

AWIPS Migration

System Integration Test (SIT) Report

v0.2

**National Weather Service
Office of Science and Technology
Systems Engineering Center**

February 16, 2010

SIT Report – Jan 2010**Revision History**

Rev. No.	Date	By	Description of Changes
0.1	1/18/10	Jim Calkins	Initial Draft
0.2	2/16/10	Jim Calkins	First released version

SIT Report – Jan 2010

- 1 General Information 4
 - 1.1 Purpose 4
 - 1.2 Scope 4
- 2 Executive Level Summary..... 4
- 3 Reference Documents 5
- 4 Test Activities 5
 - 4.1 High-Level Assessment of Missing Functionality 5
 - 4.2 Untestable Areas..... 5
 - 4.3 Gap Test Case Execution 6
 - 4.3.1 New MDM Test Cases – Gap Filling Exercise Test Cases 6
 - 4.3.2 Updated/Enhanced MDM Test Cases – Gap Filling Exercise Test Cases..... 8
 - 4.4 Further Evaluation of Previously Identified Missing Functionality..... 9
 - 4.5 Ad-hoc Testing 9

SIT Report – Jan 2010

1 General Information

1.1 Purpose

This document describes the test objectives, test strategy, and test resources used for the AWIPS II System Integration Test (SIT).

The SIT occurred on the NHDA platform, located on the 7th floor of Silver Spring Metro Center, building 2 (SSMC2). The SIT took place between January 11, 2010 and January 20, 2010. The software used was AWIPS II Task Order 11 (TO11) Discrepancy Report (DR) #3, referred to here as TO11DR3.

The purpose of the SIT was to use the government's test cases to help determine the readiness of the AWIPS II software, identify critical (Fix Before System Operational Test and Evaluation (FBSO)) Discrepancy Reports (DRs), and identify any missing functionality in AWIPS II. A "prequel" to the official SIT activities, occurring on 1/11/10 and 1/12/10, resulted in a list of missing functionality in the TO11DR3 release.

The testers were mainly members of the Independent Verification and Validation (IV&V) team, supplemented by others from OPS, OCWWS, SEC, MDL, and OHD.

Defects discovered during the SIT were documented as Trouble Ticket Reports (TTRs). Those TTRs were to be evaluated and classified by the government (both impact and criticality). Once classified, they will be forwarded to Raytheon for resolution. FBSO DRs are to be identified by February 5, 2010, and this SIT schedule will allow for that.

1.2 Scope

The first day of the SIT focused on determining areas of major missing functionality. We reviewed the Checklist from the MDM and looked for known and/or major areas that had yet to be implemented.

Testing mainly consisted of the execution of test cases written to address the Gap identified in the Master Deliverables Matrix (MDM). These are a subset of the test cases identified in the MDM – Raytheon is responsible for executing the remainder of the MDM test cases.

Testers also performed limited ad-hoc testing and focused testing on areas previously untestable and/or areas of concern.

2 Executive Level Summary

The 7-day SIT proved to be a valuable exercise. During the first 1.5 days, testers focused on performing a high-level assessment of the missing functionality in the TO11DR3 release. During the remainder of the test period, testers focused on executing government-owned MDM test cases and performing ad-hoc testing.

The missing functionality assessment found that there are still numerous and significant pieces of functionality missing from the delivery. This was particularly troubling to the testers, who were expecting all functionality to be present. Testers also encountered several applications and areas that were not testable due to a variety of reasons (broken applications, missing/poor input data, system permissions, etc.) Details on these discoveries may be found in sections 4.1 and 4.2 of this document...and in more detail in the "TO11DR3 Missing Functionality v3.0.doc" document.

The execution of the MDM test cases went about as expected. Since most steps (and all the critical steps) in a test case must pass in order for the overall test case to pass, very few of the MDM test cases passed outright. Some test cases passed with minor TTRs written and/or identified. Most test cases failed due to software defects, missing functionality, or data issues.

SIT Report – Jan 2010

Out of the 117 test cases scheduled for SIT, 13 PASSED, 5 PASSED with TTRs, 63 FAILED, 2 were considered OBE, 26 were untestable for various reasons, and 8 are still TBD (awaiting final results). For the 34 that were untestable/TBD, we plan to rerun them using future TO11 DR drops. The exact schedule for executing those test cases will depend on the specific contents of TO11DR4/5/6.

The SIT team was able to verify 9 DRs that were submitted as resolved in DR3. Of those 9, only one passed. The (separate) DR Verification Team was responsible for “officially” verifying the DR fixes in the TO11DR3 release, and as such those results are not discussed in this report.

