NAWIPS Migration to AWIPS II
Status Update
Unidata Policy Committee Meeting

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NCEP Central Operations
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Topics

• National Program Schedule Update
• Activities since March
• Hardware/Software Status
• Merging/Integration
• Training
• Unidata Involvement and Benefits
• Status of GEMPAK Support / AWIPS II Licensing
• Summary
AWIPS II Schedule Update

- National AWIPS Field OTE moved from Feb 2011 => Summer 2011
- National AWIPS Deployment moved from Jun 2011 => Sep 2011
- NCEP Central Operations Test Bed installed and ready for FITs by late November/early December
- Complete NAWIPS migrated code to RTS by early Dec for baseline integration in Jan 2011
- FY11Q2-4 NCEP AWIPS II “System and Field” OTE
- AWIPS II software distributed to Unidata community Winter 2011/2012
AWIPS II
Schedule Update

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<tr>
<th>NWS AWIPS II</th>
<th>Previous Schedule</th>
<th>Updated Schedule</th>
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<tr>
<td>System OTE</td>
<td>Now – February 2011</td>
<td>OTE Jan – Summer 2011</td>
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<tr>
<td>Field OTE</td>
<td>February 2011</td>
<td>OTE Jan – Summer 2011</td>
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<tr>
<td>National Deployment</td>
<td>June 2011</td>
<td>September 2011</td>
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AWIPS II Schedule

How does change in National Schedule affect Unidata?

• Advantages
  – NAWIPS migrated code is now officially in the AWIPS II National Deployment
  – Decreases software bug risks due to longer integration and testing period
  – Allow SIB to focus on FITs and OTE with Centers, forecasters, Unidata
  – By FY11Q4, NCO can potentially be able to apply resources to new functional requirements for the first follow-on release

• Disadvantages
  – Increase the “moratorium” period @ NCEP
  – Increase transition period from NAWIPS to AWIPS II
NAWIPS/AWIPS II
Activities Since March

• Over 90% Software Migration Complete
  – All capabilities in NAWIPS will be retained
  – Designed software for backward capability

• GEMPAK Releases - 6.0 April - 6.1 June - 6.1.1 July - 6.2 Sept
  – http://www.nco.ncep.noaa.gov/sib/nawips/

• Conducted AWIPS II Workshop – August 17-19, 2010

• Finalized our hardware configuration

• Conducted demonstrations
  – NWS/OST Director and individuals from AWIPS Program & RTS

• Briefed NCEP Corporate Board - AWIPS II first priority in FY11
Examples of Migrated NAWIPS GUIs/Utilities
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Hardware Schedule

• In late September AWIPS Program was able to access enough funds to purchase AWIPS II Hardware for all Centers

• NCO AWIPS II Test Bed
  – *Fully functional late November*
  – *8 Workstations*

• HW delivery at each center by end December

• Phased installation at each Center from January through early April
  – *Around 2 weeks for install*

• RTS will assist with new HW installation
Software Migration Goals

• National Centers Perspective - general
  – *Combines functionality of 4 legacy GUI applications*
    • NMAP2 – data display and product generation
    • NTRANS – multi-panel
    • NSHARP – vertical profile display, diagnostics and editing
    • NWX – FOS text product select and display
  – *Gray box conversion*
    • Some variances unavoidable or negotiated
    • Significant improvements gained from AWIPS II
  – *Migrating to new architecture*
    • Leveraged Raytheon implementations where possible
    • Take advantage of improved functionality
    • Flexibility is key
Merging/Integration

- Software to be base-lined via Raytheon task
  - Drops will be more frequent - available for Center/Unidata downloads via web site

<table>
<thead>
<tr>
<th>Software Drops to RTS</th>
<th>Submission Date to RTS</th>
<th>RTS Implementation Date</th>
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<tbody>
<tr>
<td>NCEP Baseline Modified Modules</td>
<td>29 Aug 2010</td>
<td>Early Nov 2010</td>
</tr>
<tr>
<td>NCEP data plug-ins (decoders)</td>
<td>29 Oct 2010</td>
<td>Early Dec 2010</td>
</tr>
<tr>
<td>NCEP Perspective</td>
<td>13 Dec 2010</td>
<td>Late Jan 2010</td>
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- Bug fixes delivered to RTS during extended testing phase
- New requirements will be addressed as resources permit
- Different hardware configurations between WFOs, RFCs, NCs
  - Increased NetApp Storage @ NCs – 26Tb
  - Double the # of EDEX Servers @NCs
Software and Testing Schedule

- **NAWIPS systems removed via a phased transition agreeable to Centers and NWSEO**
- **AWIPS I systems removed when AWIPS II functionality of AWIPS I is supported by NCF and is not during “peak weather season” of NCEP Center**
- **GEMPAK will still be supported/Emergency fixes only!**
Overall Schedule

Migration Planning

Centers Review and Approve Plan

Software/Functionality Migration

Center Application & Script Migration

Operational Testing & Evaluation Planning

Evaluate Incremental Migration Releases

Forecaster Integration Testing (FIT)

NC Field OT&E (and migration signoff)

New Release Schedule

NAWIPS Legacy Maintenance

Version 5.11 Deliveries

Version 6.0

Bug Fixes

Emergencies Only!

