

SUBJECT TO CONTRACT

ANNEX H

Technical Manual

CONTENTS

ANNEX H	1
Technical Manual	1
1 Introduction	4
2	5
3 Symbols & Abbreviations	6
4 Definitions	7
5 Switched Network	8
5.1 Split Architecture Topology	8
5.2 Traffic routing	8
5.3 Numbering	8
6 Signalling Network	8
6.1 Introduction	8
6.2 Signalling System description	8
6.2.1 MTP and SIGTRAN	8
6.2.1.1 Signalling link/linksets	8
6.2.1.2 Network indicator	9
6.2.2 ISUP	9
6.2.2.1 Call control procedures	9
6.2.2.1.1 Digit sending	9
6.2.2.1.2 Circuit Identification Code (CICs)	9
6.2.2.1.3 Dual seizure	10
6.2.2.1.4 Hunting	10
6.2.2.1.5 Continuity Checks	10
6.2.2.1.6 DCME	10
6.2.2.1.7 Satellite	11
6.2.3 Call Diversion	11
6.2.4 Calling party categories	11
6.2.4.1 Called party number formatting	11
6.2.4.1.1 Outgoing calls from <i>Operator</i> Network	11
6.2.4.1.2 Incoming calls to the <i>Operator</i> Network	12
6.2.4.1.3 Examples of calls Incoming from Operators to Operator	12
6.2.5 Announcements	12
6.2.5.1 Operator announcements to an incoming call from another Operator	12
6.2.5.2 Other Operators announcements to <i>Operator</i>	12
7 Communication services supported	13
7.1 Bearer services	13
7.2 Teleservices	13
7.3 Supplementary Services	13
8 Service Quality	14
8.1 Grade of Service from and towards Operator Interconnection Nodes	14
8.2 General Quality of Service Parameters	14
8.2.1 Traffic Performance Parameters	14
9 Test Requirements	15
9.1 Introduction	15
9.1.1 Testing and Bringing Into Service	15
9.1.1.1 Transmission tests	15
9.1.1.2 Switching and Signalling tests	15
9.1.2 Billing tests	16
9.1.2.1 Testing Methodology:	16

9.1.2.1.1	Call Generation	16
9.1.3	Principles	17
9.1.3.1	Interconnection Scenario	17
10	APPENDIX A – SS7 INTERCONNECTION TEST SPECIFICATION	18
10.1	Scope	18
10.2	ANNEX 1 – MTP COMPATABILITY TEST LIST.....	19
10.3	ANNEX 2 – ISUP COMPATABILITY TEST LIST	21
10.4	ANNEX 3 – CLI TEST LIST	23
10.5	ANNEX 4 – ROUTE COMMISSIONING TEST	32
10.6	ANNEX 5 – BILLING TESTS	33

1 Introduction

This Manual is a description of those features of the Operator Network that are relevant to an operator seeking Interconnection. It describes the various Network elements and the services that are supported/offered by these elements as part of the RIO.

This Manual does not describe the details of any network that may result from an Interconnection with an operator. These details are contained in the Network Plan at Annex E of the Interconnection Agreement. Furthermore, this Manual does not describe the operation processes which underline the provision, operation or maintenance of the Interconnection Network provided to another Operator. These are contained in the Operations and Maintenance Manual.

Due to the nature of transmission, switching and Signalling, the network is continually evolving to support new features and functionality. Enhancements which are material to the information in this Manual will result in a new issue.

2 Scope

This Manual describes the essential network functionality required to facilitate the planning and execution of an efficient Interconnection with an operator.

3 Symbols & Abbreviations

For the purposes of this Manual, the abbreviations contained herein shall have the meaning assigned to them in Annex A of the Interconnection Agreement.

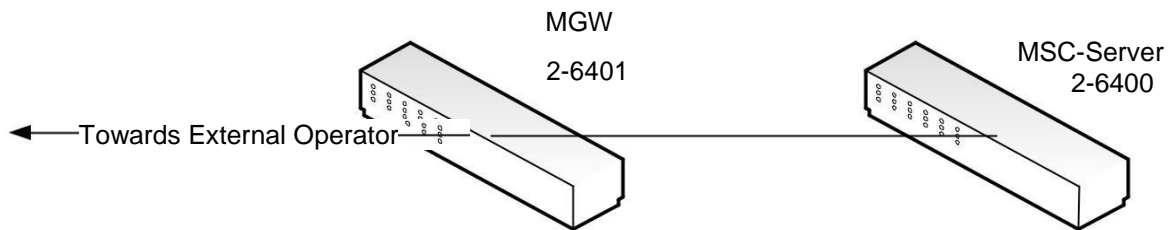
4 Definitions

For the purposes of this Manual the words and expressions in this Manual shall have the meaning assigned to them in Annex A of the Interconnection Agreement.