3 Reference Documents

- *Master Deliverables Matrix (MDM) v7.1*
- *“Not Implemented Open DRs.pdf”*
- *“MDM Checklist.xls”*
- *“TO11DR3 Missing Functionality v3.0.doc”*

4 Test Activities

The SIT Team focused on the following areas:

- High-Level Assessment of Missing Functionality
- Gap Test Case Execution
- Further Evaluation of Previously-Identified Missing Functionality
- Ad-hoc Testing
- TTR Creation (during test case execution, ad hoc testing, etc.)

4.1 High-Level Assessment of Missing Functionality

It was determined by the SIT team that there are still major areas of functionality that have not been delivered as of the TO11 DR3 delivery. A full report is available in the document “TO11DR3 Missing Functionality v3.0.doc”.

A few of the major areas identified as “Not Implemented Yet” are:

- The BASE/SITE/USER concept in GFE
- GFE’s Define Config and ifplmage
- AWIPS Data Archiver
- ~40 products normally found in D2D’s NCEP and Obs menus
- AlertViz Monitor Section and Functions
- Forced Flash Flood Guidance (FFFG)
- Special Weather Statement and Short Term Forecast templates for WarnGen
- WarnGen QC
- SAFESEAS/SNOW/Fog Monitor’s Observation History Table, Trend Graphs, and “Configure Monitor Area” functions

4.2 Untestable Areas

Several areas were deemed to be partially or fully untestable. These areas are listed below, along with the reason they were untestable

Untestable Area	Partially Testable?	Reason
FFMP	Yes	Lack of (quality) data, missing functionality
FSI	No	Broken in DR3 (qpid implementation)
Async Scheduler	No	Broken in DR3 (qpid implementation)

SIT Report – Jan 2010

AlertViz	Yes	Lack of understanding, missing functionality
HTML data monitors for SCAN and FFMP	No	Missing
LSR GUI	No	Missing
GFE ISC	No	System permission/traffic issues
GFE Service Backup	No	Localization issues, no launcher (GUI)

Table 4-1 Untestable areas during SIT

4.3 Gap Test Case Execution**4.3.1 New MDM Test Cases – Gap Filling Exercise Test Cases**

Tables 4-2 and 4-3 list the test cases that were executed during SIT. Out of the 117 test cases, 13 PASSED, 5 PASSED with TTRs, 63 FAILED, 2 were considered OBE, 26 were untestable for various reasons, and **8 are still TBD (awaiting final results)**.

MDM Test ID	Test Priority	MDM Test Name	Pass, Pass With TTRs, or Fail
OHD1000	Critical	Baseline_RFC_XDAT.v2.doc	FAIL
OHD1001	Important	OHD_AM_TestProcedures_ObsFcst.doc	FAIL
OHD1002	Important	OHD_AM_Test Procedure_PrecipMonitor.doc	PASS
OHD1003	Critical	OHD_AM_TestPlan_SHEFdecode_parser.doc	FAIL
OHD1004	Important	OHD_AM_TestProcedures_BuildHourly.doc	FAIL
OHD1005	Important	OHD_AM_TestProcedures_FFG_QPE_Mosaicking.doc	FAIL
OHD1006	Important	OHD_AM_TestProcedures_RiverPro_HighLevel.doc	FAIL
OHD1007	Important	OHD_AM_TestProcedures_Riverpro_GUI.doc	FAIL
MDL1000	Critical	TP_CigCatDelta.doc	OBE
MDL1001	Critical	TP_CigCatDelta_New.doc	PASS
MDL1002	Critical	TP_CigMetarThresh_New.doc	PASS w/ TTRs
MDL1003	Critical	TP_DDDelta_New.doc	PASS
MDL1004	Critical	TP_FFDelta_New.doc	PASS
MDL1005	Critical	TP_TSNotINTaf_New.doc	No data avail.
MDL1006	Critical	TP_VsbyMetarThresh_New.doc	PASS
MDL1007	Critical	TP_WxTafDelta_New.doc	PASS
MDL1008	Critical	SCAN_Cell_Table_test_casev2.doc	FAIL
MDL1009	Critical	Guardian_Test_Cases.doc	FAIL
MDL1010	Critical	FFMP_FFFG_Test_Casesv2.doc	FAIL
MDL1011	Critical	FFMPA_Display_Test_Casesv2.doc	FAIL
MDL1012	Critical	FFMPA_Foundation_Test_Casesv2.doc	FAIL
MDL1013	Critical	TP_TAFEditor_GFSLAMP.doc	FAIL
MDL1014	Critical	TP_TAFEditor_GFSMOS.doc	FAIL
MDL1015	Critical	TP_TAFEditor_METARS.doc	FAIL
MDL1016	Critical	TP_TAFEditor_NAMMOS.doc	FAIL
MDL1017	Critical	TP_TAFEditor_NDFD.doc	FAIL

