

Release: Baseline	Test Case Creation Engineer: Mingsiu Shih
Title: Baseline Radar Distribution SBN_M	Date Test Case Created: 03/15/2006
Test Case Execution Engineer:	Pass/Fail/Pending:
Test Platform:	Total Test Time:
Start Date:	Run Time for processes or reports:
Complete Date:	Database Instance and Version:
Logged in User's Role:	Location of Test Artifacts for this test case:
Notification Server Version:	CI:
Last Modified By: Scott Nicholson	Test Steps: 35
Date Modified: 5/1/09	

Test Case #: 1.15.1.7 Baseline Radar Distribution SBN_M

1.15.1.7.1 Purpose

This test case demonstrates the capability of AWIPS to distribute locally generated radar products and to collect required radar products via the WAN. This test case includes the TDWR radar products.

1.15.1.7.2 Requirement

Not Applicable.

1.15.1.7.3 Prerequisite Conditions

- AWIPS shall distribute on the SBN a subset of centrally collected radar products as defined by a change management process. AWIPS shall provide a way to modify the list of products to be centrally distributed locally and nationally.

- All radar products which are centrally collected and nationally distributed shall be made available to any NWS office requiring these data. These data shall be made available within one minute, 95 percent of the time.
- This capability shall be available regardless of failure of any AWIPS system component except the WAN.
- All data acquired by the above means shall be usable just as it were acquired by dial-up or local acquisition.
- Radar data must be coming in from the local RPG.

1.15.1.7.4 Test Procedures

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
<p>Part I - Review AWIPS files that determine whether the National Set of products is merged with the local set. Steps 1 through 5 will ensure the AWIPS software is correctly identifying the radars that will be performing National Radar Data reporting and merging the National Data Set with the Local set upon VCP change.</p>					

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
1.	<p>Start CAVE.</p> <p>Select 'Radar' → 'RadarServer Configuration...' from the menu.</p> <p>Make a note of all dedicated radars that are currently enabled for national data set reporting.</p> <p>(Note: This is currently not shown directly. If one clicks on a radar name, the second button to the right will read "Disable Transmission..." if the radar is enabled.)</p> <p>Click the 'Global Settings...' button. Ensure that 'Allow transmission of products' is checked.</p> <p>Then click 'OK'.</p>	<p>CAVE starts.</p> <p>The configuration user interface appears and displays available radars along with their national reporting status.</p>			
2.	<p>Note the VCP for each radar.</p>	<p>The configuration UI should display the VCP of each active radar.</p>			<p>Slice 5</p>

