

ISITEP

D4.1.3 - PROCEDURES FOR INTEROPERABILITY TESTING AND PROTOTYPES TEST REPORT

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Publishable extended abstract

Definition of procedures for ISI over IP interoperability testing among manufacturers.

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1. INTRODUCTION

The task of this document is the definition of procedures for ISI over IP interoperability testing among manufacturers. Analyzing the available input deliverables, actually it doesn't need any modification on the ISI IOP test cases regarding the ISI over IP protocol.

In chapter 3 will be analysed the end-user requirements related to input deliverable D23.2 that are referred to ISI link between ISI gateways and one or more ISI IOP tests plan will be applied for every end-user requirements.

In chapter 4 has been reported the IOP ISI test plan that are official IOP TCCA test case, moreover it has been necessary to update some tests in order to fulfilled all the specifications. Considered that some of the test cases were not covered, it has been needed to produce some new ones

In chapter 5 has been reported only skeleton for the interoperability test reports, in order to collect the results of each test cases, that it will be finalized in other work packages.

2. ABBREVIATION

Acronym	Definition
AIE	Air Interface Encryption
CLIP	Calling Line Identification Presentation
GSSI	Group Short Subscriber Identity
IOP	Interoperability Profile
ISI	Inter System Interface
ITSI	Individual TETRA Subscriber Identity
MCC	Mobile Colour Code
MMI	Man Machine Interface
MNC	Mobile Network Code
MS	Mobile Station
MT	Mobile Terminal
PPDR	Public Protection and Disaster Relief
PSTN	Public Switched Telecommunications Network
SwMI	Switching and Management Infrastructure
TEAx	TETRA Encryption Algorithm number x
TETRA	TErrestrial Trunked RAdio
TPI	Talking Party Identification

3. TEST CASES - OVERVIEW

In this chapter it will be analysed all end-user requirements referring to ISI link, specified in input document D2.3.2. [1]

One or more ISI IOP tests plan will be applied for every end-user requirements, in order to verify that end-user requirements are being fulfilled.

3.1 ISI channels optimisation

End User Requirements	TCCA ISI IOP
I-EUR-FUN-1	
TITLE: ISI channel trunking	[this test has to be included in I-EUR-FUN-15.a]

3.2 Subscriber Migration and Security

End User Requirements	TCCA ISI IOP
I-EUR-FUN-2.a	IOP003-01_v100_IMM
TITLE: Registration in another network than its home network	Test case number: 1.1.1

End User Requirements	TCCA ISI IOP
I-EUR-FUN-3.a	
TITLE: Migration permission in the home network	[to be verified on display by the user during the test]

End User Requirements	TCCA ISI IOP
I-EUR-FUN-4.a	
TITLE: Migration permission in the visited network	[to be verified on display by the user during the test]

End User Requirements	TCCA ISI IOP
I-EUR-FUN-5.a	
TITLE: Migrating subscriber profile in the visited network	[to be verified on display by the user during the test]

End User Requirements	TCCA ISI IOP

I-EUR-FUN-5.b	
TITLE: Several Migrating subscriber profiles in the visited network.	[to be verified on display by the user during the test]

End User Requirements	TCCA ISI IOP
I-EUR-CNF-1.a	
TITLE: Provisioning of range of visiting users.	[to be defined by manufacturers]

End User Requirements	TCCA ISI IOP
I-EUR-CNF-2.a	
TITLE: Mass provisioning of visiting users.	[to be defined by manufacturers]

End User Requirements	TCCA ISI IOP
I-EUR-FUN-9.a	IOP003-01_v100_IMM
TITLE: Automatic Migration High Performance	Test case number: 1.2.1 1.2.2 1.2.3 Note: migration within 2 sec

End User Requirements	TCCA ISI IOP
I-EUR-FUN-10.a	IOP003-01_v100_IMM
TITLE: Automatic Migration Performance	Test case number: 1.2.1 1.2.2 1.2.3 Note: migration within 60 sec

End User Requirements	TCCA ISI IOP
I-EUR-CNF-4.a	IOP003-01_v100_IMM
TITLE: Terminal - permitted network	Test case number: 1.2.1 or 1.2.2 or 1.2.3

End User Requirements	TCCA ISI IOP
I-EUR-FUN-11	IOP003-01_v100_IMM
TITLE: Subscriber authentication	Test case number: 1.2.1 1.2.2 1.3.2

End User Requirements	TCCA ISI IOP
I-EUR-FUN-13	New test case I-EUR-FUN-13
TITLE: End to End Encryption transparency	Test case number: A.1

3.4 Individual Call

End User Requirements	TCCA ISI IOP
I-EUR-FUN-15.a	IOP003-02_v101_IIC
TITLE: ISI Individual speech call	Test Case Number: 1.1.1 Note: it is applicable between two terminal users, between two dispatcher and between a dispatcher and a terminal user

End User Requirements	TCCA ISI IOP
I-EUR-FUN-16.a	New test case I-EUR-FUN-16.A
TITLE: ISI Individual speech call – migrated user and home dispatcher	Test case number: A.2

End User Requirements	TCCA ISI IOP
I-EUR-FUN-16.b	IOP003-02_v101_IIC
TITLE: ISI Individual speech call – migrated user and user in home network	Test case number: 1.1.3 Note: migrate user make and receive an IC from terminal located in its home network

End User Requirements	TCCA ISI IOP
I-EUR-FUN-17.a	IOP003-02_v101_IIC

TITLE: ISI Individual speech call from telephone PSTN	Test case number: 1.8.1
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End User Requirements	TCCA ISI IOP
I-EUR-FUN-19.a	IOP003-03_v106_ISD
TITLE: ISI Individual short data service	Test case number: 1.1.1

End User Requirements	TCCA ISI IOP
I-EUR-FUN-20.a	IOP003-03_v106_ISD
TITLE: ISI Individual short data service – migrated user & home dispatcher	Test case number: 1.1.2 (MS 1A as dispatcher)

End User Requirements	TCCA ISI IOP
I-EUR-FUN-20.b	IOP003-03_V106_ISD
TITLE: ISI Individual status service – migrated user & home dispatcher	Test case number: 1.2.2 (MS 1A as dispatcher)

End User Requirements	TCCA ISI IOP
I-EUR-FUN-20.c	IOP003-03_V106_ISD
TITLE: ISI Individual short data service – migrated user & user in home network	Test case number: 1.1.2 1.1.4

End User Requirements	TCCA ISI IOP
I-EUR-FUN-20.d	IOP003-03_V106_ISD
TITLE: ISI Individual status service – migrated user & user in home network	Test case number: 1.2.1 1.2.4

End User Requirements	TCCA ISI IOP
I-EUR-FUN-21.a	IOP003-03_V106_ISD

TITLE: Individual emergency status message – migrated user	Test case number: 1.2.4 (MS 2B as dispatcher)
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3.5 Group Call using statically linked Groups

End User Requirements	TCCA ISI IOP
I-EUR-FUN-22.a	New Test case I-EUR-FUN-22.a
TITLE: ISI group speech call - users belonging to one network	Test case number: A.3

End User Requirements	TCCA ISI IOP
I-EUR-FUN-22.b	New test case I-EUR-FUN-22.b
TITLE: ISI group speech call - users belonging to several network	Test case number: A.4

