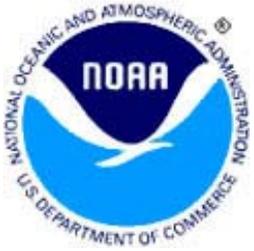# National DOH Meeting

AWIPS II and the Hydro Program

July 15, 2008

Contract with Raytheon

- Re-compete contract awarded to Raytheon Technical Services (RTS) on August 17, 2005 includes:
  - O&M Services
  - Software Maintenance and Support (SMS) Option
  - Continuous Technology Refresh (CTR) Option
    - Software
    - Hardware
    - Communications

- Key aspect of Raytheon proposal was an innovative plan to re-engineer AWIPS software into a Service Oriented Architecture (SOA), which they call AWIPS-II
  - AWIPS-II project funded within our existing budget profile via O&M savings relative to the previous contract

Current and Planned AWIPS Projects
Of Interest to Hydro Program

- **RFC Archive Server Replacement**
- **River Ensemble Processor (REP) Replacement**
- **PowerVault Decommissioning**
- **OSIP 07-059 Project to Define RFC AWIPS Configuration**
- **OSIP 07-054 Project to Re-evaluate requirements for RFC Archive Server**
- **AWIPS-II**
- **AWIPS-II Extended**
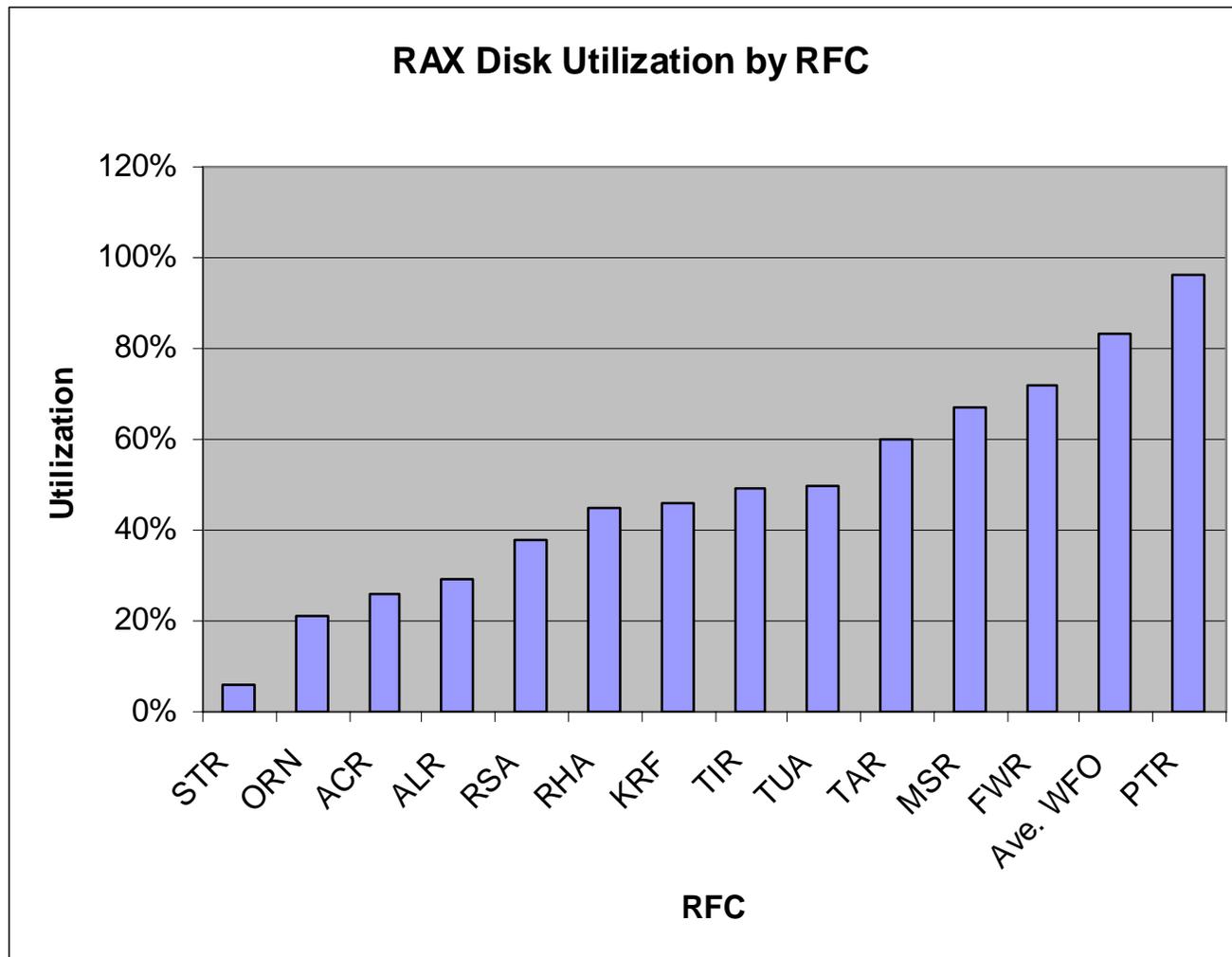 - FEWS
  - N-AWIPS Migration
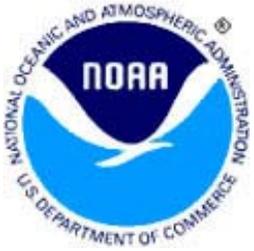
RFC Archive Server (RAX) Replacement