SIT Report – Jan 2010

MDM Test ID	Test Priority	MDM Test Name	Pass, Pass With TTRs, or Fail
MDL1018	Critical	TP_TAFEditor_QC.doc	PASS
MDL1019	Critical	TP_TAFEditor_TUG.doc	FAIL
MDL1020	Critical	TP_SiteInfoConfig.doc	PASS
MDL1021	Critical	TP_ResourceEditor.doc	PASS w/ TTR
MDL1022	Critical	SCAN_DMD_Test_Case.doc	FAIL
MDL1023	Critical	FFMP_FFTI_Test_Cases.doc	FAIL
MDL1024	Critical	SCAN_Meso_Table_test_casev2.doc	FAIL
MDL1025	Critical	SCAN_TV5_Table_test_case.doc	FAIL
MDL1026	Critical	SCAN_DMS_test_case.doc	FAIL
MDL1027	Critical	SCAN_Foundation_Test_Case.doc	FAIL
MDL1028	Critical	SCAN_DRT_Instructions.doc	FAIL
MDL1029	Critical	SCAN_RUprocessor_Test_Case.doc	FAIL
MDL1030	Critical	FFMP_DMS_test_case.doc	FAIL
MDL1031	Recommended	LSR_GUI_Test_Cases.doc	FAIL
MDL1032	Critical	SCAN_Menu_Misc_Products_Test_Case.doc	FAIL
MDL1033	Critical	TestReviewforFSIOB9_afterReview3.doc	FAIL
MDL1034	Important	SAFESEAS_ConfigDisplayThresh.doc	FAIL
MDL1035	Critical	TP_PersistenceMonitor.doc	PASS
MDL1036	Important	SAFESEAS_Table_test_case.doc	FAIL
MDL1037	Important	SNOW_ConfigDisplayThresh.doc	FAIL
MDL1038	Important	FogMonitor_ConfigDisplayThresh.doc	FAIL
MDL1039	Important	SNOW_Table_test_case.doc	FAIL
MDL1040	Important	SAFESEAS_ConfigMonitorThresh.doc	FAIL
MDL1041	Important	SNOW_ConfigMonitorThresh.doc	FAIL
MDL1042	Important	SAFESEAS_ConfigMonitorArea.doc	FAIL
MDL1043	Important	SNOW_ConfigMonitorArea.doc	FAIL
MDL1044	Important	FogMonitor_Table_test_case.doc	FAIL
MDL1045	Critical	Processors_test_case.doc	Couldn't test
MDL1046	Critical	Localization_test_case.doc	Couldn't test
SEC1000	Important	optionsSetTime.pl	PASS
SEC1001	Important	Display_Performance_Test_to11s45_07oct2009.doc	FAIL
SEC1002	Important	Display_Startup_Performance_to11s45_06oct2009.doc	FAIL
SEC1003	Critical	TextWorkstationEditing.doc	FAIL
SEC1004	Critical	TextWorkstationProdHeader.doc	FAIL
SEC1005	Important	TestCase12Planet.zip	TBD
SEC1006	Critical	TextWorkstationScripting.doc	Rewrite needed
SEC1007	Critical	TestWorkstationAlarmAlert.doc	FAIL
SEC1008	Important	Baseline_ServerCrons_LX.doc	Need root
GSD1000	Critical	Baseline_IFPS_ServiceBackup_01.doc	Couldn't test
GSD1001	Critical	Baseline_IFPS_ServiceBackup_02.doc	Couldn't test
GSD1002	Critical	Baseline_IFPS_ServiceBackup_03.doc	Couldn't test
GSD1003	Critical	Baseline_IFPS_ServiceBackup_04.doc	Couldn't test