5 Switched Network

5.1 Split Architecture Topology

Melita has a split architecture topology whereby the routing is handled by an MSC and the physical terminations are being handled by a Media Gateway. Refer to the below diagram for further details.



5.2 Traffic routing

Principles of traffic routing to and from Melita's Interconnection Nodes are described in Annex E of the Interconnection Agreement.

5.3 Numbering

All numbering plans will be in line with the National Numbering Plan.

6 Signalling Network

6.1 Introduction

This section primarily contains information on *Operator's* Signalling network - SS7 parameter settings, B-number format, Announcements, Call Diversion and Calling Party Categories.

6.2 Signalling System description

6.2.1 MTP and SIGTRAN

Operator's MTP implementation complies with the following standards:

ITU-T White Book (1993) Message Transfer Part (MTP) Q.701-Q.704, Q706-Q.710

ETSI Message Transfer Part (MTP) ETS 300 008, 2nd edition

Should SIGTRAN be selected as a signaling option further details will be exchanged between operators at a later stage.

6.2.1.1 Signalling link/linksets

Interconnection of two Interconnection Nodes will require a single Linkset (LS) containing one or two Signalling Links (SLs). In the latter case there will be load sharing across these SLs. The SL shall occupy a timeslot of the 2Mbit PCM as agreed to by both parties (see figure 6a). Melita also supports SIGTRAN as a means of signaling.

Each SL shall operate in the associated mode.

6.2.1.2 Network indicator

The Network Indicator in the SIO of the routing label should be set to “national network”.

6.2.2 ISUP

Operator's ISUP implementation complies with the following standards:
ITU-T White Book (1993) ISDN User Part (ISUP) Q.761-Q.764, Q.766,
Q.767 ETSI ISDN User Part (ISUP) version 2 ETS 300 356, part 1 to 19

Operator reserve the right to implement ISUP screening masks to reduce the level of ISUP supported on an interconnection to that required by the commercial interconnection agreement.

6.2.2.1 Call control procedures

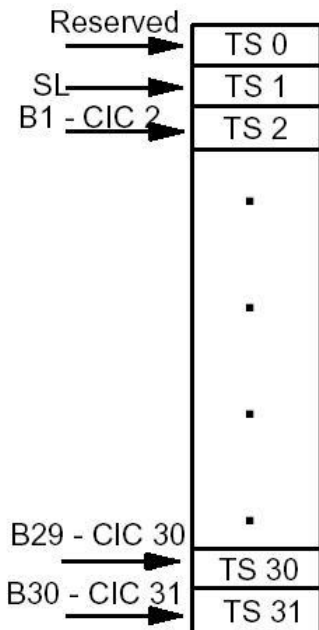
6.2.2.1.1 Digit sending

Operator has a known number length and will accordingly use en-bloc sending.

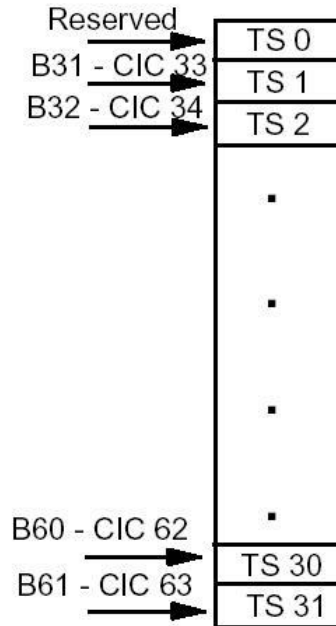
6.2.2.1.2 Circuit Identification Code (CICs)

CIC values shall be allocated according to timeslot, and not Circuit Number (See Recommendation Q.723 section 2.2.3 and the Figure below).

First 2Mbit/s system with SL:



Second 2Mbit/s system without SL:



Note: B1 = Bothway circuit number 1 etc.

