

AWIPS II Activation Policy  
9/19/2012

The activation of the AWIPS II software at the Weather Forecast Offices (WFOs) shall proceed in accordance with the framework and specific criteria outlined within this policy. The activation framework is based on the evaluation of a group of WFOs (8 to 10) over a 30-day period. This evaluation focuses on three areas:

- Performance
- 1-Critical DRs
- Stability

**Evaluation Criteria**

**AWIPS II 1-Critical DRs:**

With respect to identified discrepancy reports (DRs) with the AWIPS II software, any ranked 1-Critical DRs applicable to WFOs must be addressed prior to proceeding to the next phase of the activation. The determination of 1-Critical DRs is assessed by a Government group called the Test Review Group (TRG). This group is composed of both union and non-union representation.

A 1-Critical DR is considered satisfied once the DR has passed Government testing. These DRs can be incorporated into an operational release and/or patched as needed in order to most expediently rectify the problem at the sites using AWIPS II to support operations. The correction/validation of 1-Critical DRs does not reset the 30-day evaluation period clock. Basically, the identification of 1-Critical DR blocks moving to the next stage until it is corrected and validated by Government personnel. So, if a 1-Critical DR is found at day 28 in the cycle and it takes 3 days to correct and validate the DR, the beginning of the next stage of activation would be delayed by 1 day.

**AWIPS II Performance:**

This evaluation criterion is based on a pre-defined test on aspects of the forecast process. These tests are identified to provide a representative sample of tasks that a forecaster depends on in order to accomplish the issuance of products and services. Each of these test is designed such that an AWIPS I equivalent performance test exists. For each of these tests, the AWIPS I results establish the objective and the NWS collaboratively established thresholds associated with each of these measures. These measures are established in two areas the back-end process (i.e., EDEX) and front-end process (i.e., CAVE). Finally, the performance tests are ranked based on importance to the forecast process. The evaluation criterion is based on the top ranked metrics.

In order to satisfy this criterion, AWIPS II software must meet the established threshold values for each of the top ranked metrics. Appendix 1 established the complete set of performance metrics for AWIPS II as well as the associated objective and threshold values. Each of these performance metrics shall be executed with each operational build (OB) release at the WFOs in Boulder, CO and Omaha, NE OAX2 system, when available. Each of the top ranked metrics (i.e., Rank = 1) shall be pass (e.g., achieve at least the threshold value as compared to AWIPS I) during the 30-day evaluation period in order to move to the next stage of AWIPS II activation. If a specific performance test fails during the 30-day evaluation period (e.g., on a particular OB release), then a 1-Critical DR will be written and evaluated according to that criteria. The remaining performance metrics provide information on the remaining aspects of these system performances. The overall aggregate system decoding and latency will not be slower than AWIPS I. The criterion does not apply in the evaluation of WFO Groups 1 and 2. The computational method to determine the aggregate system criterion shall be agreed to at a later date.

#### Stability:

During the 30-day evaluation period, the AWIPS Program Manager, AWIPS Deputy Program Manager for Product Improvement, and NWSEO Technical Leads evaluate on a case-to-case basis any roll backs to AWIPS I, emergency service backup, and failure to properly disseminate products. These situations will be used to assess the overall AWIPS II stability for purposes of determining whether or not to reset the 30-day evaluation clock. If consensus is not obtained, the 30-day evaluation clock resets.

In order to evaluate, any AWIPS II freezes and/or crashes, a Tiger Team has been established to identify and investigate any reported freezes and/or crashes in order to address these items. As part of this MOU, the NWSEO AWIPS II Technology Leads will be added to the membership of the Tiger Team. During the investigation, if any of these freezes and/or crashes, creates a 1-Critical DR, then that evaluation criteria governs the resolution of this item. For those AWIPS II freezes and/or crashes that resulted from a local configuration or coding issue, the root cause analysis with remedy shall be provided via an electronic method.

