Origins of EPDT

• Originally SPoRT formed EPDT internally to focus on:
  – Creating advanced display capabilities for NASA research data in AWIPS II environment
  – Create training for AWIPS II development

• General need for AWIPS II development training within community

• Expanded EPDT out into the community

• Funded jointly by GOES-R Proving Ground, and NASA SPoRT

• Support from the National Weather Service
GOES-R/JPSS Proving Ground EPDT

Objectives:

- Create a community environment to share AWIPS II development knowledge
- Develop technical expertise of AWIPS II within NASA, NOAA’s CIs, and NWS
- Create AWIPS II plug-ins for GOES-R proxy and JPSS data
  - Ingest
  - Analysis
  - Display
- Provide feedback to NWS on:
  - External development process
  - Governance of locally developed AWIPS II software
Learning Structure

- **Conference Calls**
  - Prepare for initial hands-on learning
  - Supplemental topics

- **Hands-on Learning**
  - Classroom setting learning
  - Learn to develop a plug-in from ingest to display

- **Code Sprint**
  - Participants pick project and “learn by doing”
  - Work on projects in small groups
  - Groups help each other
Hands-on Learning Training

• Topics covering:
  – Ingest Plug-in EDEX (Day 1)
  – Data Model Plug-in (Day 1)
  – Visualization Plug-in CAVE (Days 2-3)

• Hands-on exercises

• Training was recorded and provided back to NWS
Code Sprint Training

- Team broken into small groups
- Groups actively develop project during sprint
- “Learn by doing” something meaningful
- Produce working AWIPS II feature by end of code sprint
- Continue working on feature after code sprint ends
Group A and Group B

• Group A (14 Participants)
  – Conference calls began Fall 2012
  – Hands-on Learning March 2013
  – Code Sprint Fall 2013
  – Code Sprint Fall 2014

• Group B (14 Participants)
  – Conference Calls began Early Spring 2014
  – Hands-on Learning April 2014
  – Code Sprint Fall 2014
Participant Breakdown

• Limit size to facilitate group learning and development activities
• Participants are nominated by organizational leaders
• One representative from:
  • NWS Regions
  • Each NOAA Cooperative Institute (and SPoRT)
  • MDL and GSD
  • Raytheon
  • NWS SEC
  • GOES-R PG AWIPS II developer
• **Team Lead/Instructor:** Jason Burks (NASA SPoRT)
• **Instructor:** Max Schenkelberg (Raytheon)
• **Advisor:** Ed Mandel (NWS/OST SEC Development Branch Chief)
Group A Fall 2013 Code Sprint

- Sept 24 - 26, 2013
- EPDT subgroups worked on projects
  - Tracking Meteogram
  - RGB Recipe
  - mPing ingest and display
  - Mini-EDEX
- Significant progress
- Furthered learning
RGB Recipe Project

• Extend true-color capabilities in AWIPS II
  – Currently baseline true-color capability **doesn’t** provide functionality needed for EUMETSAT recipes
  – Provide base for Graphical User Interface for RGB Recipes

• Add recipe combination of data
• Combinations can be saved to XML localization format
• Identified current deficiency in AWIPS II true color imagery display
Example of RGB Recipe

Red
Green
Blue

Difference
1
2

Channel
6.2μm
Channel
7.3μm
Channel
9.7μm
Channel
10.8μm
Channel
6.2μm

Difference
1
2

Input

Invert

Derived Parameter

XML

Derived Parameter

SPoRT

NASA

NOAA
Group B

• 15 attendees
  – Groups involved include:
    • NWS SEC, NWS OH, NWS MDL, SSEC, CIRA, CIMMS/NSSL, NOAA GSD

• Hands-on Learning April 1-3, 2014

• Code Sprint Scheduled for Fall 2014
  – Focus of code sprint will be GOES-R plug-in development
  – Will have Raytheon developer present to help with questions
Feedback/Improvements

• Collected feedback from Group A
• Adapted training based on feedback to make Group B training better
  – Expanded Visualization plug-in development section
  – Slowed down presentation of Visualization plug-in
  – Adjusted to take into account new features in AWIPS II
• Collected feedback in Group B for possible future versions
Future EPDT

• Mixed learning/code sprint Group A Fall 2014 Focus on GOES-R product needs in:
  – Ingest
  – Display
• Merging Group A and Group B conference calls
• Several requests for Group C
• Need funding to address additional plug-in needs
  – EPDT represents a pool of trained developers
  – Could address JPSS AWIPS II needs
• EPDT Members working with Core AWIPS II developers to navigate external needs, be part of planning in NWS
Questions