End User Requirements	TCCA ISI IOP
I-EUR-FUN-23.a	IOP003-06_v100_IGC
TITLE: Joining a statically linked group	Test case number: 2.5 2.6

End User Requirements	TCCA ISI IOP
I-EUR-FUN-23.b	IOP003-06_v100_IGC
TITLE: Joining a statically linked group - migrated and local users	Test case number: 2.5 2.6 (more than one calling party joins to an ongoing group call)

End User Requirements	TCCA ISI IOP
I-EUR-FUN-25.a	
Group addresses used for statically linked groups	[To be verified by dispatcher on display during the test; this test has to be included in I-EUR-FUN-22.b]

End User Requirements	TCCA ISI IOP
I-EUR-FUN-26.a	IOP003-006_v100_IGC
ISI group speech call - migrated user	Test case number: 1.1

End User Requirements	TCCA ISI IOP
I-EUR-FUN-27.a	IOP003-03_v106_ISD
TITLE: ISI group short data message	Test case number: 2.1.1 2.1.2

End User Requirements	TCCA ISI IOP
I-EUR-FUN-28.a	IOP003-03_v106_ISD
TITLE: ISI emergency group status message to dispatchers	Test case number: 2.2.1 2.2.2 (included dispatcher)

End User Requirements	TCCA ISI IOP
I-EUR-FUN-29.a	IOP003-03_v106_ISD
TITLE: ISI emergency group status message	Test case number: 2.2.1 2.2.2

3.5.1 Group Addressed Short Data and Status messages to home network

End User Requirements	TCCA ISI IOP
I-EUR-FUN-31.a	IOP003-03_v106_ISD
TITLE: ISI group short data message to home network	Test case number: 2.5.1

End User Requirements	TCCA ISI IOP
I-EUR-FUN-31.b	IOP003-03_v106_ISD
TITLE: ISI group status message to home network	Test case number: 2.6.1

3.9 Emergency Call

End User Requirements	TCCA ISI IOP
I-EUR-FUN-44.a	IOP003-006_v100_IGC
TITLE: Emergency call to the statically linked group	Test case number: 5.1 5.3

3.10 Positioning

[Tests in IOP001-19_v100_LIP have to be modified to be in compliance the end user requirements, by manufactured]

End User Requirements	TCCA ISI IOP
I-EUR-FUN-50.a	
TITLE: Positions sending to home network	

End User Requirements	TCCA ISI IOP
I-EUR-FUN-51.a	
TITLE: Positions sending to visited network	

End User Requirements	TCCA ISI IOP
I-EUR-FUN-52.a	
TITLE: Positions sending to home network and visited network	

End User Requirements	TCCA ISI IOP
I-EUR-FUN-53.a	
TITLE: Positions sending to home network and visited network and to a third network	

4. PROCEDURES FOR INTEROPERABILITY TESTING

IOP TEST PLANS	List of test below
IOP003-01_v100_IMM	1.1.1
	1.2.1
	1.2.2
	1.2.3
	1.3.2
	New test case I-EUR-FUN-13
IOP003-02_v101_IIC	1.1.1
	1.1.2
	New test case I-EUR-FUN-16.a
	1.1.4
	1.8.1
IOP003-03_v106_ISD	1.1.1
	1.1.2
	1.1.5
	1.2.1
	1.2.2
	1.2.3
	1.2.5
	2.1.1
	2.1.2
	2.2.1
	2.2.2
	2.5.1
	2.6.1
IOP003-006_V100_IGC	New test case I-EUR-FUN-22.a
	New test case I-EUR-FUN-22.b
	5.1
	5.3

IOP003-01_v100_IMM	
TEST CASE NUMBER:	
1.1.1 Migration to Visited SwMI, successful registration without authentication	
Reference: [TTR 003-01], subclause: 7.3	
Objective(s)	
To verify successful MS migration registration to Visited SwMI when authentication is not required	
Pre-Conditions	
<ul style="list-style-type: none"> ○ SwMI1, SwMI2 and MS 1A support migration ○ MS 1A is un-registered and/or prepared to migrate on SwMI2 ○ SwMI2 does not require authentication 	
Test procedure	
Action	Expected Result
1 MS 1A user performs needed actions to migrate MS 1A to LA of SwMI2 (e.g. by powering on MS or selecting SwMI2 as a serving network)	<p>MS 1A migrates to location area of SwMI2 and sends USSI addressed U-LOCATION UPDATE DEMAND 'Migration location updating' including MNI of the home network</p> <p>SwMI2 sends D-LOCATION UPDATE PROCEEDING and assigns (V)ASSI to MS 1A</p> <p>MS 1A sends (V)ASSI addressed U-LOCATION UPDATE DEMAND 'Demand location updating'</p> <p>SwMI2 sends ISI-MIGRATION 'Authentication not invoked' PDU to SwMI1</p> <p>SwMI1 accepts MS 1A migration and sends ISIMIGRATION RESPONSE PDU to SwMI2</p> <p>SwMI2 sends (V)ASSI addressed D-LOCATION UPDATE ACCEPT to MS 1A</p> <p>MS 1A is registered in Visited SwMI2 and indicates being in service</p>
Comments	
Reference: [TTR 003-01] Figure 1	

IOP003-01_v100_IMM	
TEST CASE NUMBER:	
1.2.1 Migration with Authentication to Visited SwMI, Successful authentication and migration	
Reference: [TTR 003-01], subclause: 7.5.1	
Objective(s)	
To verify successful MS migration registration with authentication to Visited SwMI when Visited SwMI has no valid authentication triplet available for MS.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A authentication key <i>K</i> is defined in SwMI1 ○ MS 1A is un-registered and/or prepared to migrate on SwMI2 ○ SwMI1, SwMI2 and MS 1A support migration and authentication over ISI ○ MS 1A is allowed to migrate between SwMI1 and SwMI2 	
Test procedure	
Action	Expected Result
1 MS 1A user performs needed actions to migrate MS 1A to LA of SwMI2 (e.g. by powering on MS or selecting SwMI2 as a serving network)	<p>MS 1A migrates to location area of SwMI2 and sends USSI addressed U-LOCATION UPDATE DEMAND 'Migration location updating' including MNI of the home network</p> <p>SwMI2 sends D-LOCATION PROCEEDING and assigns (V)ASSI to MS 1A</p> <p>MS 1A sends (V)ASSI addressed U-LOCATION UPDATE DEMAND 'Demand location updating'</p> <p>SwMI2 sends ISI-MIGRATION 'Authentication invoked' and ISI-AUTHENTICATION DEMAND PDUs to SwMI1</p> <p>SwMI1 reply with ISI-AUTHENTICATION RESPONSE PDU</p> <p>SwMI2 authenticates MS 1A and sends ISIAUTHENTICATION RESULT PDU to SwMI1</p> <p>SwMI1 reply with ISI-MIGRATION RESPONSE PDU</p> <p>SwMI2 sends D-LOCATION UPDATE ACCEPT to MS 1A</p> <p>MS 1A is registered in SwMI2 and indicates being in service</p>
Comments	
Reference [TTR 003-01], Figure 5	