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
3.	<p>Open a terminal window on the workstation and log into <The system that hosts the RadarServer>:</p> <ul style="list-style-type: none"> ➤ ssh <hostname> ➤ cd <RadarServer Home>/data/config/drop-ins ➤ ls -ltr rps* 	<p>The list of national RPS Lists is displayed.</p>			
4.	<p>Check that the new national file <i>tdwrProdList.txt</i> specifies the TDWR radar products to be centrally collected (similar to <i>prodList.txt</i>) by typing:</p> <ul style="list-style-type: none"> ➤ grep "18" tdwrProdList.txt <p>Note: Products <i>181 and 182</i> must be listed here for the test to continue.</p>	<p>Because TDWR radars have different elevation angles, all possible primary angles in <i>tiltAngleGroups.txt</i> are included in this configuration file. RadarStorage will use the primary elevation angle to match the products in file <i>tdwrProdList.txt</i>.</p>			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
5.	<p>Check that all the products specified in <i>tdwrProdList.txt</i> are included in a national file so they can be added to the RPS lists, by typing:</p> <p>➤ grep "18" rps-SPGOP-tcp.storm</p>	<p>Primary angles are used in this file. RadarServer will customize the primary elevation angles to the radar's real elevation angles when adding them to the RPS list.</p> <p>Note: since TDWR radar has no clear mode, there is no need to create a clear mode national file for this new line type.</p>			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
6.	In CAVE, select Radar → RPS List Editor from the menu. In the RPS List Editor menu, select View → Current List and select a radar ID.	Compare the inventory of products in the current RPS List to the products listed in the National RPS List for corresponding weather VCP (rps-RPGOP.storm or rps-RPGOP.clear-air for WSR-88D radars like KSTO, and rps-SPGOP-tcp.storm for TDWR radars like TBWI). The current RPS List should include entire National Data Set.			
7.	Repeat Step 6 for each radar marked for national product collection. Be sure to include a TDWR radar like TBWI.	Whenever an ordinary line reset occurs without a VCP change, AWIPS will continue to send the same RPS list, which will include both national and local product inventories.			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
8.	<p>Save the current RPS list for the TDWR radar to a temporary file by selecting File → Save As... from the RPS List Editor window. Check the RPS list by typing:</p> <ul style="list-style-type: none"> ➤ cd <directory containing temporary file> ➤ grep 181 <temporary file> ➤ grep 182 <temporary file> 	<p>The RadarServer should have re-built the <i>TXXX.current</i> files from the national list and local list. They should contain products 181 and 182, including elevation 3.3 (listed in the file as '33').</p>			
9.	<p>In the configuration UI, ensure that the TDWR radar is marked for national transmission. If it is not, click the “Enable Transmission of Products for Distribution.”</p>	<p>The configuration UI should now indicate that the TDWR radar is marked for national transmission.</p>			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
10.	<p>In a <hostname> terminal window, invoke a VCP change. Use a VCP that is for an mode opposite (storm vs. clear-air) from the current one. For the TDWR site, change VCP 80 to VCP 90 or vice versa.</p> <p>(Note: This utility does not exist yet. Another way to force the RadarServer to regenerate the RPS list is to toggle the “Enable Transmission for Products...” setting.)</p> <ul style="list-style-type: none"> ➤ cd <RadarServer home>/bin ➤ rcmtool seevcp <Radar ID> <VCP number> 	<p>The RadarServer log notes the simulated VCP change.</p> <p>The log indicates a new RPS list is sent.</p> <p>TDWR products stored and processed should be noted in the log file.</p>			
11.	<p>Check the number of versions of TDWR products per volume to be sent to the WAN by typing:</p> <ul style="list-style-type: none"> ➤ cd <RadarServer home>/data/config/persist ➤ less config.xml 	<p>For the TDWR <radar>...</radar> section, the <collectionBandwidthLimited> element should be “true” which means only <i>one</i> version is sent to the WAN for each volume (as a result of DR 20200).</p>			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
12.	<p>Ensure National Radar Data is being sent.:</p> <ul style="list-style-type: none"> ➤ ssh dx1f ➤ cd /awips/ops/logs/dx1-<site> ➤ tail -f msgreq_svr.log <p>Navigate to <RadarServer home>/data/logs. Type 'tail -f <log>' and verify 'Running [msg_send...]' with arguments is listed in the log.</p>	<p>The msgreq_svr.log log shows SDUS header products for each radar performing National Radar Data dissemination.</p> <p>Verified.</p>			Variance in testing.
Part II - Ensure National Radar Data is being received from other radars.					
13.	<ul style="list-style-type: none"> ➤ ssh dx3f ➤ cd /data/logs/fxa/<YYYYMMDD> ➤ grep SDUS acq* <p>In D2D, select the display of 0.5 reflectivity products for various sites/locations from the Radar menu.</p>	<p>Any SDUS header radar products that are being internally processed will be returned.</p>			Variance in testing.
14.	<p>Open D-2D and select the Regional scale. Then display Reflectivity elev0_5 res1 level16 product from a radar sending national radar data. On the D-2D menu bar select Kxxx -> Best Res Refl -> 0.5</p>	<p>Latest Refl 0.5 is displayed. The product time should be very close to current system time unless the sending radar is down.</p>			
15.	<p>Click the 'Clear' button.</p>	<p>The display clears.</p>			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
16.	On the D-2D menu bar select Radar -> Mosaic -> 0.5 Reflectivity	This will provide two observations: 1) displaying a mosaic in one window was a method to reproduce data drop out 2) running the product for a period of time allows the observer to see updates for radars inside the mosaic which tells the tester SBN radar data is being received. <Note:> This test must be run during a dx failover to ensure National Radar products are being sent and received.			Slice 5
17.	From the D2D main menu, tear off the menu for a txxx radar . Record the name of the radar: _____ Display a selection of products (at least 3) from this radar. Include 3.3 elevation V and Z products and 8-bit STP products.	Products should display current timestamps.			Variance: Not supported by Eclipse
18.	Select One-Time Request (OTR) from the txxx menu.	The One Time Request window opens.			Slice 5

