	Initiate new call from	User B to voice mail address (or conference bridge etc) of		

GSM Association Official Document IR.87 - SIP-I Interworking Test Cases

	User A		
2	User B sends all DTMFs to User A		
3	Can DTMFs (i.e. 09, #,*,B and C) from User B be understood at User A?	Yes	No
4	Clear call at User B		
5	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No
6	Is call release related signalling handled correctly between MSC-Ss?	Yes	No
7	Is CDR created correctly in each network entity?	Yes	No
Exec	ution date: / / Time: : Overall result: Full Pass / Pa	artial Pass	s / Failed
Gene	ral observations or specific explanations in the case of partial pass or failed	test:	

Ref # (Ref # ir	TC-509a NIPX PCI Project was	DTMF event notification from A to B		
PVI609a	PVI609a)			
	Test Purpose : To verify that DTMF events are negotiated correctly between operators over IPX environment.			rs over
Т	est preconditions:	Supplementary Services are not activated. NB-AMR used. I according to IETF RFC 4733.	RTP paylo	bad
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from User B	User A to voice mail address (or conference bridge etc) of		
2	User A sends all DTN	MFs to User B		
3	Can DTMFs (i.e. 0	9, #,*,B and C) from User A be understood at User A?	Yes	No
4	Clear call at User B			
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
6	ls call release relat	ted signalling handled correctly between MSC-Ss?	Yes	No
7	Were DTMF event	s negotiated successfully using INVITE?	Yes	No
8	If DTMF negotiatio	n failed, was fallback to events 0-15 done?	Yes	No
9	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in	Ref # TC-509b DTMF event notification from B to A Ref # in IPX PCI Project was DTMF event notification from B to A			
PVI609	Test Purpose : To verify that DTMF events are negotiated correctly between operators over			
Т	IPX environment. Test preconditions: Supplementary Services are not activated. NB-AMR used. RTP payload according to LETE REC 4733			
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new call from User A	User B to voice mail address (or conference bridge etc) of		
2	User B sends all DTN	MFs to User A		
3	Can DTMFs (i.e. 0	9, #,*,B and C) from User B be understood at User A?	Yes	No
4	Clear call at User A			
5	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
6	Is call release relat	ted signalling handled correctly between MSC-Ss?	Yes	No
7	Is call release relat	ted signalling handled correctly between MSC-Ss?	Yes	No
8	If DTMF negotiatio	n failed, was fallback to events 0-15 done?	Yes	No
9	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / / Time: Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

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600 Series - Other Service Tests

Ref # (Ref # in PVI122	# TC-601a n IPX PCI Project was a)	Setup and release V.120, data call from A to B, A releases call		
	Test Purpose : To verify that a data call is established and released successfully between two mobile subscribers.			ween two
Т	est preconditions:	User A and User B terminals are configured to use V.120. S services are not activated.	Suppleme	ntary
Step	Test description		Verdict	
-			Pass	Fail
1	Initiate new data call	from User A to the address of User B using:		
2	3+1 channel coding			
3	Is User B's terminal a	alerting (visual or audible indication)?	Yes	No
4	Accept call at User E	3		
5	Can data be transfer	red from User A to User B using (e.g. HyperTerminal)?	Yes	No
6	Can data be transfe	erred from User B to User A using (e.g. HyperTerminal)?	Yes	No
7	Clear call at User A			
8	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
9	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI122	# TC-601b Setup and release V.120, data call from B to A, B releases call # in IPX PCI Project was 22b)			
	Test Purpose : To verify that a data call is established and released successfully between tw mobile subscribers.			ween two
Т	est preconditions:	User B and User A terminals are configured to use V.120. S services are not activated.	Suppleme	ntary
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new data call	from User B to the address of User A using:		
1a	3+1 channel coding			
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3	Accept call at User A			
4	Can data be transfer	red from User B to User A using (e.g. HyperTerminal)?	Yes	No
5	Can data be transfe	erred from User A to User B using (e.g. HyperTerminal)?	Yes	No
6	Clear call at User B			
7	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # TC-602a (Ref # in IPX PCI Project was PVI123a)	Setup and release V.110, data call from A to B, A releases call
Test Purpose:	To verify that a data call is established and released successfully between two mobile subscribers.
Test preconditions:	User A and User B terminals are configured to use V.110. Supplementary services are not activated.

