SIP-I Interworking Test Cases
Version 1.1
27 September 2012

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Table of Contents

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 capabilities to Service Providers, possibly through interconnection with other IPX 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.
TET	Test Execution Team
UE	User Equipment
USSD	Unstructured Supplementary Service Data
UTC	Universal Co-ordinated Time
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 – Voice Call Tests	Basic call tests, for example: • 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 Services Tests	Supplementary service tests, for example: • Calling Line Identity Restriction (CLIR) • Call forward unconditional (CFU) • Call forward no response (CFNR) • Hold • Multi-party call
300 Series – CDR Validation Tests	Cascade billing specific tests, for example: • Call release after 1 second • Call release after 25 hours • Calls to a barred number
400 Series – Voice Quality Tests	Two Quality of Service tests: 30 x 2 minute calls and measuring the voice quality using Mean Opinion Score.
500 Series – Codec Tests	Calls using other codecs, for example • NB-AMR, G.729, GSM-EFR
600 Series – Other Service Tests	Setup and release of data, fax and CS video
1000 Series – IPX Specific Tests	IPX tests, for example: • Blacklisting unauthorised connections • Source verification • Next hop verification • Rate limiting • Link flapping • Platform redundancy These tests are optional and only applicable where IPX network is used in Service Transit or Hubbing mode with SIP aware functionality
1100 Series – Participant Specific Tests	Optional tests, only applicable in the case where participants want to specify additional 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 ± 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 re-transmission 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 recommeneded. 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.

Information	Format	
SP A		
IPXP A		
A-Number	INT format	+
Originating IP Address	IPv4 Format	
SP B		
IPXP B		
B-Number	INT format	+
Target IP Address	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 # TC-101a (Ref # in IPX PCI Project was PVI101)	Short call setup from User A to User B, 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.		
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	*Can speech from User A be heard and understood at User B during 60 sec?*	Yes	No
6	*Can speech from User B be heard and understood at User A during 60 sec?*	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 # TC-101b (Ref # in IPX PCI Project was PVI102)	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 established and released successfully between two mobile subscribers.		
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	*Can speech from User A be heard and understood at User B?*	Yes	No
6	*Can speech from User 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 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 # 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.		
Test 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 alerting (visual or audible indication)?*	Yes	No
3	*Is User B's mobile number presented correctly in User A's terminal?*	Yes	No
4	Accept call at User A		
5	*Can speech from User A be heard and understood at User B?*	Yes	No
6	*Can speech from User B be heard and understood at User A?*	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 # TC-101d (Ref # in IPX PCI Project was PVI104)	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 established and released successfully between two mobile subscribers. This test case is a repetition of TC-102 with calling and called parties reversed.
Test 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 alerting (visual or audible indication)?*	Yes	No
3	*Is User B's mobile number presented correctly in User A's terminal?*	Yes	No
4	Accept call at User A		
5	*Can speech from User A be heard and understood at User B?*	Yes	No
6	*Can speech from User 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 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 # 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 established and released successfully between two mobile subscribers. In addition, the purpose is to test long call (i.e. more than 1 hour), and SIP session timer related functionality for that.
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 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	*Can speech from User A be heard and understood at User B during 1 hour?*	Yes	No
6	*Can speech from User 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 # TC-102b (Ref # in IPX PCI Project was PVI106)	Long call setup from User B to User A, User B releases call
Test Purpose:	To verify that a long call, i.e. more than Session-Expires, is established and released successfully between two mobile subscribers. In addition, the purpose is to test long call (i.e. more than 1 hour), and SIP session timer related functionality for that.
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 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 number presented correctly in User A's terminal?*	Yes	No
4	Accept call at User A		
5	*Can speech from User A be heard and understood at User B during 1 hour?*	Yes	No
6	*Can speech from User B be heard and understood at User A during 1 hour?*	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 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 # TC-103a (Ref # in IPX PCI Project was PVI107)	DTMF transfer in-band from User A to User B, in-band
Test Purpose:	To verify that DTMFs are transferred correctly between operators over IPX environment.
Test preconditions:	Supplementary Services are not activated.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User A to voice mail address of User B		
2	User A sends all DTMFs to voice mail		
3	*Can DTMFs (i.e. 0…9, #,*,B and C) from User A be understood at voice mail service?*	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 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 # TC-103b (Ref # in IPX PCI Project was PVI108)	DTMF transfer in-band from User B to User A, in-band		
Test Purpose:	To verify that DTMFs are transferred correctly between operators over IPX environment.		
Test 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 DTMFs to voice mail		
3	*Can DTMFs (i.e. 0…9, #,*,B and C) from User B be understood at voice mail service?*	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 / Partial Pass / Failed	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-104a (Ref # in IPX PCI Project was PVI109)	Abandoned Call i.e. caller discards (from A to B)		
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)		
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	Abandon call during call setup time at User A		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-104b (Ref # in IPX PCI Project was PVI110)	Abandoned Call i.e. caller discards (from B to A)		
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)		
Test 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 signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-105a (Ref # in IPX PCI Project was PVI111)	Rejected call i.e. callee discards (from A to B)		
Test Purpose:	To verify that a call is released successfully when the **terminating** user refuses the call during ringing time		
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	User B rejects call during call setup time		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-105b (Ref # in IPX PCI Project was PVI112)	Rejected call i.e. callee discards (from B to A)		
Test Purpose:	To verify that a call is released successfully when the **terminating** user refuses the call during ringing time		
Test 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 alerting (visual or audible indication)?*	Yes	No
3	User A rejects call during call setup time		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-106a (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)		
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	User B does not answer during call setup time		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-106b (Ref # in IPX PCI Project was PVI114)	Called party does not answer (from B to A)		
Test Purpose:	To verify that a call is released successfully when the called party does not answer (i.e. timer expires)		
Test 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	User A does not answer during call setup time		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	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	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-107a (Ref # in IPX PCI Project was PVI115)	Called party busy (A to B)		
Test Purpose:	To verify that a call is setup and released successfully when the called party is busy		
Test preconditions:	Supplementary Services are not activated. User B has ongoing 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 alerting (visual or audible indication)?*	Yes	No
3	User B is busy		
4	*Does User A hear busy tone?*	Yes	No
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 / Partial Pass / Failed	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-107b (Ref # in IPX PCI Project was PVI116)	Called party busy (B to A)		
Test Purpose:	To verify that a call is setup and released successfully when the called party is busy		
Test preconditions:	Supplementary Services are not activated. User A has ongoing 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 alerting (visual or audible indication)?*	Yes	No
3	User A is busy		
4	*Does User B hear busy tone?*	Yes	No
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 / Partial Pass / Failed	
General observations or specific explanations in the case of partial pass or failed test:			