IOP003-01_v100_IMM	
TEST CASE NUMBER:	
1.2.2 Migration with Authentication to Visited SwMI, Unsuccessful authentication, migration reject	
Reference: [TTR 003-01], subclause: 7.5.1	
Objective(s)	
To verify rejected MS migration registration to Visited SwMI due authentication failure when Visited SwMI has no valid authentication triplet available for MS.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A authentication fails (e.g. authentication key <i>K</i> is defined incorrectly in Home SwMI1) ○ MS 1A is un-registered and prepared to migrate on SwMI2 ○ SwMI1, SwMI2 and MS 1A support migration and authentication over ISI ○ MS 1A is allowed to migrate between SwMI1 and SwMI2 	
Test procedure	
Action	Expected Result
1 MS 1A user power on MS such that SwMI2 becomes serving network	<p>MS 1A sends USSI addressed U-LOCATION UPDATE DEMAND 'Migration location updating' including MNI of the home network</p> <p>SwMI2 sends D-LOCATION PROCEEDING and assigns (V)ASSI to MS 1A</p> <p>MS 1A sends (V)ASSI addressed U-LOCATION UPDATE DEMAND 'Demand location updating'</p> <p>SwMI2 sends ISI-MIGRATION 'Authentication invoked' and ISI-AUTHENTICATION DEMAND PDUs to SwMI1</p> <p>SwMI1 reply with ISI-AUTHENTICATION RESPONSE PDU</p> <p>SwMI2 authenticates MS 1A, detects authentication failure and sends ISI-AUTHENTICATION REJECT and ISI-MIGRATION REJECT PDUs to SwMI1</p> <p>SwMI1 reply with ISI-MIGRATION REJECT RESPONSE PDU</p> <p>SwMI2 sends D-LOCATION UPDATE REJECT to MS 1A</p> <p>MS 1A discards (V)ASSI and remains out of service or registers back to the SwMI1</p>
Comments	
Reference [TTR 003-01], Figure 6	

IOP003-01_v100_IMM	
TEST CASE NUMBER:	
1.2.3 Migration with Authentication to Visited SwMI, Home SwMI rejects authentication and migration	
Reference: [TTR 003-01], subclause: 7.5.1	
Objective(s)	
To verify rejected MS migration by Home SwMI when Visited SwMI requests authentication for Visited MS.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber and supports migration ○ SwMI1 (Home) and SwMI2 (Visited) support migration ○ MS 1A is allowed to migrate between SwMI1 and SwMI2 ○ SwMI2 is capable to offer (V)ASSI for MS 1A ○ SwMI1 does not allow SwMI2 to authenticate MS 1A 	
Test procedure	
Action	Expected Result
1 MS 1A user performs needed actions to migrate MS 1A to LA of SwMI2 (e.g. by powering on MS or selecting SwMI2 as a serving network)	<p>MS 1A sends USSI addressed U-LOCATION UPDATE DEMAND 'Migration location updating' including MNI of the home network</p> <p>SwMI2 sends D-LOCATION PROCEEDING and assigns (V)ASSI to MS 1A</p> <p>MS 1A sends (V)ASSI addressed U-LOCATION UPDATE DEMAND 'Demand location updating'</p> <p>SwMI2 sends ISI-MIGRATION 'Authentication invoked' and ISI-AUTHENTICATION DEMAND PDUs to SwMI1</p> <p>SwMI1 reply with ISI-AUTHENTICATION REJECT and ISI-MIGRATION REJECT PDUs</p> <p>SwMI2 sends D-LOCATION UPDATE REJECT to MS 1A</p> <p>MS 1A discards (V)ASSI and remains out of service or registers back to the SwMI1</p>
Comments	
Reference [TTR 003-01], Figure 7	

IOP003-01_v100_IMM	
TEST CASE NUMBER:	
1.3.2 Successful registration and authentication of an already migrated MS, valid keys available in Visited SwMI	
Reference: [TTR 003-01], subclause: 7.5.2	
Objective(s)	
To verify already migrated MS authentication on Visited SwMI when valid authentication triplet is available in Visited SwMI.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ SwMI2 is configured with two location areas (LA) ○ MS 1A is registered on SwMI2 LA 1 as foreign subscriber and has (V)ASSI allocated ○ MS 1A authentication triplet is valid in SwMI2 ○ SwMI2 requires authentication from migrated MS on roaming location updating 	
Test procedure	
Action	Expected Result
1 MS 1A is moved towards LA 2 of SwMI2 avoiding any communication activity by attenuating serving cell	<ul style="list-style-type: none"> - MS 1A sends (V)ASSI addressed U-LOCATION UPDATE DEMAND 'Roaming location updating' on LA 2 - SwMI2 authenticates MS 1A and sends ISI-AUTHENTICATION RESULT PDU to SwMI1 and D-LOCATION UPDATE ACCEPT to MS 1A - MS 1A is registered in SwMI2 and indicates being in service
Comments	
Reference [TTR 003-01], Figure 9	

New test case I-EUR-FUN-13		
TEST CASE NUMBER:		
A.1 Local MS on SwMI1 makes semi-duplex hook call to local MS on SwMI2		
Reference: [TTR 003-02], subclause: 6.6.2, 6.6.3 and 6.6.5		
Objective(s)		
To verify successful E2E encryption individual call setup over ISI		
Pre-Conditions		
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 2B is registered on SwMI2 as local subscriber ○ Both MSs are capable to E2E encryption calls ○ Proper E2E encryption keys are delivered to MSs ○ MSs and SwMIs shall support individually addressed semi-duplex call ○ SwMI1 and SwMI2 are connected via ISIGW 		
Test procedure		
Action	Expected Result	
1 MS 1A user makes SEMI-duplex hook call setup to MS 2B	<ul style="list-style-type: none"> - SwMI1 sends ISI-SETUP PDU to SwMI2 - SwMI2 may send ISI-CALL PROCEEDING PDU to SwMI1 - MS 2B alerts and may display ITSI of MS 1A as CPI - SwMI2 sends ISI-ALERTING PDU to SwMI1 	
2 MS 2B user answers the call and takes first speech item	<ul style="list-style-type: none"> - SwMI2 sends ISI-CONNECT 'Resources are reserved' PDU including the connected party SSI to SwMI1. SwMI1 reply with ISI-CONNECT ACKNOWLEDGE "Transmission granted" to SwMI2 - Call is connected successfully transmission is granted to MS 2B and MS 1A receives the speech 	
3 MS 2B user cease transmission and releases PTT	<ul style="list-style-type: none"> - SwMI2 sends ISI-TX CEASED IN TERMINATING SwMI PDU to SwMI1 - SwMI1 sends ISI-TX CEASED IN ORIGINATING SwMI1 PDU to SwMI2 	
4 MS 1A user presses PTT and takes speech item	<ul style="list-style-type: none"> - SwMI1 grants transmission for MS 1A and sends ISI-TX GRANTED 'Transmission granted to another user' and 'Allowed to request for permission' PDU to SwMI2 	