Figure 6(a): Signalling Link and CIC allocations on 2 Mbit/s Connections

6.2.2.1.3 Dual seizure

The higher point code controls the even numbered circuits (CIC's) and the lower point code controls the odd numbered circuits, in the event of dual seizure. The non-controlling point code will reattempt on another circuit (ITU-T Q.764, 1993).

6.2.2.1.4 Hunting

In order to reduce the occurrence of dual seizure, both parties shall agree on the trunk hunting method to be used on bothway routes, ie either the random method or the ascending/descending method.

6.2.2.1.5 Continuity Checks

Not used nationally.

6.2.2.1.6 DCME

Not used nationally.

6.2.2.1.7 Satellite

Not used nationally.

6.2.3 Call Diversion

The presence of redirection information (including diversion hop counter), original called number and redirecting number in the ISUP IAM identifies the call as a diverted call. Currently only **five call diversions** are allowed on any call in *Operator's* Network.

Calls that are diverted are labelled as such in the optional parameter 'redirection information', field of the IAM, when sent to *Operator's* network. *Operator* will identify diverted calls outgoing to other Operators in a similar way.

Call-looping resulting from call diversions across the interconnection link/s is prohibited.

6.2.4 Calling party categories

The Table below lists the defined CPC values for the *Operator* Network. Operators may use CPC values other than those listed below to support a particular service only after explicit prior agreement with *Operator*.

CATEGORY	ISUP CPC VALUE
Unknown	0000 0000
Operator	0000 0010
Ordinary Calling End-Customer	0000 1010
Pay Phone	0000 1111

Table 6(a): ISUP Calling Party Categories

6.2.4.1 Called party number formatting

6.2.4.1.1 Outgoing calls from *Operator* Network

The Called Party Number parameter shall be coded as defined in Q.763. The relevant fields (NAI, Numbering plan) shall be coded as described in Table 6b. In particular, the following association between address signals and NAI shall be adhered to;

NAI value	Address signals
National	Calls to users located within Malta. Address signals shall commence with the STD code of the addressed user without any leading zeros.

International	Calls to international destinations only. Address signals shall commence with the county code of the addressed network e.g. '44' for UK.
---------------	--

Table 6(b): NAI and address format of the Called party number parameter

6.2.4.1.2 Incoming calls to the *Operator* Network

The format of the Called Party number parameter fields shall be as defined in Table 6(b). Additional NAI values from the range reserved for national use (i.e. 1110000 to 1111110) may be specified in future in relation to specific services.

6.2.4.1.3 Examples of calls Incoming from Operators to Operator

- For a local number '77444444': send '77444444' with NAI=National (significant) number;
- For an international number '00 1 671 4444 444': send '1 671 4444 444' with NAI=International number;

6.2.5 Announcements

An announcement shall always return an Address Complete (ACM) message.

6.2.5.1 Operator announcements to an incoming call from another Operator

Operator do not send back an Answer (ANM) message for a call failure announcement (e.g. for unallocated number etc.). ANM is returned for some service announcements (e.g. for talking clock).

6.2.5.2 Other Operators announcements to *Operator*

ANM should not be returned to *Operator* when playing an announcement, e.g. call failure or busy.

7 Communication services supported

This clause lists the telecommunication services supported by the interconnection signalling system. Operators are required to select the various services that they require so that the technical implementation of the interconnection matches the commercial interconnection agreement.

7.1 Bearer services

- 64kbit/s unrestricted digital information;
- speech;

7.2 Teleservices

- Videotelephony

7.3 Supplementary Services

- Call Forwarding on Busy
- Call Forwarding on No Reply
- Call Forwarding Unconditional
- Call Hold
- Call Waiting
- CLIP
- CLIR
- Conference Call (3 Party)
- Malicious Call Identification
- DTMF

8 Service Quality

8.1 Grade of Service from and towards Operator Interconnection Nodes

All Interconnection Paths between the Operator and the Melita Interconnection Nodes will be dimensioned based on expected bothway busy hour offered traffic and a grade of service of 0.002 or better (i.e. 0.2% of offered calls across this link will experience congestion). Traffic which has been blocked on the first choice routes will overflow on the other routes in the interconnection network, from both sides.

The network will offer high quality of service under normal conditions and will offer a degraded service to Melita under bursty/failure conditions, such that the majority of call attempts will be successful.

In case of failure of a single Interconnection Node or Transmission system, a reduced grade of service may be used.