Ref # TC-108a (Ref # in IPX PCI Project was PVI117)	Called party not reachable, no IMSI detach (A to B)		
Test Purpose:	To verify that a call is setup and released successfully when the called party is not reachable		
Test preconditions:	Supplementary Services are not activated. The called party has removed battery.		
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 coverage		
3	*Does User A hear correct announcement?*	Yes	No
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
5	*Is correct SIP cause code (i.e.480) 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 # TC-108b (Ref # in IPX PCI Project was PVI118)	Called party not reachable, no IMSI detach (B to A)		
Test Purpose:	To verify that a call is setup and released successfully when the called party is not reachable		
Test preconditions:	Supplementary Services are not activated. The called party has removed battery.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User B to the address of User A		
2	User A is out of coverage		
3	*Does User B hear correct announcement?*	Yes	No
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
5	*Is correct SIP cause code (i.e.480) 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 # TC-109a (Ref # in IPX PCI Project was PVI119)	Called party not reachable (A to B), IMSI detach		
Test Purpose:	To verify that a call is setup and released successfully when the called party is not reachable		
Test 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 A to the address of User B		
2	User B has done IMSI detach		
3	*Does User A hear correct announcement?*	Yes	No
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	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 # TC-109b (Ref # in IPX PCI Project was PVI120)	Called party not reachable (B to A) , IMSI detach
Test Purpose:	To verify that a call is setup and released successfully when the called party is not reachable
Test 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 IMSI detach		
3	*Does User B hear correct announcement?*	Yes	No
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	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 # TC-110a (Ref # in IPX PCI Project was PVI120b)	Unallocated number (A 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

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User A to unallocated number of other operator		
2	*Does User A 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
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

Step	Test description	Verdict	
		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
General observations or specific explanations in the case of partial pass or failed test:

Ref # TC-111a (Ref # in IPX PCI Project was PVI121a)	Dialled number too short (A party)
Test Purpose:	To verify that correct response is received when too short number is used and the recipient can not be found
Test 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	*Is 484 Address incomplete received from User B side?*	Yes	No
3	Clear call at User A		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
5	*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 # TC-111b (Ref # in IPX PCI Project was PVI121b)	Dialled number too short (B party)
Test Purpose:	To verify that correct response is received when too short number is used and the recipient can not be found
Test 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 incomplete received from User A side?*	Yes	No
3	Clear call at User A		
4	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
5	*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:

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.

Ref # TC-201a (Ref # in IPX PCI Project was PVI201)	Calling Line Identification Restriction (CLIR), (A to B)		
Test Purpose:	To verify that Calling Line Identification Restriction works correctly		
Test 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 number presented as unknown number in User B's terminal?*	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 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 # TC-201b (Ref # in IPX PCI Project was PVI202)	Calling Line Identification Restriction (CLIR), (B to A)		
Test Purpose:	To verify that Calling Line Identification Restriction works correctly		
Test 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 number presented as unknown number in User A's terminal?*	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 / Partial Pass / Failed	
General observations or specific explanations in the case of partial pass or failed test:			

1.

2.

Ref # TC-202a (Ref # in IPX PCI Project was PVI203)	Call Forwarding Unconditional (CFU), (A to B)		
Test Purpose:	To verify that Call Forwarding Unconditional works correctly		
Test 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 terminal alerting (visual or audible indication)?*	Yes	No
4	*Is User A2 informed about forwarded call (visual)?*	Yes	No
5	Accept call at User A2		
6	*Can speech from User A be heard and understood at User A2?*	Yes	No
7	*Can speech from User 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
11	*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:

3.
4.

