Test Report for Interoperability Testing between
Siemens siriOSS iNMs&FiRe
and
Huawei GSM-R Network&U2000

SIEMENS

HUAWEI

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1 Introduction

Inter-operability testing (IOT) between Siemens and Huawei evaluates functionality and compatibility of Simens siriOSS iNMs&FiRe and Huawei GSM-R Network&U2000. They are the main elements of the railway communication solution. U2000 and M2000 are the network manager systems.

This test report is prepared by Huawei Technologies Co. Ltd. and Siemens CMT jointly summaries the detail results of the whole IOT testing activities.

2 References

[1]	EIRENE FRS	UIC Project EIRENE Functional Requirements Specification_v7
[2]	EIRENE FRS	UIC Project EIRENE System Requirements Specification_v15
[3]	O-3001 1.0	Cab Radio Functional Test Specification
[4]	P38 T 9001 4	FFFIS for GSM-R SIM Cards

3 Abbreviations

CheckNM	siriOSS iNMS WebGUI
DB	Database
FIRE	Filter and Reaction System component of iNMS
GUI	Graphical User Interface
iNMS	Siemens Intelligent Network Management System
NIS	Network Information Services
NSB	Network and Service Browser
siriOSS	iNMS Fault Management System from siriOSS Suite
TA	Technology Adapter for Gate
GSM-R	GSM – Railway
BSC	Base Station Controller
BSS	Base Station System
BTS	Base Transceiver Station
MGW	Media Gateway
MSC	Mobile Switch Centre
SGSN	Service GPRS Support Node

4 Team Information

4.1 Team members from Huawei

Name	Title/Responsibility	Email	Phone Number
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5 Test Configuration

This section details the software versions of the network elements and the network configurations that were used to perform the test cases detailed in this document, together with the system parameters and the test equipments used to verify the results.

5.1 Network Configuration

The diagram(s) below show the network configuration(s) that were used to perform the tests during this IOT session.
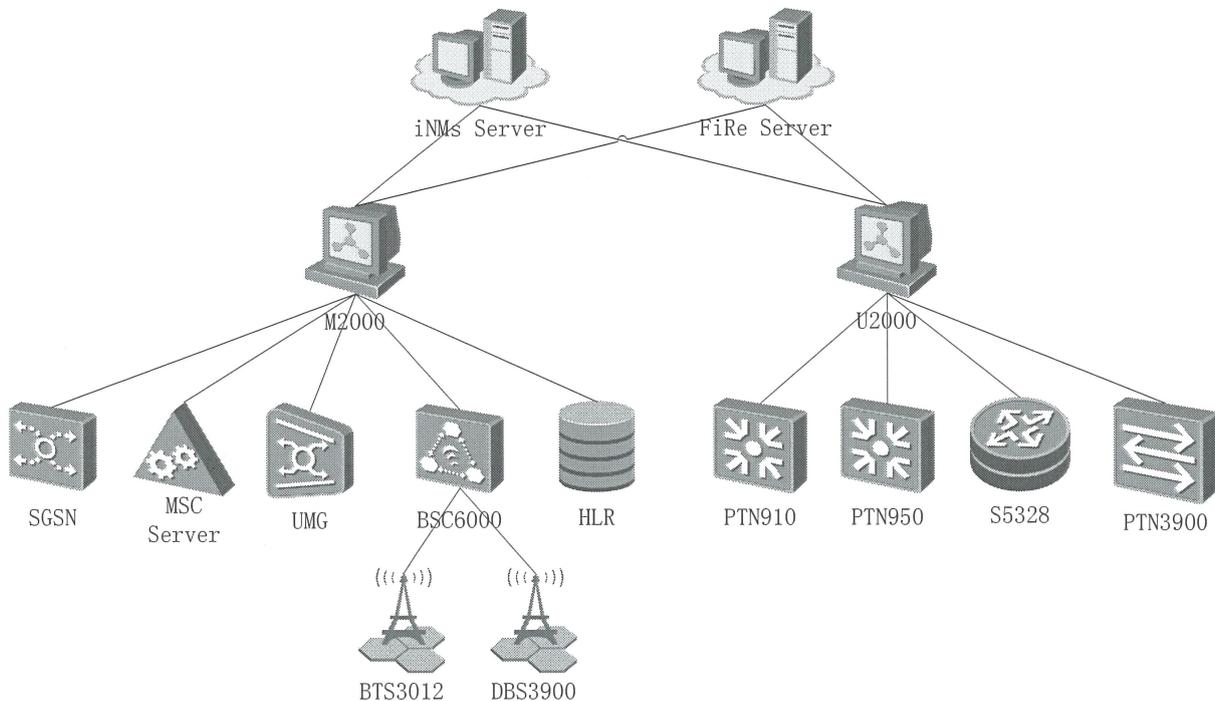

Figure 1: Network Configuration

5.2 Network Element Versions

The following network elements were used to perform the tests in this IOT session:

Network Element	Provider	Software Version
HLR	Huawei	GUHLR9820V900R003
MSC Server	Huawei	GTSOFTX3000V100R001 GTSOFTX3000V200R001
MGW	Huawei	UMG8900V200R007
SIWF	Huawei	SIWFV300R002
BSC	Huawei	BSC6000V901R008
BTS	Huawei	BTS3012V301R008
BTS	Huawei	DBS3900V301R008
M2000	Huawei	iManagerM2000 V200R012
U2000	Huawei	iManagerU2000 V100R006

PTN910	Huawei	PTN910 V100R002
PTN950	Huawei	PTN950 V100R002
PTN3900	Huawei	PTN3900 V100R002
S5328	Huawei	S5300 V100R005
iNMs	Siemens	V4.2
FiRe	Siemens	V3.0

6 Test Case Results Management

6.1 Problem Lists

This section lists all the problems met during IOT test, whenever problems arise which prevents the test from execution, all the party need work together for troubleshooting.
Each problem is given one of the following statuses:

- **PR No.**
  Problem Record Number

- **PR level**
  It includes Critical, Major, Minor
  The "Critical" class is applicable whenever a failure of a test case or a combination of some blocks the remaining test case from execution;
  The "Major" class is applicable whenever a failure of a test case or a combination of some, blocks some remaining but not all test cases from execution;
  The "Minor" class is applicable whenever the problems cannot be fit in above categories.