8.2 General Quality of Service Parameters

The following service quality parameters are applicable to both Operator's and Melita's Networks. The parameters represent a minimum set, to be measured and recorded by both parties.

The current state of implementation of systems to measure and report on these parameters shall be confirmed between Operator and Melita. Both Parties shall agree on the timetable for the introduction of the measurements of these parameters.

Additional service quality parameters may be introduced in line with the development of systems to gather and process the appropriate data.

8.2.1 Traffic Performance Parameters

Trk Grp Id	The ID number of the trunk group
Ccts. available	The total number of circuits available on the trunk group
Actual ccts.	The actual number of circuits in service at the time of measurement
Time	The time of day at which the busy hour commences
(Busy Hour) Traffic	The total traffic intensity carried by the trunk group, measured in Erlangs during the busy hour
ASR%	<p>The answer seizure ratio, defined as the number of answered seizures to total seizures ie.</p> $ASR\% = \frac{\text{answered seizures}}{\text{Total seizures}} \times 100\%$

9 Test Requirements

9.1 Introduction

Testing is an essential part of the interconnection process. This clause describes the methodology applied by *Operator* to testing and the various types of test that will be applied.

9.1.1 Testing and Bringing Into Service

Both parties shall agree a test plan which shall define the relationship between individual tests and the timeframe for the carrying out the tests. A separate test plan shall be defined for each new or additional service supplied.

9.1.1.1 Transmission tests

These tests shall have the objective of proving the error-free transport of information between the switching elements of the *Operator* Network and the Melita Network in accordance with the standard BER Transmission test procedures.

9.1.1.2 Switching and Signalling tests

The switching and signalling tests shall be in accordance with the *Operator* SS7 Network National Interconnection Test Specification at Appendix A, which specifies the SS7 compatibility tests, CLI tests, route commissioning tests and billing tests to be performed.

If SIGTRAN is selected as a signaling option relevant signaling documentation will be exchanged with the operator at a later stage.

The end-to-end tests have the objective of proving the correct operation of a set of supplied services between the two parties. These tests shall examine the correct operation of:

- network routing and routing to the correct number ranges;
- any number translation or Service features invoked;
- the correct operation of any specific end-to-end bearer services, supplementary services or teleservices used;
- billing interfaces;
- any other specific testing that may be necessary.

The test plan agreed between *Operator* and Melita at the start of the provisioning process, shall define which of the specific tests defined in *Operator* SS7 Network National Interconnection Test Specification will be carried out. These tests selected depend on the type of service being supported over the interconnection.

9.1.2 Billing tests

Test will be carried out to:-

- a) Verify call records.
- b) Validate both Melita billing/invoicing procedures/systems.

This will be achieved by generating a controlled set of test calls at the appropriate level (primary, secondary & tertiary). The associated Call records generated by each Party for each call type will be checked to ensure they are correct in all details. The invoice produced by both Parties will then be compared for final verification of both Billing Systems.

A test document will be produced for each Party. An example test list is contained in Appendix A, Annex 5.

9.1.2.1 Testing Methodology:

Testing will be carried out over an agreed test period. This should be agreed by testing personnel and documented in the test sheet summary in Appendix A, Annex 5. During the test period all successful calls made to the Melita Network will generate CDRs.

The testing methodology will consist of the steps detailed below.

9.1.2.1.1 Call Generation

This step involves test personnel at *Operator* and Melita making a series of test calls over the Interconnection Links. The details of these calls will be recorded manually on test recording sheets.

Before the commencement of testing, watches should be synchronised with Operator's interconnection exchange clock. One recording sheet should be used for each individual call.

For a successful call, the duration of the call will be timed from the start of conversation to call hang up.

NOTE: The hang up time may be different for each end of the call. Both parties should time independently of each other, and complete the appropriate test recording sheet.

9.1.3 Principles

This section describes the following:

- interconnection scenario that will be presented to *Operator* and Melita.
- tests to be completed for this scenario.