Ref # TC-202b (Ref # in IPX PCI Project was PVI204)	Call Forwarding Unconditional (CFU), (B to A)		
Test Purpose:	To verify that Call Forwarding Unconditional works correctly		
Test preconditions:	Configure User A to use CFU to B2		
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	*Is User B2's terminal alerting (visual or audible indication)?*	Yes	No
4	*Is User B2 informed about forwarded call (visual)?*	Yes	No
5	Accept call at User B2		
6	*Can speech from User B be heard and understood at User B2?*	Yes	No
7	*Can speech from User B2 be heard and understood at User B?*	Yes	No
8	Clear call at User B		
9	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
10	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
11	*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 # TC-203a (Ref # in IPX PCI Project was PVI205)	Call Forwarding Unconditional (CFU), multiple CFU, (A to B)		
Test Purpose:	To verify that Call Forwarding Unconditional works correctly in case multiple CFU		
Test 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 A4		
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 terminal alerting (visual or audible indication)?*	Yes	No
8	*Is User A4 informed about forwarded call (visual)?*	Yes	No
9	Accept call at User A4		
10	*Can speech from User A be heard and understood at User A4?*	Yes	No
11	*Can speech from User 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
15	*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 # TC-203b (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
Test preconditions:	Configure User A to use CFU to B2, User B2 to use CFU to A2, User A2 to use CFU to B3, User B3 to use CFU to A3, User A3 to use CFU to B4

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 alerting (visual or audible indication)?*	Yes	No
8	*Is User B4 informed about forwarded call (visual)?*	Yes	No
9	Accept call at User B4		
10	*Can speech from User B be heard and understood at User B4?*	Yes	No
11	*Can speech from User 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
15	*Is CDR created correctly in each network entity?*	Yes	No

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

Ref # TC-204a (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
Test 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 A4.

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 User A4's voice mail		
7b	Call is forwarded to other than A4's voice mail		
8a	*Can speech from User A be heard and understood at voice mail?*	Yes	No
8b	*Has call been forwarded 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
12	*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 # TC-204b	Call Forwarding Unconditional (CFU), multiple CFU, (B to A)

(Ref # in IPX PCI Project was PVI208)				
	Test Purpose:	To verify that Call Forwarding Unconditional works correctly in case multiple CFU		
	Test preconditions:	Configure User A to use CFU to B2, User B2 to use CFU to A2, User A2 to use CFU to B3, User B3 to use CFU to A3, User A3 to use CFU to B4		
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			
7a	Call is forwarded to User B4's voice mail			
7b	Call is forwarded to other than B4's voice mail			
8a	*Can speech from User B be heard and understood at voice mail?*		Yes	No
8b	*Has call been forwarded 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	*Is call release related signalling handled correctly between MSC-Ss?*		Yes	No
12	*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 # TC-205a (Ref # in IPX PCI Project was PVI209)	Call Forwarding On No Reply (CFNR), (A to B)			
	Test Purpose:	To verify that Call Forwarding On No Reply works correctly		
	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 expired call is forwarded to User A2			
3	*Is User A2's terminal alerting (visual or audible indication)?*		Yes	No
4	*Is User A2 informed about forwarded call (visual)?*		Yes	No
5	Clear call at User A2			
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
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-205b (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 expired call is forwarded to User B2			
3	*Is User B2's terminal alerting (visual or audible indication)?*		Yes	No

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

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-206a (Ref # in IPX PCI Project was PVI211)	Call Waiting (CW), (A to B)		
Test Purpose:	To verify that Call Waiting indication works correctly between networks		
Test preconditions:	Called party is busy and has CW 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 B informed about waiting call (visual)?*	Yes	No
4	*Is User A informed about waiting call (visual)?*	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

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

5.
6.

Ref # TC-206b (Ref # in IPX PCI Project was PVI212)	Call Waiting (CW), (B to A)		
Test Purpose:	To verify that Call Waiting indication works correctly between networks		
Test preconditions:	Called party is busy and has CW 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 alerting (visual or audible indication)?*	Yes	No
3	*Is User A informed about waiting call (visual)?*	Yes	No
4	*Is User B informed about waiting call (visual)?*	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