GSM Association

Official Document IR.87 - SIP-I Interworking Test Cases

Step	Test description	Verdict		
-		Pass	Fail	
1	Initiate new data call from User A to the address of User B using:			
1a	9,6 kbit/s 1+1 channel coding			
2	Is User B's terminal alerting (visual or audible indication)?	Yes	No	
3	Accept call at User B			
4	Can data be transferred from User A to User B using (e.g. HyperTerminal)?	Yes	No	
5	Can data be transferred from User B to User A using (e.g. HyperTerminal)?	Yes	No	
6	Clear call at User A			
7	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No	
8	Is CDR created correctly in each network entity?	Yes	No	
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			
Gene	General observations or specific explanations in the case of partial pass or failed test:			

Ref # (Ref # in PVI123	Ref # TC-602b Setup and release V.110, data call from B to A, B releases call (Ref # in IPX PCI Project was PVI123b) Setup and release V.110, data call from B to A, B releases call			
	Test Purpose:	To verify that a data call is established and released succe mobile subscribers.	ssfully bet	ween two
Т	est preconditions:	User B and User A terminals are configured to use V.110. services are not activated.	Suppleme	ntary
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new data call	at User B to the address of User A using:		
1a	9,6 kbit/s 1+1 chanr	el coding		
2	Is User A's terminal	alerting (visual or audible indication)?	Yes	No
3	Accept call at User A			
4	Can data be transfer	red from User B to User A using (e.g. HyperTerminal)?	Yes	No
5	Can data be transfe	erred from User A to User B using (e.g. HyperTerminal)?	Yes	No
6	Clear call at User B			
7	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created co	rrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI124	t TC-603a n IPX PCI Project was a)	Setup and release V.32, data call from A to B, A releases c	all	
	Test Purpose:	To verify that a data call is established and released succes mobile subscribers.	sfully betw	veen two
Test preconditions: User A and User B terminals are configured to use V.32. Supplemental services are not activated.		ary		
Step	Test description		Verdict	
			Pass	Fail
1 1a 1b	Initiate new data call 9,6 kbit/s 1+1 chann 9,6 kbit/s 3+1 chann	from User A to the address of User B using: el coding el coding		
2 3	<i>Is User B's terminal a</i> Accept call at User B	alerting (visual or audible indication)?	Yes	No
4 5 6 7	Can data be transfer Can data be transfe Clear call at User A Is call setup related	red from User A to User B using (e.g. HyperTerminal)? erred from User B to User A using (e.g. HyperTerminal)? signalling handled correctly between MSC-Ss?	Yes Yes Yes	No No No
8	Is CDR created co	rrectly in each network entity?	Yes	No

Execution date:/Time:Overall result:Full Pass / Partial Pass / FailedGeneral observations or specific explanations in the case of partial pass or failed test:

Ref # (Ref # in PVI124	Ref # TC-603b Setup and release V.32, data call from B to A, B releases call Ref # in IPX PCI Project was PVI124b)			
	Test Purpose:	To verify that a data call is established and released succes mobile subscribers.	ssfully bet	ween two
Т	est preconditions:	User B and User A terminals are configured to use V.32. Se services are not activated.	upplemen	tary
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new data call	from User B to the address of User A using:		
1a	9,6 kbit/s 1+1 chann	el coding		
1b	9,6 kbit/s 3+1 chann	el coding		
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3	Accept call at User A	 \		
4	Can data be transfer	red from User B to User A using (e.g. HyperTerminal)?	Yes	No
5	Can data be transfe	erred from User A to User B using (e.g. HyperTerminal)?	Yes	No
6	Clear call at User B			
7	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
8	Is CDR created co	rrectly in each network entity?	Yes	No
Execu	ition date: /	/ Time: : Overall result: Full Pass / P	artial Pas	s / Failed
General observations or specific explanations in the case of partial pass or failed test:				

9.

Ref # (Ref # i PVI125	Ref # TC-604a Setup and release, fax call from A to B, A releases call (Ref # in IPX PCI Project was PV(1125a)			
	Test Purpose : To verify that a fax call is established and released successfully between two mobile subscribers.			
Test preconditions: User A and User B terminals are configured to use fax service. Supplementary services are not activated				
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new fax call f	rom User A to the address of User B		
2	Is User B's terminal	alerting (visual or audible indication)?	Yes	No
3	Accept call at User E	3		
4	Can two pages of fa	x be transferred from User A to User B correctly?	Yes	No
5	Clear call at User A			
6	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No
7	Is CDR created co	prrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:				

Ref # TC-604b (Ref # in IPX PCI Project was PVI125b)	Setup and release, fax call from B to A, B releases call
Test Purpose:	To verify that a fax call is established and released successfully between two
	mobile subscribers.
Test preconditions:	User B and User A terminals are configured to use fax service.
	Supplementary services are not activated.