		- Transmission is granted to MS 1A and MS 2B receives the speech
5	MS 1A user releases PTT Call is disconnected by MS 1A or SwMI1	- SwMI1 sends ISI-TX CEASED IN ORIGINATING SwMI PDU to SwMI2 - SwMI1 sends ISI-DISCONNECT PDU to SwMI2 - Call and ISI resources are released on both SwMIs
6	Verify correct ISI call setup and transmission control signaling from ISI tracer LOG	- ISI SETUP contain correct encryption flag - ISI-TX GRANTED contain correct encryption control
Comments		
Reference [TTR 003-02], Figure 1 and 21		

IOP003-02_v101_IIC	
TEST CASE NUMBER:	
1.1.1 Local MS on SwMI1 makes duplex call to local MS on SwMI2	
Reference: [TTR 003-02], subclause: 6.6.2 and 6.6.5	
Objective(s)	
To verify successful ITSI addressed duplex call establishment and call disconnection over ISI when local MS 1A on SwMI1 makes a call to local MS 2B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 2B is registered on SwMI2 as local subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user makes duplex hook call setup to MS 2B	<ul style="list-style-type: none"> - MS 1A sends U-SETUP (with MNI of MS 2B) - SwMI1 sends ISI-SETUP PDU to SwMI2 - SwMI2 may send ISI-CALL PROCEEDING PDU - MS 2B alerts and may display ITSI of MS 1A as CPI - SwMI2 sends ISI-ALERTING PDU to SwMI1
2 MS 2B user answers the call Users of MS 1A and MS 2B starts talking	<ul style="list-style-type: none"> - ISI-CONNECT 'Resources are reserved' and ISI-CONNECT ACKNOWLEDGE PDUs are sent between called SwMI2 and originating SwMI1 - Call is connected and audio flows both directions simultaneously
3 After communication MS 2B user disconnects the call	<ul style="list-style-type: none"> - SwMI2 sends ISI-DISCONNECT PDU to SwMI1 - Call and ISI resources are released on both SwMIs
Comments	
Reference [TTR 003-02], Figure 1 and 21	

IOP003-02_v101_IIC	
TEST CASE NUMBER:	
1.1.2 Local MS on SwMI1 makes duplex call to foreign MS on SwMI2	
Reference: [TTR 003-02], subclause: 6.6.2 and 6.6.5	
Objective(s)	
To verify successful ITSI addressed duplex call establishment and call disconnection over ISI when local MS 1A on SwMI1 makes a call to local MS 1B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 1B is migrated on SwMI2 as foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user makes duplex hook call setup to MS 1B	<ul style="list-style-type: none"> - MS 1A sends U-SETUP (without MNI of MS 1B) - SwMI1 sends ISI-SETUP PDU to SwMI2 - SwMI2 may send ISI-CALL PROCEEDING PDU - MS 1B alerts and may display ITSI of MS 1A as CPI - SwMI2 sends ISI-ALERTING PDU to SwMI1
2 MS 1B user answers the call Users of MS 1A and MS 1B starts talking	<ul style="list-style-type: none"> - ISI-CONNECT 'Resources are reserved' and ISI-CONNECT ACKNOWLEDGE PDUs are sent between called SwMI2 and originating SwMI1 - Call is connected and audio flows both directions simultaneously
3 After communication MS 1B user disconnects the call	<ul style="list-style-type: none"> - SwMI2 sends ISI-DISCONNECT PDU to SwMI1 - Call and ISI resources are released on both SwMIs
Comments	
Reference [TTR 003-02], Figure 1 and 21	

Test case I-EUR-FUN-16.a	
TEST CASE NUMBER:	
A.2 Foreign MS on SwMI1 makes duplex call to local MS on SwMI2	
Reference: [TTR 003-02], subclause: 6.6.2 and 6.6.5	
Objective(s)	
To verify successful ISSI addressed duplex call establishment and call disconnection over ISI when foreign MS 2A on SwMI1 makes a call to Dispatcher on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 2A is migrated on SwMI1 as foreign subscriber ○ Dispatcher is registered on SwMI2 ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 2A user makes duplex hook call setup to Dispatcher	<ul style="list-style-type: none"> - MS 2A sends U-SETUP (without MNI of MS 2B) - SwMI1 sends ISI-SETUP PDU to SwMI2 - SwMI2 may send ISI-CALL PROCEEDING PDU - Dispatcher alerts and may display ITSI of MS 2A as CPI - SwMI2 sends ISI-ALERTING PDU to SwMI1
2 Dispatcher answers the call Users of MS 1A and MS 1B starts talking	<ul style="list-style-type: none"> - ISI-CONNECT 'Resources are reserved' and ISI-CONNECT ACKNOWLEDGE PDUs are sent between called SwMI2 and originating SwMI1 - Call is connected and audio flows both directions simultaneously
3 After communication Dispatcher disconnects the call	<ul style="list-style-type: none"> - SwMI2 sends ISI-DISCONNECT PDU to SwMI1 - Call and ISI resources are released on both SwMIs
Comments	
Reference [TTR 003-02], Figure 1 and 21	

IOP003-02_v101_IIC	
TEST CASE NUMBER:	
1.1.4 Foreign MS on SwMI1 makes duplex call to local MS on SwMI2	
Reference: [TTR 003-02], subclause: 6.6.2 and 6.6.5	
Objective(s)	
To verify successful ISSI addressed duplex call establishment and call disconnection over ISI when foreign MS 2A on SwMI1 makes a call to local MS 2B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 2A is migrated on SwMI1 as foreign subscriber ○ MS 2B is registered on SwMI2 as local subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 2A user makes duplex hook call setup to MS 2B	<ul style="list-style-type: none"> - MS 2A sends U-SETUP (without MNI of MS 2B) - SwMI1 sends ISI-SETUP PDU to SwMI2 - SwMI2 may send ISI-CALL PROCEEDING PDU - MS 2B alerts and may display ITSI of MS 2A as CPI - SwMI2 sends ISI-ALERTING PDU to SwMI1
2 MS 2B user answers the call Users of MS 1A and MS 1B starts talking	<ul style="list-style-type: none"> - ISI-CONNECT 'Resources are reserved' and ISI-CONNECT ACKNOWLEDGE PDUs are sent between called SwMI2 and originating SwMI1 - Call is connected and audio flows both directions simultaneously
3 After communication MS 2B user disconnects the call	<ul style="list-style-type: none"> - SwMI2 sends ISI-DISCONNECT PDU to SwMI1 - Call and ISI resources are released on both SwMIs
Comments	
Reference [TTR 003-02], Figure 1 and 21	

IOP003-02_v101_IIC	
TEST CASE NUMBER:	
1.8.1 PSTN originated call to migrated subscriber with MS-ISDN as CPI	
Reference: [TTR 003-02], subclause: 6.3 and 6.4	
Objective(s)	
To verify successful PSTN originated call setup over ISI from SwMI1 to migrated subscriber on SwMI2 with international format MS-ISDN as calling party identifier	
Pre-Conditions	
<ul style="list-style-type: none"> ○ SwMI1 is equipped with a PSTN gateway ○ MS 1B is migrated on SwMI2 as a foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW ○ SwMI1 and SwMI2 support international format of MS-ISDN number over ISI 	
Test procedure	
Action	Expected Result
1 PSTN user makes duplex hook call setup to migrated MS1B	<ul style="list-style-type: none"> - SwMI1 send ISI-SETUP PDU to SwMI2 over ISI with the following elements for the calling party address: Numbering plan identification = 'PSTN/ISDN/GSM' Type of number = 'International number' - Calling external subscriber number digits field contains correct calling party MS-ISDN number - SwMI2 may send ISI-CALL PROCEEDING PDU - MS1B alerts (see 'Comments') - SwMI2 sends ISI-ALERTING PDU to SwMI1
2 MS1B user answers the call MS1B user and PSTN user start talking	<ul style="list-style-type: none"> - ISI-CONNECT 'Resources are reserved' and ISI-CONNECT ACKNOWLEDGE PDUs are sent between called SwMI2 and originating SwMI1 - Call is connected and audio flows both directions simultaneously
3 After communication MS 1B user disconnects the call	<ul style="list-style-type: none"> - SwMI2 sends ISI-DISCONNECT PDU to SwMI1 - Call and ISI resources are released on both SwMIs
Comments	
If MS1 B supports display of MS-ISDN ESN number as calling party address and SwMI2 support	

sending of MS-ISDN ESN over the AI, the MS-ISDN number can be checked from MS1B display.