- **PR description**
  Detailedly describe the problem

- **Related product**
  The problem belongs to which product from which vendor

- **PR state**
  There are three PR states: OPEN, FIXED, and CLOSED. If the PR is raised, the state is OPEN. If the PR is fixed in the next version, the state is FIXED. If the PR is not a problem, or if the PR is fixed and passed the regression test by Huawei and Siemens CMT the state is CLOSED.

PR No.	PR level	PR Description	Related product	PR state

7 Test Results

Each test case is given one of the following Test Results:

- **Passed (OK)**
  All parties agree that the test case has met all the requirements defined in the test case description.

- **Passed with a Comment (OK*)**
  All parties agree that the test case has met the requirements defined in the test case description; however a comment is included to clarify the behaviour witnessed during the test.

- **Failed (F)**
  All parties agree that the test case has not met the criteria specified in the test case description.

- **Not Tested (NT)**
  The test case was not performed for some reason.

For all test cases with an execution status of 'Passed with a Comment', 'Failed' or 'Untested' an explanation is given in column 'Comment'. Please check the following table for detailed result of each case.

7.1 Test Case Records

All the test case are performed with Huawei GSM-R network elements&U2000 and Siemens siriOSS iNMS&FiRe as the below table's Commentary shown.

7.2 Test summary

The IOT test between Siemens CMT siriOSS and Huawei GSM-R Network&U2000 has completed, and has shown that they interwork successfully under the tested environment in accordance to the requirement of EIRENE SRS Version 7 and FRS Version15 provided by ETSI. The test has also shown that the railway communication solution can more effectively manage and resolve a fault.

There are totally 190 test cases with 190 cases passed.
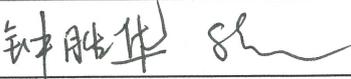
Please refer to following table for summary.

Feature of iNMS	Num	Passed	Passed with comments	Failed	Untested
General-server installation	4	4			
General-Basic check of siNMS Functionality	10	10			
General-Basic Monitoring with CheckNM	5	5			
GENERAL - Reconfigure	11	11			
FIRE_1 - Start	3	3			
FIRE_2 - Save/Load Raise/Clear Test Scenario	8	8			
FIRE_3 - Load Configuration	6	6			
FIRE_4 - Simulate Reaction	6	6			
FIRE_5 - Simulate inverse filter	8	8			
FIRE_6 - Real filter/reaction raise/clear scenario	9	9			
STRESS - Gate restart	3	3			

STRESS – CheckNM reboot	4	4			
STRESS – iNMS Server restart	3	3			
CheckNM – Start	5	5			
CheckNM – Topology View	5	5			
CheckNM – Alarm View	3	3			
CheckNM – Acknowledgement	4	4			
CheckNM – Clear Alarm	4	4			
CheckNM – Manual Layout	4	4			
CheckNM – Configuration Change	5	5			
U2000 node – Passive autodiscovery	5	5			
U2000 - Autodiscovery and assignment rules	7	7			
U2000 – disconnection or stop	2	2			
U2000 – connection or start	2	2			
U2000 – Alarm generation	2	2			
U2000 - Synchronize alarm status of an U2000 node	2	2			
Total	130	130			

Feature of FiRe	Num	Passed	Passed with comments	Failed	Untested
GENERAL - Server Installation	2	2			
GENERAL - Basic check of FiRe-F Functionality	6	6			
GENERAL - Basic Monitoring	4	4			
BUILDER_1 - Start	3	3			
BUILDER_2 - Save/Load Raise/Clear Test Scenario	8	8			
BUILDER_3 - Load Configuration	6	6			
BUILDER_4 - Simulate Reaction	6	6			
STRESS - Gate restart	2	2			
U2000 node – Passive autodiscovery	3	3			
U2000 - Autodiscovery	1	1			
U2000 – disconnection or stop	2	2			
U2000 – connection or start	2	2			
U2000 – Alarm generation	2	2			
U2000 – Synchronizing of alarms	2	2			
M2000 node – Passive autodiscovery	3	3			
M2000 - Autodiscovery	1	1			
M2000 – disconnection or stop	2	2			
M2000 – connection or start	2	2			
M2000 – Alarm generation	2	2			
M2000 – Synchronizing of alarms	1	1			
Total	60	60			

8 Approval

This Test Report is approved by:

Approved by	Siemens CMT	Huawei
Name of test executor		
Name of director	Tang Bao	Xu guoyu
Title:	Siemens CMT IOT Project Manager	Huawei IOT Project Manager
Date:	Tang Bao	2012/11/30
Signature:	28 NOV 12	

9 Document History

Version	Date	Comments
1.0.0	17-10-2012	Draft finished.
1.01	19-10-2012	Add attchment
1.02	19-10-2012	Modified by Wei Jianxue

10 Appendix

10.1 Signature of test results(Scan file)

siriOSS iNMs_V5
0_IOT_project-sig

siriOSS FiRe_V3
4_IOT_project-sig