

AE IV&V Test Case TO8_8001

Revision History

Rev. No.	Date	By	Description of Changes
1.0	4/16/08	Tom Kretz	Initial Release.

1. TEST CASE IDENTIFIER

TO8_8001

2. NARRATIVE

Test the throughput and latency of text, satellite, grib and radar messages passing through the ESB layer.

3. REFERENCES

AWIPS II TO8 Software Installation instructions and Quick Start Admin Guide (NWS)

4. FEATURES TO BE TESTED

Performance of the ESB layer

5. SETUP INSTRUCTIONS

Assumptions about the system configuration and status: The baseline TO8 software is installed as described in the TO8 Software Installation procedures for standalone workstation, the canned KOAX test data collected by NWS/OST/SEC is used for the tests, and the system is operational as shown in the TO8 Quick Start Admin Guide. The SEC Web Test Driver Java Web application and input test scripts are installed in the Tomcat webapps directory.

The SEC Web Test Driver application has to be installed. This is a NWS developed Java Web application that reads in Javascript requests from a text file. The XML files are parsed to retrieve the Javascript tags to create product requests.

Step	Setup Procedure	Result
1	Install the SEC Web Test Driver application running in Tomcat	
2	Configure test script files for requesting 10, 50, and 100 text products	
3	Configure test script files for requesting 10, 50, 100 with 30% goes, 30% grib and 40% radar product requests	
4	Configure test files for requesting 10, 50, and 100 goes requests, IR(75%) and Visible (25%)	
5	Purge metadata and hdf5 repositories	
6	Ingest canned test data	

6. ACCEPTANCE CRITERIA

The tests are intended to document the performance of the TO8 release running in Linux for moderate data volumes. These tests are not meant to be an indication of the AWIPS II performance, but to identify and track the performance of standard tests across the ESB.

7. TESTING PROCEDURE

Using the SEC Web Test Driver application running in Tomcat, send multiple requests for ascii and GOES, radar and grib data to the ProductSrv on the EDEX server. The ProductSrv replies to the request by processing the request and putting the response messages on the Reply to Queue. Then the web application gets the messages from the queue, calculates a few statistics and discards the data.

The ActiveMQ Broker, Mule ESB and Tomcat servers were shutdown and restarted before each test, so any memory caches and queues were cleared between tests. This is about as close to the same initial conditions that we can get for each test.

The following statistics are captured in the web application:

Put Time: time in seconds to put all the request messages on the ProductSrv Queue

Get Time: time in seconds to get all the response messages from the Reply to Queue

Get Process Time: time in milliseconds since the request message was sent to the end of processing the return message for the request.

For this test the following number of request will be sent requesting the same product for each type:

Ascii: 10, 50, 100, 1000 ascii request messages

Image: 10, 50, 100, 1000 goes (30%), grib (30%) and radar (40%) request messages

Sat: 10, 50, 100, 1000 goes request messages, IR (75%) and Visible (25%)

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Step	Procedure	Expected Result	Actual Result
1	Restart edex_activemq, edex_mule, and edex_tomcat services	Services stop and restart	
2	Open testEngineWeb web app in Browser	Start page of app opens	
3	Enter the filename for the 10 ascii requests test scripts		
4	Select "Submit Request" button	After requests are processed the test results page displays	
5	Note the times to process the ascii request		
6	Repeat step # 1	Services stop and restart	
7	Enter the filename for the 50 ascii requests test scripts		
8	Select "Submit Request" button	After requests are processed the test results page displays	
9	Note the times to process the ascii request		
10	Repeat step # 1	Services stop and restart	
11	Enter the filename for the 100 ascii requests test scripts		
12	Select "Submit Request" button	After requests are processed the test results page displays	
13	Note the times to process the ascii request		
14	Repeat step # 1	Services stop and restart	
15	Enter the filename for the 1000 ascii requests test scripts		
16	Select "Submit Request" button	After requests are processed the test results page displays	
17	Note the times to process the ascii request		
18	Repeat step # 1	Services stop and restart	
19	Enter the filename for the 10 image requests test scripts		
20	Select "Submit Request" button	After requests are processed the test results page displays	
21	Note the times to process the image request		
22	Repeat step # 1	Services stop and restart	
23	Enter the filename for the 50 image requests test scripts		
24	Select "Submit Request" button	After requests are processed the test results page displays	
25	Note the times to process the image request		
26	Repeat step # 1	Services stop and restart	
27	Enter filename for the 100 image requests test scripts		
28	Select "Submit Request" button	After requests are processed the test results page displays	
29	Note the times to process the image request		
30	Repeat step # 1	Services stop and restart	

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Step	Procedure	Expected Result	Actual Result
31	Enter filename for the 1000 image requests test scripts		
32	Select "Submit Request" button	After requests are processed the test results page displays	
33	Note the times to process the image request		
34	Repeat step # 1	Services stop and restart	
35	Enter filename for the 10 satellite requests test scripts		
36	Select "Submit Request" button	After requests are processed the test results page displays	
37	Note the times to process the satellite request		
38	Repeat step # 1	Services stop and restart	
39	Enter filename for the 50 satellite requests test scripts		
40	Select "Submit Request" button	After requests are processed the test results page displays	
41	Note the times to process the satellite request		
42	Repeat step # 1	Services stop and restart	
43	Enter filename for the 100 satellite requests test scripts		
44	Select "Submit Request" button	After requests are processed the test results page displays	
45	Note the times to process the satellite request		
46	Repeat step # 1	Services stop and restart	
47	Enter filename for the 1000 satellite requests test scripts		
48	Select "Submit Request" button	After requests are processed the test results page displays	
49	Note the times to process the satellite request		
	End of test		