- Initially no technology refresh funds were identified for this component and others (WFO Archiver, REP, etc) so the AWIPS program stretched all server lifecycles to five years to free up funds to refresh these devices

- Funds provided based on initial acquisition cost and will support "form fit and function" replacement (+Moore's Law)
  - Specifications:
    - HP ProLiant Server w/ dual Core Intel Xeon @ 2.66GHz
    - 1 GB RAM
    - 6 ea. 10,000 RPM 146GB hard drives
    - 16x DVD+RW
    - DAT 72 26BGB
  - FMK's were shipped in mid May –Installation ongoing

Current RFC Archive Server Disk Utilization

RAX Disk Utilization by RFC

Note: TUA and ORN have additional storage in play

River Ensemble Processor (REP) Replacement

- – Originally funded by the Hydrology Program using one year funds with no lifecycle maintenance funds provided
- – AWIPS Program restructured hardware plans to fund cyclical replacement with same form fit and function as the original
- – Preliminary Engineering Change Proposal (PECP) for this work was received from Raytheon on February 2008
- – Project funded on June 5, 2008

PowerVault Decommissioning

- – Desire to decommission SCSI based PowerVault mass storage device which currently hosts the PostgreSQL data base
- – Current pilot project to move the database to the Network Attached Storage (NAS) unit and verify performance meets end user requirements under actual conditions
- – Status:
  - Pilot test complete   Nov 30, 2007
  - Test report and recommendation originally scheduled for mid-January but Raytheon has requested an extension to do more testing with new NAS unit

OSIP Project 07-059 to Define RFC AWIPS Configuration

- Recognition that current AWIPS architecture was originally based on the WFO mission –This OSIP project will define the proper RFC configuration

- Introduction of the River Ensemble Processor (REP), helped meet RFC requirements but was not sufficient

- RFCs make greater demands on the relational database access
  - Two open trouble tickets on shefdecode performance that can't be fixed with simple AWIPS software fixes
  - Build on field pilot tests within current hardware baseline constraints

OSIP Project O7-054: Re-evaluate RFC Archive Server Requirements

- One year funds were provided by the Hydrology program and FIRC to purchase the RFC Archive Server (RAX)—AWIPS Program has identified funds for Form Fit and Function tech refresh

- A FFF replacement, even with the benefit of Moore's Law, may not be sufficient to support the growing RFC science requirement

