LAPS in AWIPS II

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presentation for two audiences

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History of LAPS in AWIPS

- Integral component of AWIPS since inception (mid 1990s)
    - 61 x 61 x 21, $\Delta x=10km$, centered on WFO
- Support to WFO users has not been up to same standards as other components of AWIPS
    - Last update in 2002
- Usage of LAPS very consistent at some offices, not at all in others
    - Terrain issues were a big turn-off for WR

Current status in AWIPS

- LAPStools (found on *Tools* menu)
  - Allows the user to resize and relocate the grid, and change the execution frequency
  - Provides convenient access to what-got-in reports
    - Shows data sets used in analyses, blacklisted data
- Small number of WFO users initializing local models
  - Not a very convenient process
    - Move data in/out of LDAD
  - "Hot start" option giving mixed results
  - Thanks to Bob Rozumalski (COMET) for making this practical in the forecast office

Data sources in AWIPS
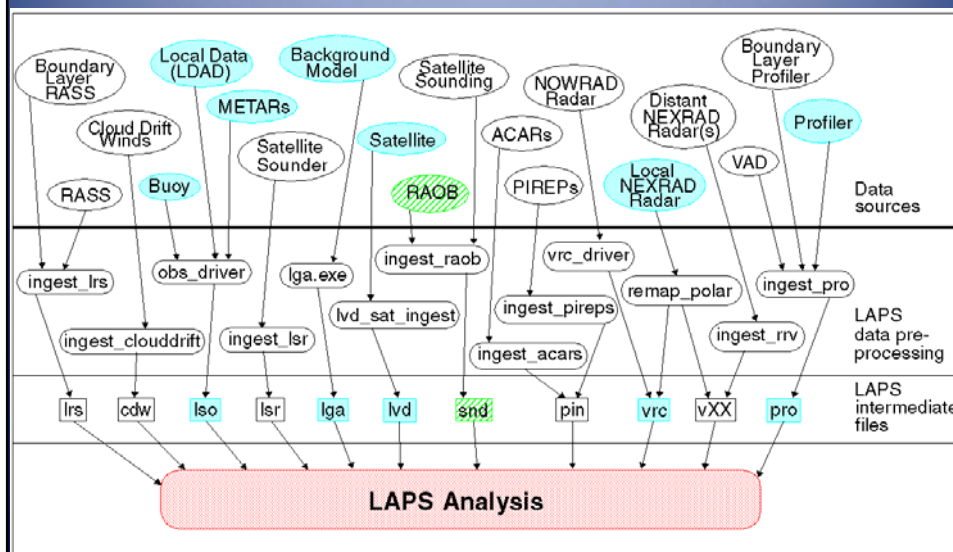
What's missing?

- GPS vapor
  - First release of AWIPS II
- Doppler velocity
  - Efficiency issues

First release of AWIPS II (next year)

- Orders from APO: replicate what's on AWIPS
  - Permitted exception: new version of LAPS
    - Thank you Pablo Santos!
  - Done, mostly
- New local database: EDEX
  - Simple reformatters make EDEX data look like old AWIPS data (netCDF)

AWIPS II basics

- Better hardware
- Java-based display (CAVE)
  - Distinction among display scales is diminished
- Service-oriented architecture and migration to Open Geospatial Consortium standards
  - Redundant servers for satellite, radar, grids, obs
  - Registry/repository conventions
    - Being developed jointly by FAA and NWS
  - *Which data sets should be locally cached?*
    - All data are cached in old AWIPS
- Thin Client

Implications for LAPS

- EDEX presents development issues
  - Raytheon wants to make it OCG compliant, make it act like a web service. But when?
  - Avoid (more) throwaway code
- Opportunities
  - Easy to get data sets not stored locally
    - Reg/rep makes things automatic
  - Faster turnaround, more frequent updates
    - Faster hardware, more efficient data handling

AWIPS II Thin Client

- Primary users: Incident METeorologists
  - NWS forecasters on site at fires and other emergencies
- Laptop computers powerful enough already
  - PADS project
- Web services reduce data requirements
  - Specify areal subsets
  - Minimizes comms requirements

Requirements and desirable features

- Downscaler
  - Support wildfire incident management
  - Urban chemical release or smoke
    - GTAS project, link with HYSPLIT
  - Grid increments down to 10 m (!)
  - New multigrid approach offers much promise
    - Eventually replace hotstart
- GUI (LAPStools)
  - Support local modeling, ensembles, verification