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
19.	<p>Set the following fields: RPG: txxx Product: Velocity (V) Elevation: 3.3 Cuts: one Then click on Send</p> <p>Note: OTR is not yet available in AWIPS 2. Run the following command instead: <code>otrtool.py -r txxx-p 182 -e 3.3</code></p>	<p>The request and the resulting response can be observed in the <i>RadarAnnouncer</i> log at the bottom of the terminal on which Guardian is displayed. (Note: RadarAnnouncer not yet in AWIPS 2.) The product should appear in the txxx menu, with a current timestamp (if not already there).</p>			<p>Slice 5</p>



Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
20.	<p>(Note: This step tests an AWIPS-1 cron job. Need to determine how this will work in AWIPS-2.)</p> <p>In the <i>second</i> dx2 window, check log files by typing:</p> <ul style="list-style-type: none"> ➤ ls -ltr sendO* ➤ grep 152 < latest sendOTR log file> ➤ grep "74" < latest sendOTR log file> ➤ grep "79" < latest sendOTR log file> <p>Note: Product 152 is RSS (RPG Status Statement), Product 74 is RCM (Radar Coded Message) and Product 79 is THP (Three Hour Precipitation)</p>	<p>Logs of sendOtrs should indicate that OTR of 152 is sent to 88D radar (e.g. LWX) and TDWR radar (e.g. BWI), while OTRs of 79 and 74 are only sent to 88D radars, because these products are not specified as central collections in file <i>/data/fxa/workFiles/tdwrProdList.txt</i></p>			Slice 5
Part III - Verify GSM Receipt with VCP change					
21.	<p>Repeat steps 10-12 to verify that the VCP has been reset to the original settings. (Note: Does it mean wait for a natural VCP change? Instead of waiting, the configuration UI can be used to disable and then re-enable a radar connection. This will cause the RadarServer to see the current real VCP.)</p>	<p>Repeat 10-12 results to verify GSM Receipt with VCP change.</p>			Unable to manually change VCP on simulated ORPG.
Part IV – Automatic RPS List Transmission					

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
22.	The RPS List Transmission is automatic when first connected. By inference, if products are displayed, they are being processed through the ORPG. Request any radar product from the koax menu and verify the product displays.	The radar data displays.			
23.	Verify after some time (up to 10 minutes or so) that the image updates.	Verified.			
Part V – Manually Send RPS List to WSR-88D					
24.	From the koax radar menu, select ‘Composite Ref (CZ)’. Note the time of the latest image.	The Composite Reflectivity radar image displays. Time:			
25.	Verify after some time (up to 10 minutes or so) that the image updates.	Verified.			
26.	Select ‘Radar’ -> ‘RPS List Editor...’.	The RPS List Editor window opens.			
27.	In the RPS List Editor window, click ‘View’ -> ‘Current List...’.	The RPS List displays.			
28.	Select/highlight ‘Composite Ref (CZ), levels 16, resol 4.0’ and then select ‘Remove’.	The selected item is removed from the RPS List.			
29.	Click ‘List’ -> ‘Send List...’. With the KOAX RPG highlighted, click the ‘OK’ button.	The modified RPS List is sent.			

Step #	Action / Inputs	Expected Outputs	Pass(P)/ Fail(F) Pending (Pen)	DR #, Name and Description for failed step	Special Needs / Comments
30.	Wait up to 10 minutes or so as radar products are ingested/inserted into the database. Verify the Composite Reflectivity product time does not update in the menu or on the display.	Verified.			
31.	In the RPS List Editor window, click the 'Add' button.	A popup window appears.			
32.	Select: Product – 'Composite Ref (CZ)' Variant – 'levels 16 4.0res 460.0km' and then click 'OK'.	The selected item is added to the RPS List.			
33.	Click 'List' -> 'Send List...'. With the KOAX RPG highlighted, click the 'OK' button.	The modified RPS List is sent.			
34.	Wait up to 10 minutes or so as radar products are ingested/inserted into the database. Verify the Composite Reflectivity product time updates in the menu and on the display.	Verified.			
35.	Close CAVE and all Terminal windows.	CAVE closes. All terminals are closed.			
This concludes the test case.					