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.1.1 Local MS on SwMI1 sends SDS-TL message to local MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful SDS-TL message sending and delivery report receiving over ISI when local MS 1A on SwMI1 sends a SDS-TL message to local MS 2B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 2B is registered on SwMI2 as local subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user sends SDS-TL message to MS 2B	<ul style="list-style-type: none"> - MS 1A sends U-SDS DATA (with MNI of MS 2B) - SwMI1 forwards SDS-TL message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 2B receives SDS-TL message and may display ITSI of MS 1A as CPI - MS 2B sends delivery report - SwMI2 forwards delivery report to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 1A receives delivery report
Comments	
Reference [TTR 003-03], Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.1.2 Local MS on SwMI1 sends SDS-TL message to foreign MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful SDS-TL message sending and delivery report receiving over ISI when local MS 1A on SwMI1 sends a SDS-TL message to foreign MS 1B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 1B is migrated on SwMI2 as foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user sends SDS-TL message to MS 1B	<ul style="list-style-type: none"> - MS 1A sends U-SDS DATA (without MNI of MS 1B) - SwMI1 forwards SDS-TL message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 1B receives SDS-TL message and may display ITSI of MS 1A as CPI - MS 1B sends delivery report - SwMI2 forwards delivery report to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 1A receives delivery report
Comments	
Reference [TTR 003-03], Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.1.5 Foreign MS on SwMI1 sends SDS-TL message to foreign MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful SDS-TL message sending and delivery report receiving over ISI when local MS 2A on SwMI1 sends a SDS-TL message to foreign MS 1B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 2A is migrated on SwMI1 as foreign subscriber ○ MS 1B is migrated on SwMI2 as foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 2A user sends SDS-TL message to MS 1B	<ul style="list-style-type: none"> - MS 2A sends U-SDS DATA (without MNI of MS 1B) - SwMI1 forwards SDS-TL message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 1B receives SDS-TL message and may display ITSI of MS 2A as CPI - MS 1B sends delivery report - SwMI2 forwards delivery report to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 2A receives delivery report
Comments	
Reference [TTR 003-03], Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.2.1 Local MS on SwMI1 sends SDS-TL message to foreign MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful Status message sending over ISI when local MS 1A on SwMI1 sends a Status message to local MS 2B on SwMI2 .	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 2B is registered on SwMI2 as local subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user sends SDS-TL message to MS 2B	<ul style="list-style-type: none"> - MS 1A sends U-STATUS (with MNI of MS 2B) - SwMI1 may send general status acknowledgement - SwMI1 forwards Status message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 2B receives Status message and may display ITSI of MS 1A as CPI - SwMI2 may send D-STATUS 'general status acknowledgement' to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 1A receives status acknowledgement (if sent)
Comments	
Reference [TTR 003-03], Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.2.2 Local MS on SwMI1 sends Status message to foreign MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful Status message sending over ISI when local MS 1A on SwMI1 sends a Status message to foreign MS 1B on SwMI2 .	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 1B is migrated on SwMI2 as foreign subscriber ○ MS 1A is dispatcher ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user sends SDS-TL message to MS 1B	<ul style="list-style-type: none"> - MS 1A sends U-STATUS (with MNI of MS 1B) - SwMI1 may send general status acknowledgement - SwMI1 forwards Status message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 1B receives Status message and may display ITSI of MS 1A as CPI - SwMI2 may send D-STATUS 'general status acknowledgement' to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 1A receives status acknowledgement (if sent)
Comments	
Reference [TTR 003-03], Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.2.3 Local MS on SwMI1 sends SDS-TL message to foreign MS on SwMI1	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify that Status message is delivered but not sent over ISI when local MS 1A sends a Status message to foreign MS 2B migrated on the same SwMI1.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 1A is registered on SwMI1 as local subscriber ○ MS 2B is registered on SwMI1 as foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 1A user sends SDS-TL message to MS 2B	<ul style="list-style-type: none"> - MS 1A sends U-STATUS (with MNI of MS 2B) - SwMI1 detects that MS 1A is migrated onto it's area and sends D-STATUS to MS 2B - No ANF-ISISD-UNITDATA PDU to SwMI2 - MS 2B receives Status message and may display ITSI of MS 1A as CPI - SwMI1 may send D-STATUS with 'general status acknowledgement' - MS 1A receives delivery report (if sent)
Comments	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
1.2.5 Foreign MS on SwMI1 sends Status message to foreign MS on SwMI2	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.1	
Objective(s)	
To verify successful Status message sending over ISI when foreign MS 2A on SwMI1 sends a Status message to foreign MS 1B on SwMI2.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ MS 2A is registered on SwMI1 as local subscriber ○ MS 1B is registered on SwMI1 as foreign subscriber ○ SwMI1 and SwMI2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS 2A user sends SDS-TL message to MS 1B	<ul style="list-style-type: none"> - MS 2A sends U-STATUS (without MNI of MS 1B) - SwMI1 may send general status acknowledgement - SwMI1 forwards Status message in ANF-ISISD-UNITDATA PDU to SwMI2 - MS 1B receives Status message and may display ITSI of MS 2A as CPI - SwMI2 may send D-STATUS 'general status acknowledgement' to SwMI1 in ANF-ISISD-UNITDATA PDU - MS 2A receives status acknowledgement (if sent)
Comments	
Reference: [TTR 003-03] Figure 1	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.1.1 MS on CSwMI sends SDS message to local ISI linked group, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.2	
Objective(s)	
To verify normal SDS transfer over ISI sent to a local group address when static group linking configuration consists of 3 SwMIs and the message originating SwMI is the CSwMI. The test case covers SDS originated both from a local and a migrated subscriber in order to verify that the correct CPI is used in the ISI signaling.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS CA user sends SDS message to Group 1C	<ul style="list-style-type: none"> -MS CA sends U-SDS DATA (to GSSI-1c) - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address in D-SDS DATA message - All MSs receive the SDS message and may display identity of MS CA as CPI
2 MS P2F user sends SDS message to Group 1C	<ul style="list-style-type: none"> -MS P2F sends U-SDS DATA (to GSSI-1c) - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using

		<p>the GTSI of GSSI-1c as the called party</p> <ul style="list-style-type: none">- CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address in D-SDS DATA message- All MSs receive the SDS message and may display identity of MS P2F as CPI
Comments		
Note! It is mandatory for a SwMI to support both roles in this test case (CSwMI and PSwMI (PSwMI-1 or 2)).		