#### WFO Group Determination:

This policy establishes groups 1 and 2 for activation purposes. The next groups will be determined by the Deployment Team which is comprised of union and non-union representation. The initial groups will contain 8 WFOs at a future point in time; it is possible to increase the number of WFOs within the group to 10. The WFO group members are to be notified at least 60 days prior to their activation date. The 30-day evaluation period begins once the last WFO within the group activates AWIPS II. The WFOs included in groups 1 and 2 are as follows:

- Group 1: Omaha, NE (OAX); Boulder, CO (BOU); Norman, OK (OUN); Houston, TX (HGX); Huntsville, AL (HUN); Blacksburg, VA (RNK); Boston, MA (BOX); Billings, MT (BYZ)
- Group 2: Grand Rapids, MI (GRR); Milwaukee, WI (MKX); Raleigh, NC (RAH); Salt Lake City (SLC); Portland, OR (PQR); Boise, ID (BOI); Guam (GUM); Juneau, AK (AJK)

As a reminder, the requirements for any future WFO AWIPS II activation are as follows:

- ITO/ESA attend AWIPS II Deployment course,
- All critical local applications migrated, this includes GFE procedures, formatter, D2D procedures, and other application, and
- All forecasters have taken the variance training within the last 4 weeks

If a WFO is unable to fulfill these requirements, the Deployment team can exchange sites as long as the replacement WFO has a minimum of 45 days notice.

#### Determination of Proceeding with AWIPS II Activations:

At the end of each 30-day evaluation period, the AWIPS Program Manager, AWIPS Deputy Program Manager for Product Improvement, and NWSEO Technical Leads review the results in each of the evaluation criteria. Once these evaluation criteria are satisfied, the next group will be authorized to begin AWIPS II activations.

Appendix 1 – AWIPS II Performance Metrics

Table 1: EDEX Performance Metrics

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
Ingest_Decoding_BINLIGHTNING	1	71.63	1 $\sigma$
Ingest_Latency_BINLIGHTNING	1	2082.36	1 $\sigma$
Ingest_Decoding_BUFRNCWF	1	1080.33	1 $\sigma$
Ingest_Latency_BUFRNCWF	1	1125.57	1 $\sigma$
Ingest_Decoding_BUFRUA	1	37.1	1 $\sigma$
Ingest_Latency_BUFRUA	1	198.12	1 $\sigma$
Ingest_Decoding_GOESSOUNDING	1	419.43	1 $\sigma$
Ingest_Latency_GOESSOUNDING	1	7032.41	1 $\sigma$
Ingest_Decoding_GRIB1	1	14.75	1 $\sigma$
Ingest_Latency_GRIB1	1	354.97	1 $\sigma$
Ingest_Decoding_GRIB2	1	51.76	1 $\sigma$
Ingest_Latency_GRIB2	1	2998.42	1 $\sigma$
Ingest_Decoding_OBS	1	212.23	215.00
Ingest_Latency_OBS	1	2038.75	2040.00
Ingest_Decoding_RADAR_LOCAL	1	31.68	32.00
Ingest_Latency_RADAR_LOCAL	1	215.54	216.00
Ingest_Decoding_RADAR_SBN	1	14.35	15.00
Ingest_Latency_RADAR_SBN	1	206.5	210.00
Ingest_Decoding_REDBOOK	1	27.09	1 $\sigma$
Ingest_Latency_REDBOOK	1	112.76	1 $\sigma$
Ingest_Decoding_SATELLITE	1	214.51	1 $\sigma$
Ingest_Latency_SATELLITE	1	8411.94	1 $\sigma$
Ingest_Decoding_SFCOBS	1	35.12	36.00
Ingest_Latency_SFCOBS	1	102.09	103.00
Ingest_Decoding_BUFRSIGWX	2	3.9	
Ingest_Latency_BUFRSIGWX	2	59.54	
Ingest_Decoding_BUFRSSMI	2	1569.83	
Ingest_Latency_BUFRSSMI	2	39096.06	
Ingest_Decoding_MODELSOUNDING	2	17.59	
Ingest_Latency_MODELSOUNDING	2	14105.91	
Ingest_Decoding_POESSOUNDING	2	59.69	
Ingest_Latency_POESSOUNDING	2	37707.1	
Ingest_Decoding_ACARS	3	3281.12	
Ingest_Latency_ACARS	3	3636.66	
Ingest_Decoding_BUFRHDW	3	1122.99	
Ingest_Latency_BUFRHDW	3	34848.31	
Ingest_Decoding_BUFRMOS	3	1094.23	