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Step	Test description	Verdict				
		Pass	Fail			
1	Initiate new fax call from User B to the address of User A					
2	Is User A's terminal alerting (visual or audible indication)?	Yes	No			
3	Accept call at User A					
4	Can two pages of fax be transferred from User B to User A correctly?	Yes	No			
5	Clear call at User B					
6	Is call setup related signalling handled correctly between MSC-Ss?	Yes	No			
7	Is CDR created correctly in each network entity?	Yes	No			
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gene	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # in PVI126a	Ref # TC-605a Setup and release, CS video call from A to B, A releases call [Ref # in IPX PCI Project was PVI126a) Setup and release, CS video call from A to B, A releases call				
	Test Purpose:	To verify that a CS video call is established and rel	eased succes	ssfully	
т	est preconditions:	User A and User B terminals are capable to use 30 services are not activated.	G CS video. S	Suppler	mentary
Step	Test description		Ve	rdict	
			Pa	SS	Fail
1	Initiate new video fro	m User A to the address of User B using:			
2	Is User B's terminal	alerting (visual or audible indication)?	Ye	s	No
3	Accept call at User E				
4	Can speech from Us	er A be heard and understood at User B?	Ye	s	No
5	Can video from Use	A be seen at User B?	Ye	s	No
6	Can speech from Us	er B be heard and understood at User A?	Ye	s	No
7	Can video from Use	B be seen at User A?	Ye	s	No
8	Clear call at User A				
9	Is call setup related	signalling handled correctly between MSC-Ss?	Y	es	No
10	Is CDR created co	rrectly in each network entity?	۲ ا	Yes	No
Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # in PVI126	t TC-605b n IPX PCI Project was b)	Setup and release, CS video call from B to A, B releases ca	all	
	Test Purpose:	To verify that a CS video call is established and released s	uccessfully	/
		detween two modile subscriders.		
Т	est preconditions:	User A and User B terminals are capable to use 3G CS vid	eo. Supple	ementary
		services are not activated.		
Step	Test description		Verdict	
-			Pass	Fail
1	Initiate new video ca	Il at User B to the address of User A using:		
2	Is User A's terminal a	alerting (visual or audible indication)?	Yes	No
3	Accept call at User A			
4	Can speech from Us	er A be heard and understood at User B?	Yes	No
5	Can video from User	r A be seen at User B?	Yes	No
6	Can speech from Us	er B be heard and understood at User A?	Yes	No
7	Can video from User	r B be seen at User A?	Yes	No
8	Clear call at User B			
9	Is call setup related	signalling handled correctly between MSC-Ss?	Yes	No
10	Is CDR created co	rrectly in each network entity?	Yes	No

Execution date:/Time:Overall result:Full Pass / Partial Pass / FailedGeneral observations or specific explanations in the case of partial pass or failed test:

Ref # (Ref # ii PVI127	Ref # TC-606a CS video call positive unsuccessful (A to B) (Ref # in IPX PCI Project was PVI127a)			
	Test Purpose : To verify that a CS video call attempt is released successfully when terminating UE doesn't support CS video			
Test preconditions: The User A is capable to use 3G CS video. The User B support BS30, but currently can not receive CS video call. Supplementary services are not activated.), but not	
Step	Test description		Verdict	
			Pass	Fail
1	Initiate new video fro	m User A to the address of User B using		
2	Is video call attempt	released successfully (visual or audible indication)?	Yes	No
3	Is call setup related	I signalling handled correctly between MSC-Ss?	Yes	No
4	4 Is CDR created correctly in each network entity? Yes No			No
Exect Gener	Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC (Ref # in IPX F PVI127b)	-606b PCI Project was	CS video call positive unsuccessful (B to A)		
7	Test Purpose:	To verify that a CS video call attempt is released successful terminating UE doesn't support CS video	ly when	
Test preconditions:		The User B is capable to use 3G CS video. The User A support currently can not receive CS video call. Supplementary serv activated.	port BS30 ices are r	D, but not
Step Tes	t description		Verdict	
			Pass	Fail
1 Initiat	te new video fro	om User B to the address of User A using		
2 Is via	leo call attempt	released successfully (visual or audible indication)?	Yes	No
3 Is ca	all setup related	I signalling handled correctly between MSC-Ss?	Yes	No
4 /s	CDR created co	prrectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Faile			s / Failed	
General ob	servations or	specific explanations in the case of partial pass or failed	test:	