SIT Report – Jan 2010

MDM Test ID	Test Priority	MDM Test Name	Pass, Pass With TTRs, or Fail
GSD1004	Critical	Baseline_IFPS_ServiceBackup_05.doc	Couldn't test
GSD1005	Critical	Baseline_IFPS_ServiceBackup_06.doc	Couldn't test
GSD1006	Critical	Baseline_IFPS_ServiceBackup_07.doc	Couldn't test
GSD1007	Critical	Baseline_IFPS_ServiceBackup_08.doc	Couldn't test
GSD1008	Critical	Baseline_IFPS_ServiceBackup_09.doc	Couldn't test
GSD1009	Critical	Baseline_IFPS_ServiceBackup_10.doc	Couldn't test
GSD1010	Critical	Baseline_IFPS_ServiceBackup_11.doc	Couldn't test
GSD1011	Critical	Baseline_IFPS_ServiceBackup_12.doc	Couldn't test
GSD1012	Critical	Baseline_IFPS_SBMultiDomains_13.doc	Couldn't test
GSD1013	Critical	Baseline_IFPS_SBMultiDomains_14.doc	Couldn't test
GSD1014	Critical	Baseline_IFPS_SBMultiDomains_15.doc	Couldn't test
GSD1015	Critical	Baseline_IFPS_SBMultiDomains_16.doc	Couldn't test
GSD1016	Critical	TestCaseLocalization.doc	FAIL
GSD1017	Critical	TestCaseNotificationServer.doc	TBD
GSD1018	Critical	TestCaseOCONUS.doc	Untestable
GSD1019	Important	TestCaseStartD2D.doc	PASS
GSD1020	Important	TestCaseAWIPStartUpMenu.doc	FAIL
GSD1021	Important	TestCaseToolBarGaps.doc	PASS w/ TTR
GSD1022	Important	TestCaseView.doc	PASS
GSD1023	Important	TestCaseOptionsMenu.doc	FAIL
GSD1024	Critical	TestCasePlugins.doc	FAIL
GSD1025	Important	TestCaseTearOffMenus.doc	FAIL
GSD1026	Important	TestCaseLAPS.doc	Untestable
GSD1027	Important	TestCaseMSAS.doc	Untestable
GSD1028	Recommended	TestCaseHelpMenu.doc	PASS
GSD1029	Important	TestCaseOther.doc	FAIL
GSD1030	Important	TestCaseVariances.doc	FAIL
GSD1031	Important	TestCaseOtherD2DoperationalCapabilites.doc	FAIL
OPS1000	Critical	WarnGen_dam_info.doc	TBD
OPS1001	Critical	Test Cases for QCMS WBS 9.doc	TBD
OPS1002	Critical	Baseline_NWRBrowser.doc	TBD
OPS1003	Critical	Administrative MHS FM 3_6.doc	FAIL

Table 4-2 New MDM Test Cases – Gap Filling Exercise Test Cases

4.3.2 Updated/Enhanced MDM Test Cases – Gap Filling Exercise Test Cases

MDM Test ID	Test Priority	MDM Test Name	Pass, Pass With TTRs, or Fail
GSD0624	Important	Baseline_D2D_UpAir_M_Slice3.100809.doc	PASS w/ TTRs
GSD0630	Important	Baseline_D2D_Procedures_M_TO11 v2.doc	FAIL
GSD0631	Important	TC_Baseline_Satellite_M_TO11_Modified.doc	FAIL
GSD0632	Important	Baseline_D2D_Tools_Modified.doc	TBD

SIT Report – Jan 2010

MDM Test ID	Test Priority	MDM Test Name	Pass, Pass With TTRs, or Fail
GSD0633	Important	Checkout_SkewT_Modified.doc	FAIL
GSD0634	Important	TC_Baseline_D2D_Maps_M_TO11-1_Modified.doc	PASS w/ TTRs
MDL0083	Recommended	Checkout_HWR.doc	TBD
SEC0061	Critical	Baseline_HazCollect v2.doc	TBD
SEC0062	Critical	Baseline_NCF_Archive v2.doc	Couldn't test
OHD0072	Critical	Baseline_HYDRO_WHFS_Hydroview.doc	OBE
OHD0073	Critical	OHD_AM_TestProc_TimeSeries.v2.doc	FAIL
OHD0074	Critical	OHD_AM_TestProcedures_Hydrobase.v2.doc	FAIL
OHD0075	Critical	Baseline_RFC_XNAV.v2.doc	FAIL
OHD0076	Critical	OHD_AM_TestProcedures_Filepurge.v2.doc	Couldn't test
OHD0077	Critical	Baseline_MPE_M.v2.doc	FAIL
OHD0078	Critical	Baseline_HYDRO_WHFS_Hydroview.v3.doc	FAIL
OHD0079	Important	OHD_AM_TestProcedures_SiteSpecific_SSHP.v2.doc	FAIL

Table 4-3 Updated/Enhanced MDM Test Cases – Gap Filling Exercise Test Cases

4.4 Further Evaluation of Previously Identified Missing Functionality

In addition to evaluating the missing functionality in DR3, the SIT testers were asked to evaluate the known TTRs and DRs related to missing functionality. This was a “low priority” task since the execution of the test cases was the top priority.

As such, none of the TTRs were evaluated and only 9 of the DRs were evaluated (1 PASS, 8 FAIL). The SIT team defers to the separate DR Evaluation Team for a thorough assessment of these TTRs/DRs.

The DRs evaluated are listed in Table 4-4.

DR	Functional Area	Pass, Pass With TTRs, or Fail
1231	GFE	FAIL
1442	GFE	FAIL
2270	GFE	FAIL
2941	GFE	FAIL
2951	GFE	FAIL
2958	GFE	FAIL
3353	GFE	FAIL
3824	GFE	PASS
3826	GFE	FAIL

Table 4-4 Missing Functionality DRs

4.5 Ad-hoc Testing

Ad-hoc testing results are summarized in the companion document “TO11DR3 Missing Functionality v3.0.doc”.

SIT Report – Jan 2010