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-207 (Ref # in IPX PCI Project was PVI213)	Call Hold (CH) during single call		
Test Purpose:	To verify that Call Hold during single call works correctly		
Test preconditions:			
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	Accept call at User B		
4	*Can speech from User A be heard and understood at User B?*	Yes	No
5	*Can speech from User B be heard and understood at User A?*	Yes	No
6	User B puts call on hold		
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
10	User A puts call on hold		
11	*Is User B informed about call hold?*	Yes	No
12	User A removes call on hold		
13	*Is User B informed about active call?*	Yes	No
14	Clear call at User A		
15	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
16	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
17	*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 # TC-208a (Ref # in IPX PCI Project was PVI214)	Multiparty (MPTY) call, (A to B)		
Test Purpose:	To verify that MPTY works correctly		
Test preconditions:	Note: Maximum of 4 parties on MPTY, 2 in each pair.		
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	Accept call at User B		
4	*Can speech from User A be heard and understood at User B?*	Yes	No
5	*Can speech from User B be heard and understood at User A?*	Yes	No
6	User A puts call on hold		
7	*Is User B informed about call hold?*	Yes	No
8	User A initiates new voice call to the address of User B2		
9	*Is User B2's terminal alerting (visual or audible indication)?*	Yes	No
10	Accept call at User B2		
11	*Can speech from User A be heard and understood at User B2?*	Yes	No
12	*Can speech from User B2 be heard and understood at User A?*	Yes	No
13	User A makes MPTY		
14	*Can speech from User A be heard and understood at User B?*	Yes	No
15	*Can speech from User B be heard and understood at User A?*	Yes	No
16	*Can speech from User A be heard and understood at User B2?*	Yes	No
17	*Can speech from User B2 be heard and understood at User A?*	Yes	No
18	Clear call at User B		
19	*Can speech from User A be heard and understood at User B2?*	Yes	No
20	*Can speech from User B2 be heard and understood at User A?*	Yes	No
21	Clear call at User A		
22	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
23	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
24	*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 # TC-208b (Ref # in IPX PCI Project was PVI215)	Multiparty (MPTY) call, (B to A)		
Test Purpose:	To verify that MPTY works correctly		
Test 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 User A be heard and understood at User B?*	Yes	No
5	*Can speech from User B be heard and understood at User A?*	Yes	No
6	User B puts call on hold		
7	*Is User A informed about call hold?*	Yes	No
8	User B initiates new voice call to the address of User A2		
9	*Is User A2's terminal alerting (visual or audible indication)?*	Yes	No
10	Accept call at User A2		
11	*Can speech from User B be heard and understood at User A2?*	Yes	No
12	*Can speech from User A2 be heard and understood at User B?*	Yes	No
13	User B makes MPTY		
14	*Can speech from User B be heard and understood at User A?*	Yes	No
15	*Can speech from User A be heard and understood at User B?*	Yes	No
16	*Can speech from User B be heard and understood at User A2?*	Yes	No
17	*Can speech from User A2 be heard and understood at User B?*	Yes	No
18	Clear call at User A		
19	*Can speech from User B be heard and understood at User A2?*	Yes	No
20	*Can speech from User 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
24	*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 # TC-209a (Ref # in IPX PCI Project was PVI610a)	Explicit Call Transfer (ECT), (A to B)		
Test Purpose:	To verify that Explicit Call Transfer works correctly		
Test preconditions:	Configure User A, B and C to use ECT supplementary service.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User A to the address of User B		
2	Initiate new call from User A to the address of User C		
3	*Is User B's terminal alerting (visual or audible indication)?*	Yes	No
4	*Is User C's terminal alerting (visual or audible indication)?*	Yes	No
5	*Can speech from User A be heard and understood at User B during 60 sec?*	Yes	No
6	*Can speech from User A be heard and understood at User C during 60 sec?*	Yes	No
7	Invoke ECT at User A		
8	*Can speech from User B be heard and understood at User C during 60 sec?*	Yes	No
9	*Can speech from User C be heard and understood 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 related signalling handled correctly between MSC-Ss?*	Yes	No
13	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
14	*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 # TC-209b (Ref # in IPX PCI Project was PVI610b)	Explicit Call Transfer (ECT), (B to A)		
Test Purpose:	To verify that Explicit Call Transfer works correctly		
Test preconditions:	Configure User A, B and C to use ECT supplementary service.		
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 alerting (visual or audible indication)?*	Yes	No
4	*Is User C's terminal alerting (visual or audible indication)?*	Yes	No
5	*Can speech from User B be heard and understood at User B during 60 sec?*	Yes	No
6	*Can speech from User B be heard and understood at User C during 60 sec?*	Yes	No
7	Invoke ECT at User B		
8	*Can speech from User A be heard and understood at User C during 60 sec?*	Yes	No
9	*Can speech from User 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 related signalling handled correctly between MSC-Ss?*	Yes	No
13	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
14	*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:			

7.

Ref # TC-210a (Ref # in IPX PCI Project was PVI)	Connected Line Identification Presentation (COLP), (A to B)		
Test Purpose:	To verify that Connected Line Identification Presentation works correctly		
Test preconditions:	Configure User A and User B to use COLP 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 able to retrieve 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	*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 # TC-210b (Ref # in IPX PCI Project was PVI611b)	Connected Line Identification Presentation (COLP), (B to A)		
Test Purpose:	To verify that Connected Line Identification Presentation works correctly		
Test preconditions:	Configure User A and User B to use COLP 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 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 / Partial Pass / Failed
General observations or specific explanations in the case of partial pass or failed test:

Ref # TC-211a (Ref # in IPX PCI Project was PVI612a)	Connected Line Identification Presentation Restriction (COLR), (A to B)		
Test Purpose:	To verify that Connected Line Identification Presentation Restriction works correctly		
Test preconditions:	Configure User A and User B to use COLR 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 B's line identity 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	*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 # TC-211b (Ref # in IPX PCI Project was PVI612b)	Connected Line Identification Presentation Restriction (COLR), (B to A)		
Test Purpose:	To verify that Connected Line Identification Presentation Restriction works correctly		
Test preconditions:	Configure User A and User B to use COLR 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 A's line identity 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	*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:

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 # TC-301a (Ref # in IPX PCI Project was PVI401)	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		
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 1 second		
6	*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 # TC-301b (Ref # in IPX PCI Project was PVI402)	Very short (1 second) call, user B releases the call		
Test Purpose:	To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call		
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 B after 1 second		
6	*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 # 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

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-302b (Ref # in IPX PCI Project was PVI404)	Very long (25 hours) call, user B 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 B after 25 hours		
6	*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 # TC-303a (Ref # in IPX PCI Project was PVI405)	Call to a barred number, A to B
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.
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 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 # 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.		
Test preconditions:	Supplementary Services are not activated.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User B to other address than of User A		
2	*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 # TC-304a (Ref # in IPX PCI Project was PVI407)	Call across day boundary, user A releases the call		
Test Purpose:	To test CDR creation across day boundary. For pairs on different time zones also to verify correct behaviour in CDRs. To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call.		
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 crossing the day boundary or one hour		
6	*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:

8.