1000 Series - IPX Specific Tests

Note: Not all the results of tests in 1000 Series will be visible to the service provider. Testers should coordinate test executions so that all information is gathered, thereby identifying specific IP behaviour in all legs of the end to end path.

Ref # (Ref # in PVI301)	TC-1001 IPX PCI Project was	IPX Blacklisting		
	Test Purpose:	To test IPX blacklisting to limit unauthorized connections.		
Т	est preconditions:	Supplementary Services are not activated. User B is blacklis	sted in the	IPX.
Step	Test description		Verdict	
			Pass	Fail

Official Document IR.87 - SIP-I Interworking Test Cases		
1_ Initiate new call from User A to the address of User B		
2 Is call blocked in the IPX and logged accordingly?	Yes	No
3 Is CDR created correctly in each network entity?	Yes	No
Execution date: / / Time: Overall result: Full Pass / Par	ial Pass /	/ Failed
General observations or specific explanations in the case of partial pass or failed to	est:	

Ref #	+ TC-1002	Simultaneous Sessions				
(Ref # ir PVI302)	n IPX PCI Project was					
	Test Purpose:	To test multiple initiating sessions to multiple terminating net	works.			
Т	est preconditions:	Supplementary Services are not activated. SP-A has connect	ction to S	P-B and		
		SP-C.				
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate new call from	User A (SP-A) to the address of User B (SP-B)				
2	Initiate new call from	User A2 (SP-A) to the address of User C (SP-C)				
3	Is call received by L	Jser B?	Yes	No		
4	Is call received by L	Jser C?	Yes	No		
5	Is CDR created cor	rectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

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Dof #	TC 1002	Verify Source		·		
Rei #	FIC-1003	Verify Source		ļ		
(Ref # ir	n IPX PCI Project was			ļ		
PVI303)	1					
	Test Purpose:	To verify that the IPX Proxy only handles traffic from known	sources.			
T	est preconditions:	User A (SP-A) has made successful session to user B (SP-E	3)			
Step	Test description		Verdict			
			Pass	Fail		
1	IPX provider remove	s IP-address of SP-A from the proxy.				
2	Initiate new call from	User A (SP-A) to the address of User B (SP-B)				
3	Is call rejected by the	e IPX Proxy?	Yes	No		
4	Is CDR created corre	ectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # ir PVI304)	t TC-1004 n IPX PCI Project was	IPX Proxy to verify whether next hop can be reached			
	Test Purpose:	Test re-routing mechanism in IPX Proxy line with IR.34 requ	irement		
T	est preconditions:	SP-A is connected to IPX-1. From IPX-1 there are 2 possible routes to SP-B (either direct or via other IPX providers)			
Step	Test description		Verdict		
			Pass	Fail	
1 2	Initiate call from Use Block first routing op from User A (SP-A) t	r A (SP-A) to the address of User B (SP-B) tion (in the IPX Proxy or disconnect) and set up new call to the address of User B (SP-B)			
3 4 5	Is call received by U Is call routed correct Is CDR created corre	ser B? ly? ectly in each network entity?	Yes Yes Yes	No No No	

Non-confidential

 Execution date:
 /
 Time:
 :
 Overall result:
 Full Pass / Partial Pass / Failed

 General observations or specific explanations in the case of partial pass or failed test:

Ref # TC-1005 Rate limits/flow control on IPX Proxy at ingress side (R54-R57) (Ref # in IPX PCI Project was PVI305) Rate limits/flow control on IPX Proxy at ingress side (R54-R57)					
	Test Purpose : To test whether IPX Proxy can effectively limit traffic received from SP-A in line with IR.34 requirement				
Te	Test preconditions: At IPX Proxy the allowed number of simultaneous calls from SP-A should set to 1.				
Step	Test description		Verdict		
<u> </u> '			Pass	Fail	
1 2	Initiate call from Use Initiate new call from	r A (SP-A) to the address of User B (SP-B) User A2 (SP-A) to the address of User B2 (SP-B)			
3	Is 2 nd call rejected by	y IPX Proxy?	Yes	No	
4	Is CDR created corr	ectly in each network entity?	Yes	No	
Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