Fiscal Year is from October to September

You are here
Phased Plan to AWIPS II

**Preparation Phase** - present – January 2011
- *System OTE Period*
- *Testing versions on Unidata servers as new drops are available*
- *Begin FITs on NCO Test Bed by forecasters and software developers*

**Transition Phase** - January 2011 – Late Spring 2011
- *“NAWIPS OTE”*
- *FITs on NCO Test Bed to include Unidata*
- *Hardware is installed at Centers and software is baseline configured*
- *Emphasis on Training*
- *Testing of operational component functionality*
  - Data flow and ingest
  - Display techniques
  - Post-processing
  - Product creation
Phased Plan to AWIPS II

- **Consolidation Phase** – Summer 2011 into FY12
  - *National Field OTE & National Deployment*
  - *NCEP Center involvement with Field OTE*

  - *Final testing phase of all product generation*
  - *AWIPS II system becomes primary system for disseminating products currently produced by AWIPS I and NAWIPS systems.*

  - *Removal of AWIPS I hardware @ NCEP Centers*
  - *Removal of NAWIPS workstations that create operational products*
  - *Migration of local applications by each Center*

  - *Unidata obtains first version of migrated NAWIPS/AWIPS software*
  - *Unidata support of GEMPAK for 18 months after initial full deployment from NWS AWIPS Program*
Training Plan

• NWSTC will provide sys admin training for AWIPS II ~ FY11Q2

• AWIPS II Documentation will be provided by RTS

• NCO will enhance documentation to include National Center Perspective in CAVE – needs coordination with AWIPS Program

• NCO Test Bed will be used initially to test software functionality and to train forecasters/IT Specialists

• Open the NCO Test Bed for Unidata Community for training purposes – “train the trainers”
Unidata Involvement

- AWIPS II migration efforts first priority of NWS in FY11
- Weekly Migration Telecons with Centers and Unidata
- SIB is committed to assisting in software configuration and training forecasters and key personnel at Unidata in FY11 and into FY12
- As the migration gets closer to full deployment – Unidata will have more involvement with NWS/OST AWIPS Program
- Liaison with the University community
- **NCEP continues to view Unidata as a critical partner for NCEP’s total mission**
Benefits for Unidata Users

- Facilitate Research to Operations
- Classroom tool/training
  - *Weather Event Simulator ~ Development 2012 / Delivery 2013*
- One NWS Operational System
  - *National Field OTE & National Deployment*
- Less data processing required
- Run your own EDEX to create database
- Modern development environment/platform
  - *Flexible & expandable architecture*
  - *Object oriented languages such as Java and Python*
GEMPAK Support and AWIPS II Licensing

• GEMPAK will be supported until a full replacement is ready
  – GUIs deprecated eventually

• Unidata support of GEMPAK for 18 months after 1st release
  ~ Summer 2013

• AWIPS Program will deliver code to Unidata in the future
  – First release expected December 2011/January 2012

• Licensing of software
  – GEMPAK developed by the Federal Government – open software
  – Once NWS implemented, AWIPS II will have open software policies
  – Some decoders (such as lightning decoder) and tools to disseminate products will be removed in non-government version
  – NCO will discuss with NOAA Legal Affairs on particulars to develop a clear understanding for all users
Response to 2010 Unidata Users Survey

- GEMPAK is not going away any time soon
- GEMPAK ensemble functionality in AWIPS II improved
- Decoding of data will occur in the EDEX.
- NCEP will provide monthly AWIPS II updates/status to Unidata
- NCEP will assist Unidata/Michael in any GEMPAK and AWIPS II questions/issues as needed
- Comments outside of AWIPS II
  - Obtain NWS graphical model output via MAG http://mag.ncep.noaa.gov
  - New GIS Project @ NCEP Create one stop shop to access GIS-format data
Final thoughts…

• AWIPS National Program 3-6 month delay provided opportunity for NAWIPS migrated code to be included in initial deployment

• NCEP transition remains highly dependent on RTS closure of discrepancy reports (DRs) – SIB will be assisting RTS by early 2011.

• NCO Test Bed will be critical in testing software tools and processing load

• Strong partnership will remain between NCEP and Unidata through transition and in the years to follow
Questions?

“From the Sun to the Sea… Where America’s Climate, Weather, Ocean and Space Weather Services Begin”