Ref # TC-304b (Ref # in IPX PCI Project was PVI408)	Call across day boundary, user B releases the call		
Test Purpose:	To test CDR creation across day boundary. To verify that a CDR/partial CDRs is/are created successfully indicating the correct duration of call		
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 B after crossing the day boundary or one hour		
6	*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:

400 Series - Voice Quality Tests

Ref # TC-401 (Ref # in IPX PCI Project was PVI501 part)	Objective Voice Quality Measurement

Test Purpose:	To verify that the IP transport characteristics of the IPX network are not introducing any significant voice quality problems.		
Test preconditions:			
Step	Test description	Verdict	
		Pass	Fail
1	TO BE WRITTEN		
2			
4			
5			
6			

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-402 (Ref # in IPX PCI Project was PVI501 part)	Subjective Voice Quality Measurement		
Test Purpose:	To verify that the IP transport characteristics of the IPX network are not introducing any significant voice quality problems. Basic aural observations regarding any voice quality degradation is also to be recorded. NB. It should be noted the voice quality observations performed by the testers is not an attempt to provide formal subjective testing (e.g. leading to a subjective MoS score), but rather to augment the data collected by the objective voice quality testing.		
Test preconditions:			
Step	Test description	Verdict	
		Pass	Fail
1			
2			
3			
4	*Can speech from User B be heard and understood at User A during 60 sec?*	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:

500 Series - Codec Tests

Ref # TC-501a (Ref # in IPX PCI Project was PVI601a)	Call from A to B using NB-AMR, A releases call		
Test Purpose:	To verify that narrow band AMR codec can be used.		
Test preconditions:	NB-AMR selected as codec.		
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 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 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:

Ref # TC-501b (Ref # in IPX PCI Project was PVI601b)	Call from B to A using NB-AMR, B releases call
Test Purpose:	To verify that narrow band AMR codec can be used.
Test 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		
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 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:

Ref # TC-502a (Ref # in IPX PCI Project was PVI602a)	Call from A to B using codec negotiation to select codec, A releases call
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 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
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 codec negotiation made using SDP offer/answer method?*	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:

Ref # TC-502b (Ref # in IPX PCI Project was PVI602b)	Call from B to A using codec negotiation to select codec, B releases call		
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		
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 codec negotiation made using SDP offer/answer method?*	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:			

Ref # TC-503a (Ref # in IPX PCI Project was PVI603a)	Call from A to B using G.729, A 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 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
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 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:			

Ref # TC-503b (Ref # in IPX PCI Project was PVI603b)	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		

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:

Ref # TC-504a (Ref # in IPX PCI Project was PVI604a)	Call from A to B using GSM-EFR, A releases call
Test Purpose:	To verify that GSM-EFR codec can be used.
Test preconditions:	GSM-EFR selected as codec.

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 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 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 GSM-EFR 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:

Ref # TC-504b (Ref # in IPX PCI Project was PVI604b)	Call from B to A using GSM-EFR, B releases call
Test Purpose:	To verify that GSM-EFR codec can be used.
Test 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		
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 GSM-EFR 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:

Ref # TC-505a (Ref # in IPX PCI Project was PVI605a)	SIP profile definition test, call from A to B using SIP preconditions, A releases the call		
Test Purpose:	To verify that SIP preconditions can be used as defined in RFC 3312.		
Test 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 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 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	*Were SIP Preconditions processed correctly?*	Yes	No
10	*Were the conditions 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 # 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 RFC 3312.		
Test 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 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	*Were SIP Preconditions processed correctly?*	Yes	No
10	*Were the conditions 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 # TC-506a (Ref # in IPX PCI Project was PVI606a)	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.		
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 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 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
10	*Does CDR and P-charging vector information correlate?*	Yes	No
11	*Were SIP P-header extensions processed correctly?*	Yes	No
12	*Was P-charging vector processed correctly?*	Yes	No
13	*Does CDR and P-charging 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-506b (Ref # in IPX PCI Project was PVI606b)	SIP profile definition test, call from B to A using SIP P-header extensions, B releases the call
Test Purpose:	To verify that SIP P-header extensions can be used as defined in RFC 3455.
Test 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 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	*Were SIP P-header extensions processed correctly?*	Yes	No
10	*Was P-charging vector processed correctly?*	Yes	No
11	*Does CDR and P-charging 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 Purpose:	To verify that SIP Asserted Identity can be used as defined in RFC 3325.
Test preconditions:	SIP Asserted Identity 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 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 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	*Were SIP Asserted Identity extensions processed correctly?*	Yes	No
10	*Does the SIP Asserted 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 # TC-507b (Ref # in IPX PCI Project was PVI607b)	SIP profile definition test, call from B to A using SIP Asserted Identity, B releases the call		
Test Purpose:	To verify that SIP Asserted Identity can be used as defined in RFC 3325.		
Test 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 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	*Were SIP Asserted Identity extensions processed correctly?*	Yes	No
10	*Does the SIP Asserted 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 # TC-508a (Ref # in IPX PCI Project was PVI608a)	DTMF transfer from A to B, out-of-band		
Test Purpose:	To verify that DTMFs are transferred correctly between operators over IPX environment.		
Test preconditions:	Supplementary Services are not activated. NB-AMR used. RTP payload according to IETF RFC 4733.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User A to voice mail address (or conference bridge etc) of User B		
2	User A sends all DTMFs to User B		
3	*Can DTMFs (i.e. 0…9, #,*,B and C) from User A be understood at User B?*	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 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 # TC-508b (Ref # in IPX PCI Project was PVI608b)	DTMF transfer from B to A, out-of-band		
Test Purpose:	To verify that DTMFs are transferred correctly between operators over IPX environment.		
Test preconditions:	Supplementary Services are not activated. NB-AMR used. RTP payload according to IETF RFC 4733.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User B to voice mail address (or conference bridge etc) of		

	User A		
2	User B sends all DTMFs 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 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 / Partial Pass / Failed
General observations or specific explanations in the case of partial pass or failed test:

Ref # TC-509a (Ref # in IPX PCI Project was PVI609a)	DTMF event notification from A to B
Test Purpose:	To verify that DTMF events are negotiated correctly between operators over IPX environment.
Test preconditions:	Supplementary Services are not activated. NB-AMR used. RTP payload according to IETF RFC 4733.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User A to voice mail address (or conference bridge etc) of User B		
2	User A sends all DTMFs 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	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
7	*Were DTMF events negotiated successfully using INVITE?*	Yes	No
8	*If DTMF negotiation failed, was fallback to events 0-15 done?*	Yes	No
9	*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 # TC-509b (Ref # in IPX PCI Project was PVI609b)	DTMF event notification from B to A
Test Purpose:	To verify that DTMF events are negotiated correctly between operators over IPX environment.
Test preconditions:	Supplementary Services are not activated. NB-AMR used. RTP payload according to IETF RFC 4733.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new call from User B to voice mail address (or conference bridge etc) of User A		
2	User B sends all DTMFs 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 related signalling handled correctly between MSC-Ss?*	Yes	No
7	*Is call release related signalling handled correctly between MSC-Ss?*	Yes	No
8	*If DTMF negotiation failed, was fallback to events 0-15 done?*	Yes	No
9	*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:

600 Series - Other Service Tests

Ref # TC-601a (Ref # in IPX PCI Project was PVI122a)	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.
Test preconditions:	User A and User B terminals are configured to use V.120. Supplementary services are not activated.

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 alerting (visual or audible indication)?*	Yes	No
4	Accept call at User B		
5	*Can data be transferred from User A to User B using (e.g. HyperTerminal)?*	Yes	No
6	*Can data be transferred 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 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 # TC-601b (Ref # in IPX PCI Project was PVI122b)	Setup and release V.120, data call from B to A, B releases call
Test Purpose:	To verify that a data call is established and released successfully between two mobile subscribers.
Test preconditions:	User B and User A terminals are configured to use V.120. Supplementary services are not activated.

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 alerting (visual or audible indication)?*	Yes	No
3	Accept call at User A		
4	*Can data be transferred from User B to User A using (e.g. HyperTerminal)?*	Yes	No
5	*Can data be transferred 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 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 # 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.

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

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-602b (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 successfully between two mobile subscribers.
Test preconditions:	User B and User A terminals are configured to use V.110. Supplementary services are not activated.

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 channel coding		
2	*Is User A's terminal alerting (visual or audible indication)?*	Yes	No
3	Accept call at User A		
4	*Can data be transferred from User B to User A using (e.g. HyperTerminal)?*	Yes	No
5	*Can data be transferred 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 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 # TC-603a (Ref # in IPX PCI Project was PVI124a)	Setup and release V.32, 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.32. Supplementary services are not activated.

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		
1b	9,6 kbit/s 3+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

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-603b (Ref # in IPX PCI Project was PVI124b)	Setup and release V.32, data call from B to A, B releases call		
Test Purpose:	To verify that a data call is established and released successfully between two mobile subscribers.		
Test preconditions:	User B and User A terminals are configured to use V.32. Supplementary services are not activated.		
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 channel coding		
1b	9,6 kbit/s 3+1 channel coding		
2	*Is User A's terminal alerting (visual or audible indication)?*	Yes	No
3	Accept call at User A		
4	*Can data be transferred from User B to User A using (e.g. HyperTerminal)?*	Yes	No
5	*Can data be transferred 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 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:			

9.

Ref # TC-604a (Ref # in IPX PCI Project was PVI125a)	Setup and release, fax call from A to B, A releases call		
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 from 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 B		
4	*Can two pages of fax be transferred from User A to User B correctly?*	Yes	No
5	Clear call at User A		
6	*Is call setup 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 # 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.