Ref #	FTC-1006	Rate limits/flow control on IPX Proxy at ingress side				
(Ref # in PVI306)	n IPX PCI Project was					
	Test Purpose:	To test whether IPX Proxy can effectively limit traffic receiver	d from SP	'-А		
Τı	est preconditions:	At IPX Proxy the allowed number of simultaneous calls from set to 1. SP-C is also connected to the same IPX.	SP-A sho	ould be		
Step	Test description		Verdict			
			Pass	Fail		
1	Initiate call from Use	r A (SP-A) to the address of User B (SP-B)				
2	Initiate new call from	I User C (SP-C) to the address of User B2 (SP-B)				
3	Is 2 nd call routed by	IPX Proxy to user-B?	Yes	No		
4	Is CDR created corr	ectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
General observations or specific explanations in the case of partial pass or failed test:						

Ref # (Ref # i	TC-1007 n IPX PCI Project was	Rate limits/flow control on IPX Proxy at egress side					
PVI307				!'			
	Test Purpose:	To test whether IPX Proxy can effectively limit traffic to SP-B	without li	miting			
il		traffic to SP-C in line with IR.34 requirement					
T	est preconditions:	At IPX Proxy the allowed number of simultaneous calls to SF	-B should	d be set			
		to 1. No limit for traffic to SP-C.					
Step	Test description		Verdict				
l'			Pass	Fail			
1	Initiate call from Use	F A (SP-A) to the address of User B (SP-B)					
2	Initiate new call from	User A2 (SP-A) to the address of User C (SP-C)					
3	Is 2 nd call routed by	IPX Proxy to user C?	Yes	No			
4 Is CDR created correctly in each network entity? Yes				No			
Exect	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						
General observations or specific explanations in the case of partial pass or failed test:							

General observations or specific explanations in the case of partial pass or failed test:

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Ref # (Ref # ii PVI308	FTC-1008 n IPX PCI Project was	Rate limits/flow control on IPX Proxy at egress				
	Test Purpose:	To test whether IPX Proxy can effectively limit traffic to SP-B requirement	3 in line wi	th IR.34		
Т	est preconditions:	At IPX Proxy the allowed number of simultaneous calls to SF to 1.	P-B should	d be set		
Step	Test description		Verdict			
			Pass	Fail		
1 2	Initiate call from Use Initiate new call from	r A (SP-A) to the address of User B (SP-B) User A2 (SP-A) to the address of User B2 (SP-B)				
3	Is 2 nd call rejected by	y IPX Proxy?	Yes	No		
4 Is CDR created correctly in each network entity?				No		
Execu Genei	Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # ir PVI309)	t TC-1009 n IPX PCI Project was	Link flapping inside the SP network, IPX Transport Mode					
	Test Purpose:	To verify failure scenario, how the flap is detected by the IP2	X Carrier				
		monitoring tools					
Т [.]	est preconditions:	Single failure link					
		Note: Measure the time for the link down during the flapping	/s. Check	for			
		consistent disconnect causes between IPX Carrier and SP.	,				
Step	Test description		Verdict				
			Pass	Fail			
1	Shutdown one link in	side the SP network only affecting testing calls					
2	Is an established cal	l still up?	Yes	No			
3	Is a new set-up call e	established/routed?	Yes	No			
4	No-shutdown the link	cinside the SP network					
5	ls an established cal	ll still up?	Yes	No			
6	Is a new set-up call e	established/routed?	Yes	No			
7	Is CDR created corre	ectly in each network entity?	Yes	No			
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed						
Gener	General observations or specific explanations in the case of partial pass or failed test:						

Ref # TC-1010 Link flapping generated on the local tail between the SP and IPX Carrier, IF (Ref # in IPX PCI Project was PVI310) Transport Mode				ier, IPX
	Test Purpose: To verify failure scenario, how the flap is detected by the IPX Carrier monitoring tools and SP performance			
Test preconditions: Single failure link Note: Measure the time for the link down during the flapping/s. Check consistent disconnect causes between IPX Carrier and SP.			for	
Step	Test description		Verdict	
			Pass	Fail
1	Shutdown one link/pv	vc inside the SP network only affecting testing calls		
2	Is an established cal	I still up?	Yes	No
3	Is a new set-up call e	established/routed?	Yes	No