9.1.3.1 Interconnection Scenario

This scenario involves Melita's first interconnection to *Operator's* AXE 10 exchange:

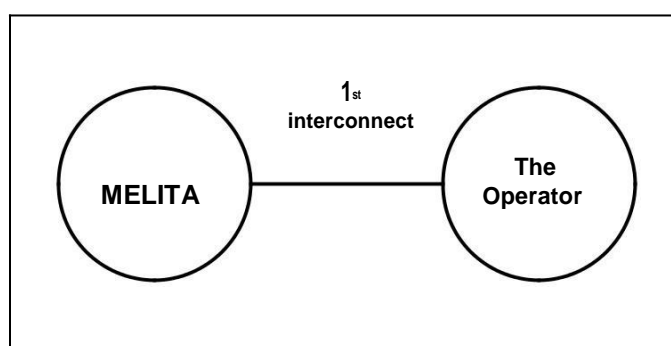


Figure 9(a): interconnection Scenario

Interconnection	Tests	Appendix A
1 st Interconnection	MTP Compatibility Test List	Annex 1
	ISUP Compatibility Test List	Annex 2
	CLI Tests	Annex 3
	Route Commissioning Tests	Annex 4
	Billing Tests	Annex 5

Table 9(a): Test list to be completed on the first interconnection to a Melita's exchange

10 APPENDIX A – SS7 INTERCONNECTION TEST SPECIFICATION

10.1 Scope

- SS7 compatibility test cases for implementation between *Operator's* interconnection exchange and Melita's node. The test lists are based on the ITU-T recommendations.
- CLI
- Route Commissioning tests;
- Billing Tests

Interconnect testing to *Operator* switch is mandatory before introduction of service.

Contact names and test configurations will be agreed closer to the start of testing.

The signalling flows on the SS7 interconnection and where appropriate the SS7 traces should be monitored and stored for dissemination at the end of the test phase.

Disclaimer: Operator reserves the right to amend or extend this information if it deems necessary.

10.2 ANNEX 1 – MTP COMPATABILITY TEST LIST

MTP Level One test

Test #	Description	Test Purpose
	24Hr BER test	DM: < 4% of 1 min intervals to have ber > 1.10 ⁻⁶
		SES: <.04% of 1 sec intervals to have ber >1.10 ⁻³
		ES: < 1.2% of 1 sec intervals to have errors

MTP Level Two tests Q.781

Test #	Description	Test Purpose
1. Link State Control - Expected signal units / orders		
1.1	Initialization (power up)	to check that Signalling terminal enters correct state on power up
1.2	Timer T2	to check not aligned timer T2
1.3	Timer T3	to check "aligned" timer T3
1.4	Timer T1 & Timer T4 (Normal)	To check "aligned ready" timer T1 and "proving period" timer T4 (Normal)
1.5	Normal alignment-correct procedure (FISU)	To check normal alignment procedure
1.19	Set emergency while in 'not aligned' state	to check that emergency alignment proving can be set during normal initial alignment
1.21	Both ends set emergency	to check emergency alignment procedure and T4
1.25	Deactivation during initial alignment	to test the response to receipt of the stop command while in the initial alignment state
1.29	Deactivation during link in service	to check deactivation of a SL from 'in service' state
1.32	Deactivation during proving period	to test response on receipt of SIOS during the proving period
3. Transmission Failure		
3.5	Link in service (break Tx path)	to test response to Tx failure when the link is in service
8. Transmission and Reception Control (Basic)		
8.1	MSU transmission and reception	to check basic MSU transmission and reception

MTP Level Three tests Q.782

Test #	Description	Test Purpose
1. Signalling Link Management		
1.1	First SL activation	to put into service a linkset with one SL
1.2	Signalling LS deactivation	to remove from service a linkset with one SL
3. Changeover		
3.16	Changeover to another linkset with adjacent SP available	to check that the system performs changeover to an alternative route when the last link of a linkset becomes unavailable
9. Signalling Route Management		

9.1.1	Sending TFP on an alternative route - failure of normal linkset	to check sending of TFP on an alternative route when the normal linkset becomes unavailable
9.2.1	Broadcast of TFP's - on one linkset failure	to check the broadcast of TFP's when one LS is inaccessible
9.4.1	Sending of TFA on an alternative route – recovery of normal linkset	to check sending of a TFA on an alternative route when the normal linkset becomes available
9.5.1	Broadcast of TFA's - on one LS recovery	to check the broadcast of TFP's when a destination becomes accessible
12. Signalling Link Test		
12.1	Signalling linkset test - after activation of a link	to check the SL test procedure after activation of a SL