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.1.2 MS on other than CSwMI sends SDS message to local ISI linked group, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.3	
Objective(s)	
To verify normal SDS transfer over ISI sent to a local group address when static group linking configuration consists of 3 SwMIs and the message originating SwMI is not the CSwMI. The test case covers SDS originated both from a local and a migrated subscriber in order to verify that the correct CPI is used in the ISI signaling.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS P1C user sends SDS message to Group 1P1	<ul style="list-style-type: none"> -MS P1C sends U-SDS DATA (to GSSI-1p1) - PSwMI-1 sends the SDS message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of GSSI-1c as the called party - CSwMI sends the SDS message in ANF-ISISD UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address in D-SDS DATA message - All MSs receive the SDS message and may display identity of MS P1C as CPI
2 MS CB user sends SDS message to Group	-MS CB sends U-SDS DATA (to GSSI-1p1)

1P1	<ul style="list-style-type: none"> - PSwMI-1 sends the SDS message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of GSSI-1c as the called party - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address in D-SDS DATA message - All MSs receive the SDS message and may display identity of MS CB as CPI
Comments	
<p>Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, OSwMI (PSwMI-1) and PSwMI (PSwMI-2)).</p>	

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.2.1 MS on CSwMI sends Status message to local ISI linked group, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.2	
Objective(s)	
To verify normal Status transfer over ISI sent to a local group address when static group linking configuration consists of 3 SwMIs and the message originating SwMI is the CSwMI. The test case covers Status originated both from a local and a migrated subscriber in order to verify that the correct CPI is used in the ISI signaling.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS CA user sends Status message to Group 1C	<ul style="list-style-type: none"> -MS CA sends U- STATUS (to GSSI-1c) - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group address in D-STATUS message - MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display identity of MS CA as CPI
2 MS P2F user sends Status message to Group 1C	<ul style="list-style-type: none"> -MS P2F sends U- STATUS (to GSSI-1c) - CSwMI sends the Status message in ANF-

		<p>ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party</p> <ul style="list-style-type: none">- CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group address in D-STATUS message- MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display identity of MS P2F as CPI
Comments		
Note! It is mandatory for a SwMI to support both roles in this test case (CSwMI and PSwMI (PSwMI-1 or 2)).		

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.2.2 MS on other than CSwMI sends Status message to local ISI linked group, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.3	
Objective(s)	
To verify normal Status transfer over ISI sent to a local group address when static group linking configuration consists of 3 SwMIs and the message originating SwMI is not the CSwMI. The test case covers Status originated both from a local and a migrated subscriber in order to verify that the correct CPI is used in the ISI signaling.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS P1C user sends Status message to Group 1P1	<ul style="list-style-type: none"> -MS P1C sends U-STATUS (to GSSI-1p1) - PSwMI1-1 sends the Status message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of GSSI-1c as the called party - CSwMI sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group address in D- STATUS message - MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display

		identity of MS P1C as CPI
2	MS CB user sends Status message to Group 1P1	<ul style="list-style-type: none"> -MS CB sends U-STATUS (to GSSI-1p1) - PSwMI1-1 sends the Status message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of GSSI-1c as the called party - CSwMI sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group address in D-STATUS message - MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display identity of MS CB as CPI
Comments		
Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, OSwMI (PSwMI-1) and PSwMI (PSwMI-2)).		

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.5.1 MS on other than home SwMI1 sends SDS message to home group address, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.2	
Objective(s)	
To verify normal SDS transfer over ISI sent to a home group address while migrated when static group linking configuration consists of 3 SwMIs and the message originating SwMI is not the home SwMI of the groups. The test case covers SDS originated from a subscriber migrated to CSwMI and to a third SwMI (another PSwMI) in order to verify correct routing of the message.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS P2F user sends SDS message to Group 1P2	<ul style="list-style-type: none"> -MS P2F sends U- SDS DATA using GTSI of the Group 1P2 (GSSI-1p2 + MNI of PSwMI-2) - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-2 using the GTSI of P2 as the called party - PSwMI-2 sends the SDS message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of C1 as the called party - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of C1 as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address

		<p>in D-SDS DATA message</p> <ul style="list-style-type: none"> - All MSs receive the SDS message and may display identity of MS P2F as CPI
2	MS P1D user sends SDS message to Group 1P1	<ul style="list-style-type: none"> -MS P1D sends U- SDS DATA using GTSI of the Group 1P1 (GSSI-1p1 + MNI of PSwMI-1) - PSwMI-2 sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 using the GTSI of P1 as the called party - PSwMI-1 sends the SDS message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of C1 as the called party - CSwMI sends the SDS message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of C1 as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the SDS to the air interface using the local group address in D-SDS DATA message - All MSs receive the SDS message and may display identity of MS P1D as CPI
Comments		
Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, PSwMI-1 and PSwMI-2).		

IOP003-02_v101_ISD	
TEST CASE NUMBER:	
2.6.1 MS on other than home SwMI1 sends Status message to home group address, 3 SwMIs	
Reference: [TTR 003-03], subclause: 6.2 and 6.4.2	
Objective(s)	
To verify normal Status transfer over ISI sent to a home group address while migrated when static group linking configuration consists of 3 SwMIs and the message originating SwMI is not the home SwMI of the groups. The test case covers Status originated from a subscriber migrated to CSwMI and to a third SwMI (another PSwMI) in order to verify correct routing of the message.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, PSwMI-1 and PSwMI-2, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1P1 (GSSI-1p1/PSwMI-1) and Group 1P2 (GSSI-1p2/PSwMI-2) ○ MS CA is registered on the CSwMI as a local subscriber ○ MS CB is migrated on the PSwMI-1 as a foreign subscriber ○ MS P1C is registered on the PSwMI-1 as a local subscriber ○ MS P1D is migrated on the PSwMI-2 as a foreign subscriber ○ MS P2E is registered on the PSwMI-2 as a local subscriber ○ MS P2F is migrated on the CSwMI as a foreign subscriber ○ MS CA and MS P2F have selected Group 1C ○ MS CB and MS P1C have selected Group 1P1 ○ MS P1D and MS P2E have selected Group 1P2 ○ CSwMI, PSwMI-1 and PSwMI-2 are connected via ISIGW 	
Test procedure	
Action	Expected Result
1 MS P2F user sends Status message to Group 1P2	<ul style="list-style-type: none"> -MS P2F sends U-STATUS using GTSI of the Group 1P2 (GSSI-1p2 + MNI of PSwMI-2) - CSwMI sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-2 using the GTSI of P2 as the called party - PSwMI-2 sends the Status message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of C1 as the called party - CSwMI sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of C1 as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group

		<p>address in D-STATUS message</p> <ul style="list-style-type: none"> - MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display
2	MS P1D user sends Status message to Group 1P1	<ul style="list-style-type: none"> -MS P1D sends U-STATUS using GTSI of the Group 1P1 (GSSI-1p1 + MNI of PSwMI-1) - PSwMI-2 sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-1 using the GTSI of P1 as the called party - PSwMI-1 sends the Status message in ANF-ISISD-UNITDATA PDU to CSwMI using the GTSI of C1 as the called party - CSwMI sends the Status message in ANF-ISISD-UNITDATA PDU to PSwMI-1 and PSwMI-2 using the GTSI of GSSI-1c as the called party - CSwMI, PSwMI-1 and PSwMI-2 send the Status to the air interface using the local group address in D- STATUS message - MSs and/or dispatchers (depending on SwMI policy on status distribution) in all 3 SwMIs receive the Status message and may display identity of MS P1D as CPI
Comments		
Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, PSwMI-1 and PSwMI-2).		