- This project will identify gaps in this RAX solution to see if new funds need to be identified for the next RAX cyclical refresh.
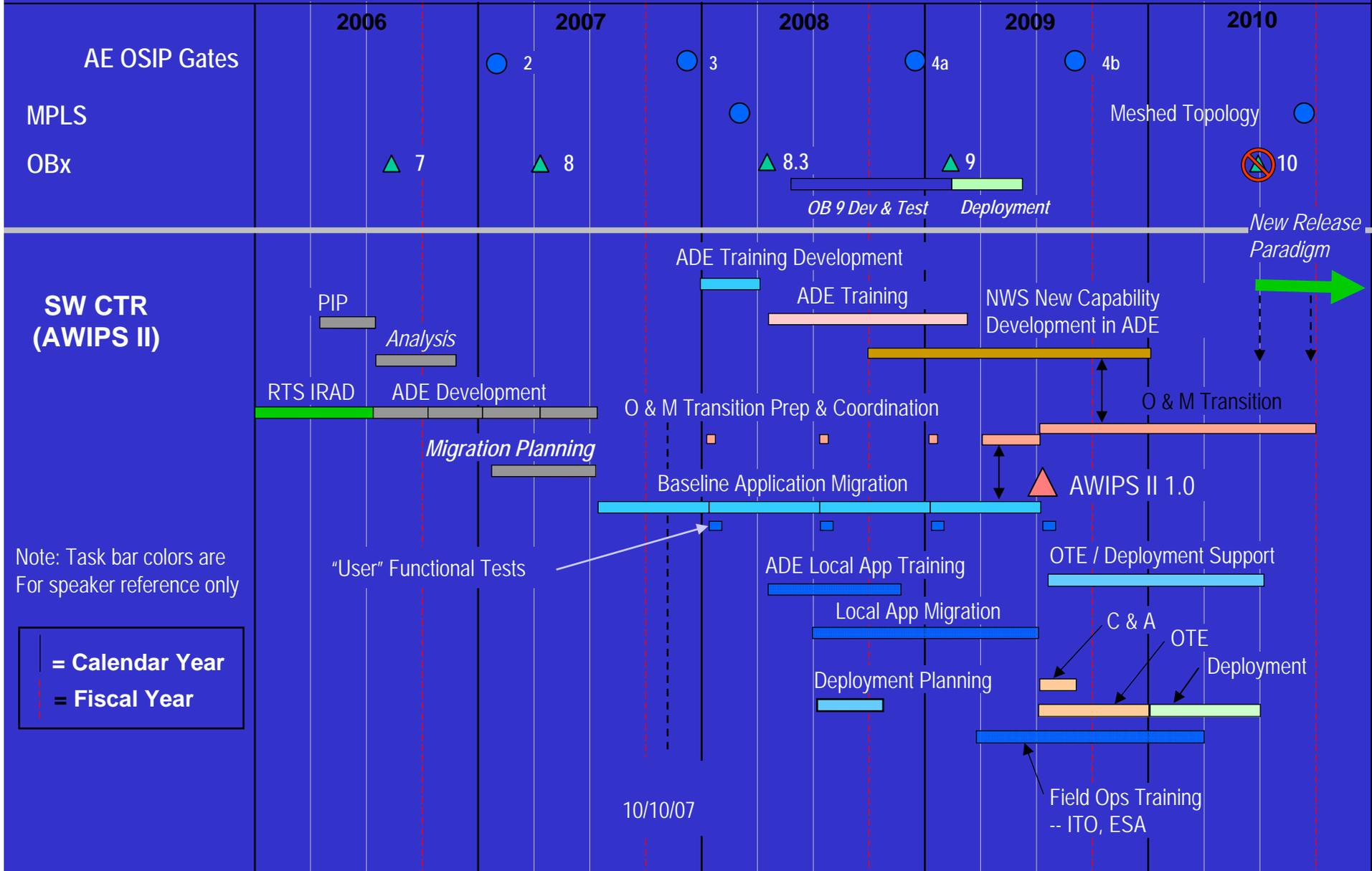
AWIPS-II

- Task Order 8 focused on D2D functionality and infrastructure was completed on March 12, 2008
- Task Order 9 (TO-9) focus is on GFE migration and remaining D2D functionality and is due to be delivered on September 4, 2008
- Over to Ronla

BACKUP

AWIPS II
Roadmap

Migration Strategy

	2006	2007	2008	2009	2010

AE OSIP Gates — 2, 3, 4a, 4b

MPLS — Meshed Topology

OBx — 7, 8, 8.3, 9, 10

OB 9 Dev & Test Deployment

New Release Paradigm

SW CTR (AWIPS II)

ADE Training Development

ADE Training

NWS New Capability Development in ADE

PIP

Analysis

RTS IRAD   ADE Development

O & M Transition Prep & Coordination

O & M Transition

Migration Planning

Baseline Application Migration

AWIPS II 1.0

"User" Functional Tests

ADE Local App Training

OTE / Deployment Support

Local App Migration

C & A   OTE
Deployment

Deployment Planning

Field Ops Training -- ITO, ESA

Note: Task bar colors are For speaker reference only

| = Calendar Year
= Fiscal Year

10/10/07

AWIPS Evolution
Roadmap

2007　2008　2009　2010　2011　2012　2013　2014

AWIPS II

Baseline Application Migration

▲ AWIPS II

OTE / Deployment

Governance Model

AWIPS II – Open Source

AWIPS II Extended

NAWIPS Migration

Thin Client

WES Integration

CHPS

AWIPS II Enhancements

Data Delivery

IOC   FOC

Phase 1 Collaboration   Phase 2   Phase 3

| = Calendar Year
| = Fiscal Year

Information Generation   IOC   FOC

Visualization   IOC