10.3 ANNEX 2 – ISUP COMPATABILITY TEST LIST

ISUP Q.784.1

	Title/subtitle	Comments
1	Circuit supervision and signalling supervision	
1.3	Blocking of circuits	
1.3.1	Circuit group blocking/unblocking	
1.3.1.1	CGB and CGU received	
1.3.1.2	CGB and CGU sent	
1.3.2	Circuit blocking/unblocking	
1.3.2.1	BLO received	
1.3.2.2	BLO sent from one end	
1.3.2.3	Blocking from both ends; removal of blocking	
1.3.2.4	IAM received on a remotely blocked circuit	If possible
2	Normal call setup – ordinary speech calls	
2.1	Both way circuit selection	
2.1.1	IAM sent by controlling SP	
2.1.2	IAM sent by non-controlling SP	
2.2	Called address sending	
2.2.1	"en bloc" operation	
2.2.2	Overlap operation (with SAM)	
2.3	Successful call setup	
2.3.1	Ordinary call (with various indications in ACM)	
2.3.3	Ordinary call with CON	
2.3.4	Call switched via a satellite	
2.3.5	Blocking and unblocking during a call (initiated)	
2.3.6	Blocking and unblocking during a call (received)	
3	Normal call release	
3.1	Calling party clears before address complete	
3.2	Calling party clears before answer	
3.3	Calling party clears after answer	
3.4	Called party clears after answer	
3.5	Suspend initiated by the network	
4	Unsuccessful call setup	
4.1	Validate a set of known causes for release Cause #1, "Unallocated (unassigned) number" Cause #16, "Normal call clearing" Cause #17, "User busy" Cause #19, "No answer from user (user alerted)" Cause #27, "Destination out of order" Cause #28, "Invalid number format (address incomplete)"	
5	Abnormal situations during a call	

5.2	Timers	
5.2.1	T7: waiting for ACM or CON	
5.2.2	T9: waiting for ANM	
5.3	Reset of circuits during a call	
5.3.1	Of an outgoing circuit	
5.3.2	Of an incoming circuit	
6.2	Automatic repeat attempt	
6.2.1	Dual seizure for non-controlling SP	If possible
7	Bearer services	
7.1	64 kbit/s unrestricted	
7.1.1	Successful call setup	

10.4 ANNEX 3 – CLI TEST LIST

CLI Tests

Test No.	Description	Direction
CLI.1	CLIP: national significant number, network provided	<i>Operator</i> – <i>Melita</i>
CLI.2	CLIP: national significant number, network provided	<i>Melita - Operator</i>
CLI.3	CLIR: national significant number, network provided	<i>Operator</i> – <i>Melita</i>
CLI.4	CLIR: national significant number, network provided	<i>Melita - Operator</i>
CLI.5	CLI (address not available)	<i>Operator</i> – <i>Melita</i>
CLI.6	CLI (address not available)	<i>Melita - Operator</i>
CLI.7	CLI: international number	<i>Operator</i> – <i>Melita</i>
CLI.8	CLI: international number	<i>Melita</i> – <i>Operator</i>

Test Number	CLI.1	
Title	CLIP: national significant number, network provided	
Purpose	To verify that CLIP (network provided) is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) <i>Operator</i> customer; (b) The Melita customer	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000011 (national significant number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 00 (presentation allowed)
		Screening Indicator = 11 (network provided)
		Address Information = the national number

Test Number	CLI.2	
Title	CLIP: national significant number, network provided	
Purpose	To verify that CLIP (network provided) is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) The Melita customer (b) <i>Operator</i> customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000011 (national significant number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 00 (presentation allowed)
		Screening Indicator = 11 (network provided)
		Address Information = the national number

Test Number	CLI.3	
Title	CLIR: national significant number, network provided	
Purpose	To verify that CLIR (network provided) is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) <i>Operator</i> customer (b) the Melita customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000011 (national significant number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 01 (presentation restricted)
		Screening Indicator = 11 (network provided)
		Address Information = the national number

Test Number	CLI.4	
Title	CLIR: national significant number, network provided	
Purpose	To verify that CLIR (network provided) is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) the Melita customer (b) <i>Operator</i> customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000011 (national significant number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 01 (presentation restricted)
		Screening Indicator = 11 (network provided)
		Address Information = the national number