New Test case I-EUR-FUN-22.a	
TEST CASE NUMBER:	
A.3 Normal Group Call between 3 SwMIs, call originating SwMI is not the CSwMI	
Reference: [TTR 003-06], subclause: 6.4.1.1, 6.4.2 and 6.4.3.1.1	
Objective(s)	
To verify normal group call establishment, call maintenance and disconnection over ISI when static group linking configuration consists of 3 SwMIs and the call originating SwMI is not the CSwMI.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, OSwMI, and PSwMI, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1O (GSSI-1o/OSwMI) and Group 1P (GSSI-1p/PSwMI) ○ MS OA and MS OB are registered on the OSwMI as local subscriber ○ MS OC and MS OD are registered on the CSwMI as foreign subscriber ○ MS OE and MS OF are registered on the PSwMI as foreign subscriber ○ MS OA and MS OB have selected Group 1O ○ MS OC and MS OD have selected Group 1C ○ MS OE and MS OF have selected Group 1P ○ Dispatcher in each SwMI is a member of configured groups ○ Setup response timeout (Tsetup) set to 15 seconds ○ CSwMI, PSwMI and OSwMI are connected via ISIGW 	
Note: compared to [1], sec.6.4.1.1, no PSwMI2 exists in this test configuration	
Test procedure	
Action	Expected Result
1 MS OA user makes a group call setup to Group 1O and starts talking.	Call setup succeeds, ISI signaling according to [1], sec.6.4.1.1. All the other MS's and the Dispatchers receive the group call with correct CPI in D-SETUP
2 MS OA user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased.
3 MS OC user presses PTT before hang timer elapses and starts talking.	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 10). All the other MS's and the Dispatchers receive the group call with correct transmitting party indication in D-TX GRANTED.

4	MS OC user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 12). All the other MS's and the Dispatchers may indicate that the talker has ceased
5	MS OE user presses PTT before hang timer elapses and starts talking	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 2). All the other MS's and the Dispatchers receive the group call with correct transmitting party indication in D-TX GRANTED.
6	MS OE user releases PTT. Hang timer is allowed to expire	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased. Group call is released by CSwMI, ISI signalling according to [1], sec.6.4.3.1.1.
7	MS OB user makes a group call setup to Group 1O and starts talking.	Call setup succeeds, ISI signaling according to [1], sec.6.4.1.1. All the other MS's and the Dispatchers receive the group call with correct CPI in D-SETUP
8	MS OB user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased
9	MS OD user presses PTT before hang timer elapses and starts talking.	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 10). All the other MS's and the Dispatchers receive the group call with correct TPI in D-TX GRANTED.
10	MS OD user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 12). All the other MS's and the Dispatchers may indicate that the talker has ceased
11	MS OF user presses PTT before hang timer elapses and starts talking	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 2). All the other MS's and the Dispatchers receive the group call with correct TPI in D-TX GRANTED.
12	MS OF user releases PTT.	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1).

	Hang timer is allowed to expire.	Group call is released by CSwMI, ISI signaling according to [1], sec.6.4.3.1.1.
Comments		
Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, PSwMI and OSwMI).		

New Test case I-EUR-FUN-22.b	
TEST CASE NUMBER:	
A.4 Normal Group Call between 3 SwMIs, call originating SwMI is not the CSwMI, no migrated users	
Reference: [TTR 003-06], subclause: 6.4.1.1, 6.4.2 and 6.4.3.1.1	
Objective(s)	
To verify normal group call establishment, call maintenance and disconnection over ISI when static group linking configuration consists of 3 SwMIs and the call originating SwMI is not the CSwMI. No migrated users.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, OSwMI, and PSwMI, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1O (GSSI-1o/OSwMI) and Group 1P (GSSI-1p/PSwMI) ○ MS OA and MS OB are registered on the OSwMI as local subscriber ○ MS CC and MS CD are registered on the CSwMI as local subscriber ○ MS PE and MS PF are registered on the PSwMI as local subscriber ○ Dispatcher in each SwMI is a member of configured groups ○ Setup response timeout (Tsetup) set to 15 seconds ○ CSwMI, PSwMI and OSwMI are connected via ISIGW 	
Note: compared to [1], sec.6.4.1.1, no PSwMI2 exists in this test configuration	
Test procedure	
Action	Expected Result
1 MS OA user makes a group call setup to Group 1O and starts talking.	Call setup succeeds, ISI signaling according to [1], sec.6.4.1.1. All the other MS's and the Dispatchers receive the group call with correct CPI in D-SETUP
2 MS OA user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased.
3 MS CD user presses PTT before hang timer elapses and starts talking.	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 10). All the other MS's and the Dispatchers receive the group call with correct transmitting party indication in D-TX GRANTED.
4 MS CD user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 12).

		All the other MS's and the Dispatchers may indicate that the talker has ceased
5	MS PF user presses PTT before hang timer elapses and starts talking	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 2). All the other MS's and the Dispatchers receive the group call with correct transmitting party indication in D-TX GRANTED.
6	MS PF user releases PTT. Hang timer is allowed to expire	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased. Group call is released by CSwMI, ISI signaling according to [1], sec.6.4.3.1.1.
7	MS CC user makes a group call setup to Group 10 and starts talking.	Call setup succeeds, ISI signaling according to [1], sec.6.4.1.1. All the other MS's and the Dispatchers receive the group call with correct CPI in D-SETUP
8	MS CC user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). All the other MS's and the Dispatchers may indicate that the talker has ceased
9	MS PE user presses PTT before hang timer elapses and starts talking.	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 10). All the other MS's and the Dispatchers receive the group call with correct TPI in D-TX GRANTED.
10	MS PE user releases PTT	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 12). All the other MS's and the Dispatchers may indicate that the talker has ceased
11	MS OB user presses PTT before hang timer elapses and starts talking	TX-Demand/TX-Granted signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 2). All the other MS's and the Dispatchers receive the group call with correct TPI in D-TX GRANTED.
12	MS OB user releases PTT. Hang timer is allowed to expire.	TX-Ceased signaling in the ISI and air interfaces ([1], sec.6.4.2/figure 16, step 1). Group call is released by CSwMI, ISI signaling according to [1], sec.6.4.3.1.1.

Comments

Note! It is mandatory for a SwMI to support all roles in this test case (CSwMI, PSwMI and OSwMI).