2		No-snutdown Is an establis	the li ched c	nk/pvc i all still i	nside the S in?	P netwo	ſĸ		Yes	No
	6	Is a new set-up call established/routed?					Yes	No		
	7	Is CDR crea	ated c	orrectly	in <u>each ne</u> t	work ent	ity?		Yes	No
	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed									
	General observations or specific explanations in the case of partial pass or failed test:									

Ref #	tC-1011	Link flapping inside the IPX Carrier network, IPX Transport Mode				
(Ref # ir	n IPX PCI Project was					
	Test Purpose:	To verify failure scenario, how the flap is detected by the SP	and IPX	Carrier		
		monitoring tools				
Т	est preconditions:	Single failure link				
		Note: Measure the time for the link down during the flapping.	/s. Check	for		
		consistent disconnect causes between IPX Carrier and SP.				
Step	Test description		Verdict			
			Pass	Fail		
1	Shutdown one link in	side the SP network only affecting testing calls				
2	ls an established cal	I still up?	Yes	No		
3	Is a new set-up call e	established/routed?	Yes	No		
4	No-shutdown the link	k inside the SP network				
5	ls an established cal	l still up?	Yes	No		
6	ls a new set-up call	established/routed?	Yes	No		
7	Is CDR created con	rectly in each network entity?	Yes	No		
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed					
Gener	General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # ir PVI312)	TC-1012 IPX PCI Project was	IPX Carrier network re-routing, IPX Transport Mode			
	Test Purpose:	Switch from an LSP to a pre-signalled LSP (backup) and to signalled LSP.	a non-pre	-	
Test preconditions: Single failure link. Notes: Check out if it's necessary to have in the network features deployed a fast-rerouting or LSP pre-signalled in order to reach the suitable SLAs. The rerouting scenario is up to the IPX network topology and platforms implied in the set-up inside each IPX carrier. Check for consistent disconnect causes between IPX Carrier and SP				loyed as s connect	
Step	Test description		Verdict		
			Pass	Fail	
1	Deactivate an LSP, s	so it can switch to non-pre-signalled LSP			
2	ls an established cal	l still up?	Yes	No	
3	ls a new set-up call e	established/routed?	Yes	No	
4	Deactivate an LSP, s	so it can switch to pre-signalled LSP			
5	ls an established cal	I still up?	Yes	No	
6	Is a new set-up call	established/routed?	Yes	No	
7	Is CDR created cor	rectly in each network entity?	Yes	No	
Execution date: / Time: Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:					

Ref # (Ref # i PVI313	# TC-1013 in IPX PCI Project was	Inter -IPX Carrier re-routing, IPX Transport Mode		
	Test Purpose:	Watch the rerouting time in inter-carrier networks. Check f disconnect causes between IPX Carrier and SP.	or consiste	ent
Test preconditions:		Single failure link Notes: The rerouting scenario is up to the IPX network top implied in the set-up inside each IPX carrier. Blocking IP a done by fire walling or by stop routing them. Check for cor causes between IPX Carrier and SP.	ology and ddresses o sistent dis	platforms could be .connect
Step	Test description		Verdict	
			Pass	Fail
1	Block the test SBC/T	oS/MSC addresses on the IX		
2	Is an established cal	ll still up?	Yes	No
3	ls a new set-up call	l established/routed?	Yes	No
4	Is CDR created cor	rectly in each network entity?	Yes	No
Exect Gene	Execution date:/Time:Overall result:Full Pass / Partial Pass / FailedGeneral observations or specific explanations in the case of partial pass or failed test:			s / Failed

Ref # (Ref # in PVI314)	Ref # TC-1014 Platform redundancy test inside the IPX Carrier network, IPX SIP-Aware (Ref # in IPX PCI Project was PVI314) Mode			ire
	Test Purpose:	To verify stateful Proxies in backup mode		
Т	est preconditions:	Single failure link.		
		Notes: Measure the swapping time from active to backup proxy. Check for		
		consistent disconnect causes between IPX Carrier and SP.		
Step	Test description		Verdict	
			Pass	Fail
1	Switch from active IPX Proxy Server to a backup one			
2	Is an established call still up? Yes No		No	
3	Is a new set-up call e	established/routed?	Yes	No
4	Switch from active IF	2X Proxy Server to a backup one		
5	Is an established cal	l still up?	Yes	No
6	Is a new set-up call	established/routed?	Yes	No
7	Is CDR created con	rectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				
General observations or specific explanations in the case of partial pass or failed test:				