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
Ingest_Latency_BUFRMOS	3	3995.53	
Ingest_Decoding_CONVSIGMET	3	228.81	228.81
Ingest_Latency_CONVSIGMET	3	563.9	563.9
Ingest_Decoding_PROFILER	3	319.03	319.03
Ingest_Latency_PROFILER	3	2511.58	2511.58

Table 2: CAVE Performance Metrics

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
D2DLoadStdEnvDataPackage	1	610	1000
GFEChectandTd	1	5500	6000
GFEInterpolateGrids	1	28850	30000
GFEISCLatency_ifpnetCDF	1	1460	1500
GFEISCLatency_iscMosaic	1	4160	4200
GFELoadGrids	1	1950	2000
GFELoadingMaps	1	750	1000
GFEPopulateGrids	1	4400	5000
GFEPublishGrids	1	9050	10000
GFEQPF_SnowAmt	1	5100	5500
GFESaveGrids	1	2350	2400
GFESmartTool_AdjustUp	1	6300	7000
GFESmartTool_TCMWindTool	1	19670	19670
GFEZFPTextFormatter_19Zones	1	13797	14000
GFEZFPTextFormatter_6Zones	1	21433	23000
SCANDMD_Step01	1	333	500
SCANDMD_Step02.a	1	333	500
SCANDMD_Step02.b	1	333	500
SCANDMD_Step03	1	333	500
SCANDMD_Step04.1	1	333	500
SCANDMD_Step04.2	1	333	500
SCANDMD_Step05.1	1	333	500
SCANDMD_Step06	1	333	500
SCANDMD_Step07	1	333	500
SCANDMD_Step08.1	1	333	500
SCANDMD_Step08.2	1	333	500
SCANDMD_Step09.1	1	333	500
SCANDMD_Step09.2	1	333	500
SCANDMD_Step10.1	1	333	500
SCANDMD_Step10.2	1	333	500
SCANDMD_Step11.1	1	333	500
SCANDMD_Step11.2	1	333	500

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
SCANDMD_Step12.1	1	333	500
SCANDMD_Step12.2	1	333	500
SCANDMD_Step13.2	1	333	500
SCANDMD_Step13.3	1	333	500
SCANDMD_Step13.4	1	333	500
WarnGenLightLoad_AddOrRemoveCounty	1	201	333
WarnGenLightLoad_CreateTextSVS	1	519	750
WarnGenLightLoad_CreateTextTOR	1	412	500
WarnGenLightLoad_DragToPolygonShown	1	170	333
WarnGenLightLoad_FollowUpActionCON	1	186	333
WarnGenLightLoad_LocalCWAUpdate	1	8704	10000
WarnGenLightLoad_SendProductSVS	1	1567	1567
WarnGenLightLoad_SendProductTOR	1	2127	2127
WarnGenLightLoad_TypeSVRToTornado	1	157	333
WarnGenLightLoad_TypeTornadoToSVS	1	157	333
WarnGenLightLoad_WarnGenButton	1	244	333
FFMPA_Step01.1	1	8000	10000
FFMPA_Step01.2_ImageLoading	1	1000	1500
FFMPA_Step01.2_TableLoading	1	3000	4000
FFMPA_Step01.3_ImageLoading	1	1000	1500
FFMPA_Step01.3_TableLoading	1	3000	4000
FFMPA_Step06.2	1	333	500
FFMPA_Step06.3	1	1000	1500
FFMPA_Step06.4	1	1000	1500
FFMPA_Step07.1	1	1000	1500
FFMPA_Step07.2	1	1000	1500
FFMPA_Step07.3	1	333	500
FFMPA_Step08.2	1	2000	2500
FFMPA_Step08.3	1	1000	1500
FFMPA_Step08.4	1	1000	1500
FFMPA_Step08.7	1	1000	1500
FFMPA_Step09.3_SmallHeadWater	1	333	500
FFMPA_Step12.1	1	2000	2500
FFMPA_Step12.2	1	2000	2500
FFMPA_Step13.1	1	1000	1500
FFMPA_Step13.2	1	2000	2500
FFMPA_Step14.3	1	2000	2500
HydroCave_MPE	1	7500	10000
HydroIngest_DPA	1	1000	1500
HydroIngest_PDCPP	1	106000	110000