IOP003-06_v100_IGC	
TEST CASE NUMBER:	
5.1 Emergency Group Call setup from OSwMI and disconnection initiated by OSwMI	
Reference: [TTR 003-06], subclause: 6.4.1.1, 6.4.2 and 6.4.3.2.2	
Objective(s)	
To verify emergency group call establishment, call maintenance and disconnection over ISI when the emergency call is done to a group that is part of a static group linking configuration. Call disconnection is initiated by a MS or a dispatcher of OSwMI.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, OSwMI, and PSwMI, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1O (GSSI-1o/OSwMI) and Group 1P (GSSI-1p/PSwMI) ○ MS OA is registered on the OSwMI as a local subscriber ○ MS CC is migrated on the OSwMI as a foreign subscriber ○ MS CD is registered on the CSwMI as a local subscriber ○ MS PE is migrated on the CSwMI as a foreign subscriber ○ MS PF is registered on the PSwMI as a local subscriber ○ MS OB is migrated on the PSwMI as a foreign subscriber ○ MS OA and MS CC have selected Group 1O ○ MS CD and MS PE have selected Group 1C ○ MS PF and MS OB have selected Group 1P ○ Dispatcher in each SwMI is a member of configured groups ○ Setup response timeout (Tsetup) set to 15 seconds ○ CSwMI, PSwMI and OSwMI are connected via ISIGW ○ MS OA is configured to perform emergency call to Group 1O with pre-emptive emergency priority ○ OSwMI has a dispatcher, which can control a group having another SwMI as CSwMI, or can assign call ownership <p>Note: compared to [TTR 003-06], sec.6.4.1.1, no PSwMI2 exists in this test configuration</p>	
Test procedure	
Action	Expected Result
1 MS OA user makes emergency group call setup to Group 1O and starts talking	Emergency group call setup proceeds between O/C/PSwMIs. Transmission is granted to MS OA. All the other MS's and the Dispatchers receive the speech with correct CPI in D-SETUP
2 MS OA user releases PTT.	All the other MS's and Dispatchers may indicate

		<p>that the talker has ceased</p> <p>CSwMI does NOT release the emergency group call.</p>
3	MS OB user presses PTT and starts talking	<p>TX-Demand/TX-Granted signaling in the ISI (and air) interfaces. All the other MS's and the Dispatchers receive</p> <p>the group call with correct transmitting party indication in D-TX GRANTED.</p>
4	MS OB user releases PTT.	<p>TX-Ceased signaling in the ISI (and air) interfaces.</p> <p>All the other MS's and the Dispatchers may indicate that the talker has ceased.</p> <p>CSwMI does NOT release the emergency group call.</p>
5	MS OA user or the dispatcher at OSwMI disconnects the emergency call before hang timer expires.	CSwMI receives ISI-Disconnect from OSwMI and may disconnect the call, ISI signaling according to [TTR003-06_v202_IGC], sec.6.4.3.2.2.
Comments		
A SwMI must support all roles (OSwMI, CSwMI, PSwMI) in test case 5.1 OR in test case 5.3		

IOP003-06_v100_IGC	
TEST CASE NUMBER:	
5.3 Emergency Group Call setup from OSwMI, disconnection initiated by expiry of a hang timer in CSwMI	
Reference: [TTR 003-06], subclause: 6.4.1.1, 6.4.2 and 6.4.3.1.1	
Objective(s)	
To verify emergency group call establishment, call maintenance and disconnection over ISI when the emergency call is done to a group that is part of a static group linking configuration. Call disconnection is initiated by expiry of a hang timer in CSwMI.	
Pre-Conditions	
<ul style="list-style-type: none"> ○ ISI Static Group Linking configured into CSwMI, OSwMI, and PSwMI, consisting of groups: Group 1C (GSSI-1c/CSwMI), Group 1O (GSSI-1o/OSwMI) and Group 1P (GSSI-1p/PSwMI) ○ MS OA is registered on the OSwMI as a local subscriber ○ MS CC is migrated on the OSwMI as a foreign subscriber ○ MS CD is registered on the CSwMI as a local subscriber ○ MS PE is migrated on the CSwMI as a foreign subscriber ○ MS PF is registered on the PSwMI as a local subscriber ○ MS OB is migrated on the PSwMI as a foreign subscriber ○ MS OA and MS CC have selected Group 1O ○ MS CD and MS PE have selected Group 1C ○ MS PF and MS OB have selected Group 1P ○ Dispatcher in each SwMI is a member of configured groups ○ Setup response timeout (Tsetup) set to 15 seconds ○ CSwMI, PSwMI and OSwMI are connected via ISIGW ○ MS OA is configured to perform emergency call to Group 1O with pre-emptive emergency priority ○ OSwMI has a dispatcher, which can control a group having another SwMI as CSwMI, or can assign call ownership <p>Note: compared to [TTR 003-06], sec.6.4.1.1, no PSwMI2 exists in this test configuration</p>	
Test procedure	
Action	Expected Result
1 MS OA user makes emergency group call setup to Group 1O and starts talking	<p>Emergency group call setup proceeds between O/C/PSwMIs.</p> <p>Transmission is granted to MS OA.</p> <p>All the other MS's and the Dispatchers receive the speech with correct CPI in D-SETUP</p>

2	MS OA user releases PTT.	<p>All the other MS's and Dispatchers may indicate that the talker has ceased</p> <p>CSwMI does NOT release the emergency group call.</p>
3	MS OB user presses PTT and starts talking	<p>TX-Demand/TX-Granted signaling in the ISI (and air) interfaces. All the other MS's and the Dispatchers receive</p> <p>the group call with correct transmitting party indication in D-TX GRANTED.</p>
4	<p>MS OB user releases PTT.</p> <p>Hang timer in CSwMI expires.</p>	<p>TX-Ceased signaling in the ISI (and air) interfaces.</p> <p>All the other MS's and the Dispatchers may indicate that the talker has ceased.</p> <p>CSwMI releases the call by sending ISI-Release to OSwMI and PSwMI.</p>
Comments		
A SwMI must support all roles (OSwMI, CSwMI, PSwMI) in test case 5.1 OR in test case 5.3		

5. PROTOTYPES TEST REPORT

Configuration document for IOP testing is: TDT016_v102_ConfISI.

The Test Report shall contain the End-User-Requirement and its description, the TIP compliance TEST PLAN and the test case, the result of the test (passed or failed) and the priority. The priority is defined on the end-user-requirements of D2.3.2; in accordance to this deliverable, the priority 1 is what for sure will be available for ISITEP demos, so the tests with priority 1 are mandatory. The results of the test, when it is failed, shall be motivated with a note. The test shall be repeat for every OSwMI-CSwMI-PSwMI combination, when it is required by the test case.

An example is shown in the table below:

OSwMI: ID_XXX PSwMI:.ID_XXX CSwMI: ID_XXX					
End User Requirement	EUR - Description	TIP Compliance TEST PLAN	Test case NUMBER	Priority	Result
...	
I-EUR-FUN-8.a	Automatic Migration	IOP003-01_v100_IMM	1.2.1	2	Passed /failed
			1.2.2	2	Passed /failed
			1.2.3	2	Passed /failed
...	
I-EUR-FUN-10.a	Automatic Migration Performance (within 60 sec)	IOP003-01_v100_IMM	1.2.1	1	Passed /failed
			1.2.2	1	Passed /failed
			1.2.3	1	Passed /failed

6. REFERENCES

[1] D2.3.2 End-user requirements document candidate release.