Test Number	CLI.5	
Title	CLI (address not available)	
Purpose	To verify that an indication of calling party address not available can be correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) <i>Operator</i> customer (b) the Melita customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Odd/even indicator = 0 (even number of address signals)
		Nature of Address Indicator = 0000000 (spare)
		Number Plan Indicator = 000 (spare)
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 10 (address not available)
		Screening Indicator = 11 (network provided)
		Address signal: none

Test Number	CLI.6	
Title	CLI (address not available)	
Purpose	To verify that an indication of calling party address not available can be correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) the Melita customer (b) <i>Operator</i> customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Odd/even indicator = 0 (even number of address signals)
		Nature of Address Indicator = 0000000 (spare)
		Number Plan Indicator = 000 (spare)
		Calling Party Number Incomplete Indicator = 0 (complete)
		Presentation Indicator = 10 (address not available)
		Screening Indicator = 11 (network provided)
		Address signal: none

Test Number	CLI.7	
Title	CLI: international number	
Purpose	To verify that CLI, international address is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) international customer transiting via <i>Operator</i> Network; (b) the Melita customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000100 (international number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Presentation Indicator = 00/01 (presentation allowed / restricted)
		Screening Indicator = 11/01 (network provided/user provided verified and passed)
		Address Information = CC + SN

Test Number	CLI.8	
Title	CLI: international number	
Purpose	To verify that CLI, international address is correctly sent and received in the Calling Party Number Parameter of the IAM;	
Pre-Test Condition	(a) international customer transiting via the Melita Network; (b) <i>Operator</i> customer;	
Expected Message Sequence		
SP A		SP B
IAM	?	
	?	ACM
	?	ANM
REL	?	
	?	RLC
Check Table		
IAM	A B	Calling Party Number parameter:
		Nature of Address Indicator = 0000100 (international number)
		Number Plan Indicator = 001 (ISDN (Telephony) numbering plan (Rec. E.164))
		Presentation Indicator = 00/01 (presentation allowed / restricted)
		Screening Indicator = 11/01 (network provided/user provided verified and passed)
		Address Information = CC + SN

10.5 ANNEX 4 – ROUTE COMMISSIONING TEST

Circuit Identification Codes

This test is to verify that the CIC codes are aligned in the two exchanges at either end of the route.

Make a successful call on the first and last CIC in each 2Mbit/s bearer between two exchanges.

Overflow and Rerouting

1. Block the outgoing route under test
2. Make a call to this route
3. Confirm that the call is set up on the next alternative route.

Bothway Routes tests for recovery from dual-seizure

Both exchange send an IAM with incomplete numbering information in them, so that they will not receive an ACM, the IAM message on both ends should be trying to seize the same circuit (CIC). Is there an IAM from the *Operator* exchange on the signalling link, as well as an IAM from the exchange under test?

Are the CIC numbers the same in both IAM's?

For an even CIC : Does the exchange with the higher point code successfully seize the circuit ?

For an odd CIC : Does the exchange with the lower point code successfully seize the circuit ?

In both cases, does the non-controlling exchange re-attempt immediately on another circuit ?

10.6 ANNEX 5 – BILLING TESTS

TESTING PERIOD			
Start Date	Start Time	End Date	End Time

Test #	Description	Initials
Test 1	Call from <i>Operator</i> Primary node, Simultaneous Hang up.	
Test 2	Call from <i>Operator</i> Primary node, A party Hang up.	
Test 3	Call from <i>Operator</i> Primary node, B Party Hang up.	
Test 4	Call from <i>Operator</i> Primary node, B Party does not answer	
Test 5	Call from <i>Operator</i> Primary node, 5 minute call simultaneous hang up	
Test 6	Call from <i>Operator</i> Primary node, B party Busy	
Test 7	Call from <i>Operator</i> Primary node, Unallocated B number	

Test 8	Call to <i>Operator</i> Primary node, Simultaneous Hang up.	
Test 9	Call to <i>Operator</i> Primary node, A party Hang up.	
Test 10	Call to <i>Operator</i> Primary node, B Party Hang up.	
Test 11	Call to <i>Operator</i> Primary node, B Party does not answer	
Test 12	Call to <i>Operator</i> Primary node, 5 minute call simultaneous hang up	
Test 13	Call to <i>Operator</i> Primary node, B party Busy	
Test 14	Call to <i>Operator</i> Primary node, Unallocated B number	

Test 15	Call to emergency number 112.	
Test 16	Call to international test number	