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
HydroIngest_SHEF	1	1000	1100
SCAN_Step01.1	1	1000	1500
SCAN_Step01.2	1	333	500
SCAN_Step03.3	1	3500	4000
SCAN_Step05	1	333	500
SCAN_Step06.1	1	333	500
SCAN_Step06.2	1	333	500
SCAN_Step08.2	1	333	500
SCAN_Step08.3	1	500	750
SCAN_Step09.2	1	500	750
SCAN_Step09.4	1	500	750
SCAN_Step11.1	1	333	500
SCAN_Step11.3	1	333	500
SCAN_Step11.4	1	500	750
SCAN_Step12.1	1	333	500
SCAN_Step12.3	1	333	500
SCAN_Step12.4	1	500	750
SCAN_Step16.1	1	1000	1500
SCAN_Step16.2	1	1000	1500
SCAN_Step16.3	1	1000	1500
FFMPA_Step03.3	2	5000	6000
FFMPA_Step04.3	2	5000	6000
FFMPA_Step10.2	2	333	500
FFMPA_Step10.3	2	333	500
FFMPA_Step11.2	2	1000	1500
FFMPA_Step11.3	2	1000	1500
FSICPU_Step04	2	8000	8000
FSICPU_Step06_Load10Frames	2	10000	10000
FSIMemory_Step02	2	500	1000
FSIMemory_Step03	2	500	1000
FSIMemory_Step04	2	8000	8000
FSIMemory_Step07	2	500	1000
FSIMemory_Step08	2	500	1000
FSIMemory_Step09	2	500	1000
FSIMemory_Step10	2	500	1000
HydroCave_PDCAII	2	232500	250000
HydroIngest_GagePP	2	11	500
HydroIngest_MPEFieldGen	2	17500	17500
SCAN_Step03.4	2	3500	3500
SCAN_Step03.5	2	333	2000

<b>Metric</b>	<b>Rank</b>	<b>Threshold (ms)</b>	<b>Objective (ms)</b>
SCAN_Step03.6	2	333	2000
SCAN_Step07.2	2	500	500
SCAN_Step07.3	2	500	500
SCAN_Step11.2	2	500	500
SCAN_Step12.2	2	500	500
SCAN_Step18.3	2	1500	2000
SafeSeasSnowFogMonitor_Step04	3	10000	15000
SafeSeasSnowFogMonitor_Step05	3	1000	1000
SafeSeasSnowFogMonitor_Step06	3	333	333
SafeSeasSnowFogMonitor_Step07	3	2000	2000
SafeSeasSnowFogMonitor_Step08	3	1000	1000
SafeSeasSnowFogMonitor_Step09	3	333	333
SafeSeasSnowFogMonitor_Step10	3	500	500
SafeSeasSnowFogMonitor_Step11	3	2000	2000
SafeSeasSnowFogMonitor_Step12	3	500	500
SafeSeasSnowFogMonitor_Step13	3	2000	2000
SCAN_Step02.3	3	4000	4000
SCAN_Step10.1	3	333	500
SCAN_Step10.3	3	1000	1500
SCAN_Step11.5	3	1000	1500
SCAN_Step12.5	3	1000	1500
SCAN_Step14.1	3	1000	1500
SCAN_Step14.2	3	1000	1500
SCAN_Step15	3	1000	1500
SCAN_Step17	3	1000	1000