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

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-605a (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 released successfully between two mobile subscribers.
Test preconditions:	User A and User B terminals are capable to use 3G CS video. Supplementary services are not activated.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new video from User A to the address of User B using:		
2	*Is User B's terminal alerting (visual or audible indication)?*	Yes	No
3	Accept call at User B		
4	*Can speech from User A be heard and understood at User B?*	Yes	No
5	*Can video from User A be seen at User B?*	Yes	No
6	*Can speech from User B be heard and understood at User A?*	Yes	No
7	*Can video from User B be seen 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	*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 # TC-605b (Ref # in IPX PCI Project was PVI126b)	Setup and release, CS video call from B to A, B releases call
Test Purpose:	To verify that a CS video call is established and released successfully between two mobile subscribers.
Test preconditions:	User A and User B terminals are capable to use 3G CS video. Supplementary services are not activated.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate new video call at User B to the address of User A using:		
2	*Is User A's terminal alerting (visual or audible indication)?*	Yes	No
3	Accept call at User A		
4	*Can speech from User A be heard and understood at User B?*	Yes	No
5	*Can video from User A be seen at User B?*	Yes	No
6	*Can speech from User B be heard and understood at User A?*	Yes	No
7	*Can video from User 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 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 # TC-606a (Ref # in IPX PCI Project was PVI127a)	CS video call positive unsuccessful (A to B)		
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.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new video from 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 signalling handled correctly between MSC-Ss?*	Yes	No
4	*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 # TC-606b (Ref # in IPX PCI Project was PVI127b)	CS video call positive unsuccessful (B to A)		
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 B is capable to use 3G CS video. The User A support BS30, but currently can not receive CS video call. Supplementary services are not activated.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate new video from User B to the address of User A using		
2	*Is video call attempt released successfully (visual or audible indication)?*	Yes	No
3	*Is call setup related signalling handled correctly between MSC-Ss?*	Yes	No
4	*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:			

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

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 / Partial Pass / Failed
General observations or specific explanations in the case of partial pass or failed test:

Ref # TC-1002 (Ref # in IPX PCI Project was PVI302)	Simultaneous Sessions		
Test Purpose:	To test multiple initiating sessions to multiple terminating networks.		
Test preconditions:	Supplementary Services are not activated. SP-A has connection to SP-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 User B?*	Yes	No
4	*Is call received by User C?*	Yes	No
5	*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:

10.

Ref # TC-1003 (Ref # in IPX PCI Project was PVI303)	Verify Source		
Test Purpose:	To verify that the IPX Proxy only handles traffic from known sources.		
Test preconditions:	User A (SP-A) has made successful session to user B (SP-B)		
Step	Test description	Verdict	
		Pass	Fail
1	IPX provider removes 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 IPX Proxy?*	Yes	No
4	*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 # TC-1004 (Ref # in IPX PCI Project was PVI304)	IPX Proxy to verify whether next hop can be reached		
Test Purpose:	Test re-routing mechanism in IPX Proxy line with IR.34 requirement		
Test 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	Initiate call from User A (SP-A) to the address of User B (SP-B)		
2	Block first routing option (in the IPX Proxy or disconnect) and set up new call from User A (SP-A) to the address of User B (SP-B)		
3	*Is call received by User B?*	Yes	No
4	*Is call routed correctly?*	Yes	No
5	*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 # TC-1005 (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		
Test preconditions:	At IPX Proxy the allowed number of simultaneous calls from SP-A should be set to 1.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate 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 B2 (SP-B)		
3	*Is 2nd call rejected by IPX Proxy?*	Yes	No
4	*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 # TC-1006 (Ref # in IPX PCI Project was PVI306)	Rate limits/flow control on IPX Proxy at ingress side		
Test Purpose:	To test whether IPX Proxy can effectively limit traffic received from SP-A without blocking traffic from SP-C in line with IR.34 requirement		
Test preconditions:	At IPX Proxy the allowed number of simultaneous calls from SP-A should be set to 1. SP-C is also connected to the same IPX.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate call from User A (SP-A) to the address of User B (SP-B)		
2	Initiate new call from User C (SP-C) to the address of User B2 (SP-B)		
3	*Is 2nd call routed by IPX Proxy to user-B?*	Yes	No
4	*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 # TC-1007 (Ref # in IPX PCI Project was PVI307)	Rate limits/flow control on IPX Proxy at egress side		
Test Purpose:	To test whether IPX Proxy can effectively limit traffic to SP-B without limiting traffic to SP-C in line with IR.34 requirement		
Test preconditions:	At IPX Proxy the allowed number of simultaneous calls to SP-B should be set to 1. No limit for traffic to SP-C.		
Step	Test description	Verdict	
		Pass	Fail
1	Initiate 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 2nd call routed by IPX Proxy to user C?*	Yes	No
4	*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 # TC-1008 (Ref # in IPX PCI Project was PVI308)	Rate limits/flow control on IPX Proxy at egress
Test Purpose:	To test whether IPX Proxy can effectively limit traffic to SP-B in line with IR.34 requirement
Test preconditions:	At IPX Proxy the allowed number of simultaneous calls to SP-B should be set to 1.