Ref # (Ref # in PVI315)	TC-1015 IPX PCI Project was	Rerouting to the same next IPX Carrier network, IPX SIP-Av	vare Mode)
	Test Purpose:	Data traffic loss for switching/rerouting to another router poir next IPX carrier network	nted to the	same
Test preconditions: Single failure link. Notes: Measure the swapping time from active to backup route/path. Che for consistent disconnect causes between IPX Carrier and SP.			Check	
Step	Test description		Verdict	
			Pass	Fail
1	Having two routers to	the same next IPX Carrier, shutdown the active path		
2	ls an established cal	I still up?	Yes	No
3	Is a new set-up call	established/routed?	Yes	No
4	Is CDR created corr	rectly in each network entity?	Yes	No
Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed				

General observations or specific explanations in the case of partial pass or failed test:

Ref # (Ref # ir PVI316)	TC-1016 IPX PCI Project was	Rerouting to another next IPX Carrier network, IPX SIP-Awa	re Mode	
	Test Purpose:	Data traffic loss for switching/rerouting to another router poir next IPX carrier network	nted to an	other
Т	est preconditions:	Single failure link		
		Notes: Measure the swapping time from active to backup ro for consistent disconnect causes between IPX Carrier and S	ute/path.(P.	Check
Step	Test description		Verdict	
			Pass	Fail
1	Having only one path the call is rerouting tl	n to the next IPX Carrier, shutdown the active path, see how hrough another IPX Carrier		
2	ls an established cal	I still up?	Yes	No
3	Is a new set-up call	established/routed?	Yes	No
4	Is CDR created cor	rectly in each network entity?	Yes	No
Execu Gener	Execution date: / Time: : Overall result: Full Pass / Partial Pass / Failed General observations or specific explanations in the case of partial pass or failed test:			/ Failed

Ref #	FTC-1017	Congestion in the SIP Proxy Server, IPX SIP-Aware Mode		
(Ref # in PVI317	n IPX PCI Project was			
	Test Purpose:	See if re-written precedence inside the IPX Proxy/SBC could calls	d improve	some
Т	est preconditions:	Notes: Check for consistent disconnect causes between IPX	Carrier a	and SP.
Step	Test description		Verdict	
			Pass	Fail
1	Generate several cal	Is and in the Proxy Server limit the burst/substain ved for a client		
2	Is an established cal	Il still up?	Yes	No
3	Is a new set-up call (established/routed without re-written precedence bits?	Yes	No
4	Is a new set-up call (established/routed routed with re-written precedence bits??	Yes	No
5	Is CDR created corre	ectly in each network entity?	Yes	No
Execu	Execution date: / / Time: : Overall result: Full Pass / Partial Pass / Failed			/ Failed
Gener	General observations or specific explanations in the case of partial pass or failed test:			

1100 Series – Participant Specific Tests

Trialists should avail of the opportunity to design and execute other tests as desired. The following test case template is prepared for this purpose.

Ref # TC-nnn	Test title here
Test Purpose:	
Test preconditions:	
Step Test description	Verdict

1	Action description	Pass	Fail		
2	A question on observation of consequences of action	Yes	No		
3	Action description				
4	A question on observation of consequences of action	Yes	No		
Exe	cution date: / / Time: : Overall result: Full Pass /	Partial Pas	s / Failed		
Ger	General observations or specific explanations in the case of partial pass or failed test:				

Annex A Document Management

A.1 Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
0.1	27 April 2009	Input for IREG	IREG	Niclas Svahnström / TeliaSonera
1.0	12 June 2009	Approval of document		Niclas Svahnström / TeliaSonera
1.1	6 September 2010	Incorporation of Packet_44_029_mCR001 after approval in PACKET 44.	IREG	Niclas Svahnström / TeliaSonera

Other Information

Туре	Description
Document Owner	IREG
Editor / Company	Niclas Svahnström / TeliaSonera

It is our intention to provide a quality product for your use. If you find any errors or omissions, please contact us with your comments. You may notify us at prd@gsma.com

Your comments or suggestions & questions are always welcome.