Step	Test description	Verdict	
		Pass	Fail
1	Initiate 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 B2 (SP-B)		
3	*Is 2nd call rejected by IPX Proxy?*	Yes	No
4	*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 # TC-1009 (Ref # in IPX PCI Project was PVI309)	Link flapping inside the SP network, IPX Transport Mode
Test Purpose:	To verify failure scenario, how the flap is detected by the IPX Carrier monitoring tools
Test 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 inside the SP network only affecting testing calls		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	No-shutdown the link inside the SP network		
5	*Is an established call still up?*	Yes	No
6	*Is a new set-up call established/routed?*	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 # TC-1010 (Ref # in IPX PCI Project was PVI310)	Link flapping generated on the local tail between the SP and IPX Carrier, IPX Transport Mode
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 for consistent disconnect causes between IPX Carrier and SP.

Step	Test description	Verdict	
		Pass	Fail
1	Shutdown one link/pvc inside the SP network only affecting testing calls		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No

4	No-shutdown the link/pvc inside the SP network		
5	*Is an established call still up?*	Yes	No
6	*Is a new set-up call established/routed?*	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 # TC-1011 (Ref # in IPX PCI Project was PVI311)	Link flapping inside the IPX Carrier network, IPX Transport Mode
Test Purpose:	To verify failure scenario, how the flap is detected by the SP and IPX Carrier monitoring tools
Test 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 inside the SP network only affecting testing calls		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	No-shutdown the link inside the SP network		
5	*Is an established call still up?*	Yes	No
6	*Is a new set-up call established/routed?*	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 # TC-1012 (Ref # in IPX PCI Project was PVI312)	IPX Carrier network re-routing, IPX Transport Mode
Test Purpose:	Switch from an LSP to a pre-signalled LSP (backup) and to a non-pre-signalled LSP.
Test preconditions:	Single failure link. Notes: Check out if it's necessary to have in the network features deployed as 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

Step	Test description	Verdict	
		Pass	Fail
1	Deactivate an LSP, so it can switch to non-pre-signalled LSP		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	Deactivate an LSP, so it can switch to pre-signalled LSP		
5	*Is an established call still up?*	Yes	No
6	*Is a new set-up call established/routed?*	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 # TC-1013 (Ref # in IPX PCI Project was PVI313)	Inter -IPX Carrier re-routing, IPX Transport Mode
Test Purpose:	Watch the rerouting time in inter-carrier networks. Check for consistent disconnect causes between IPX Carrier and SP.
Test preconditions:	Single failure link Notes: The rerouting scenario is up to the IPX network topology and platforms implied in the set-up inside each IPX carrier. Blocking IP addresses could be done by fire walling or by stop routing them. Check for consistent disconnect causes between IPX Carrier and SP.

Step	Test description	Verdict	
		Pass	Fail
1	Block the test SBC/ToS/MSC addresses on the IX		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	*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 # TC-1014 (Ref # in IPX PCI Project was PVI314)	Platform redundancy test inside the IPX Carrier network, IPX SIP-Aware Mode
Test Purpose:	To verify stateful Proxies in backup mode
Test 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
3	*Is a new set-up call established/routed?*	Yes	No
4	Switch from active IPX Proxy Server to a backup one		
5	*Is an established call still up?*	Yes	No
6	*Is a new set-up call established/routed?*	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 # TC-1015 (Ref # in IPX PCI Project was PVI315)	Rerouting to the same next IPX Carrier network, IPX SIP-Aware Mode
Test Purpose:	Data traffic loss for switching/rerouting to another router pointed to the same next IPX carrier network
Test preconditions:	Single failure link. Notes: Measure the swapping time from active to backup route/path. Check for consistent disconnect causes between IPX Carrier and SP.

Step	Test description	Verdict	
		Pass	Fail
1	Having two routers to the same next IPX Carrier, shutdown the active path		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	*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 # TC-1016 (Ref # in IPX PCI Project was PVI316)	Rerouting to another next IPX Carrier network, IPX SIP-Aware Mode		
Test Purpose:	Data traffic loss for switching/rerouting to another router pointed to another next IPX carrier network		
Test preconditions:	Single failure link Notes: Measure the swapping time from active to backup route/path. Check for consistent disconnect causes between IPX Carrier and SP.		
Step	Test description	Verdict	
		Pass	Fail
1	Having only one path to the next IPX Carrier, shutdown the active path, see how the call is rerouting through another IPX Carrier		
2	*Is an established call still up?*	Yes	No
3	*Is a new set-up call established/routed?*	Yes	No
4	*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 # TC-1017 (Ref # in IPX PCI Project was PVI317)	Congestion in the SIP Proxy Server, IPX SIP-Aware Mode		
Test Purpose:	See if re-written precedence inside the IPX Proxy/SBC could improve some calls		
Test preconditions:	Notes: Check for consistent disconnect causes between IPX Carrier and SP.		
Step	Test description	Verdict	
		Pass	Fail
1	Generate several calls and in the Proxy Server limit the burst/substain rate/bandwidth received for a client		
2	*Is an established call 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 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:			

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

		Pass	Fail
1	Action description		
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

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

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

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

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Your comments or suggestions & questions are always welcome.