

Desirable Attributes of a SATB

A Developers Point of View

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Desirable Attributes of a SATB

- Data access
 - A common set of tools to access all of the meteorological observations, analyses and forecasts (e.g., GRIB, BUFR, MCIDAS fmts, NETCDF, HDF*, etc...) - Standard and supported in operations as well
 - Allow remote access from places other than “.gov”, non-Federal Personnel - SATB should be placed outside the firewall
- Common display tools
 - A wide array of software to display products and output (IDL, NCAR graphics, gnuplot, GrADS, MCIDAS, etc...) – Standard and supported in operations to help with eventual transition.
- Dissemination tools
 - A set of common tools to appropriately disseminate experimental products (e.g., GRIB (1&2), BUFR, MCIDAS fmts, NETCDF, HDF*, etc...)
- Local Liaisons
 - A technically and meteorologically sound person or a team to help developers implement their algorithms and disseminate their results.

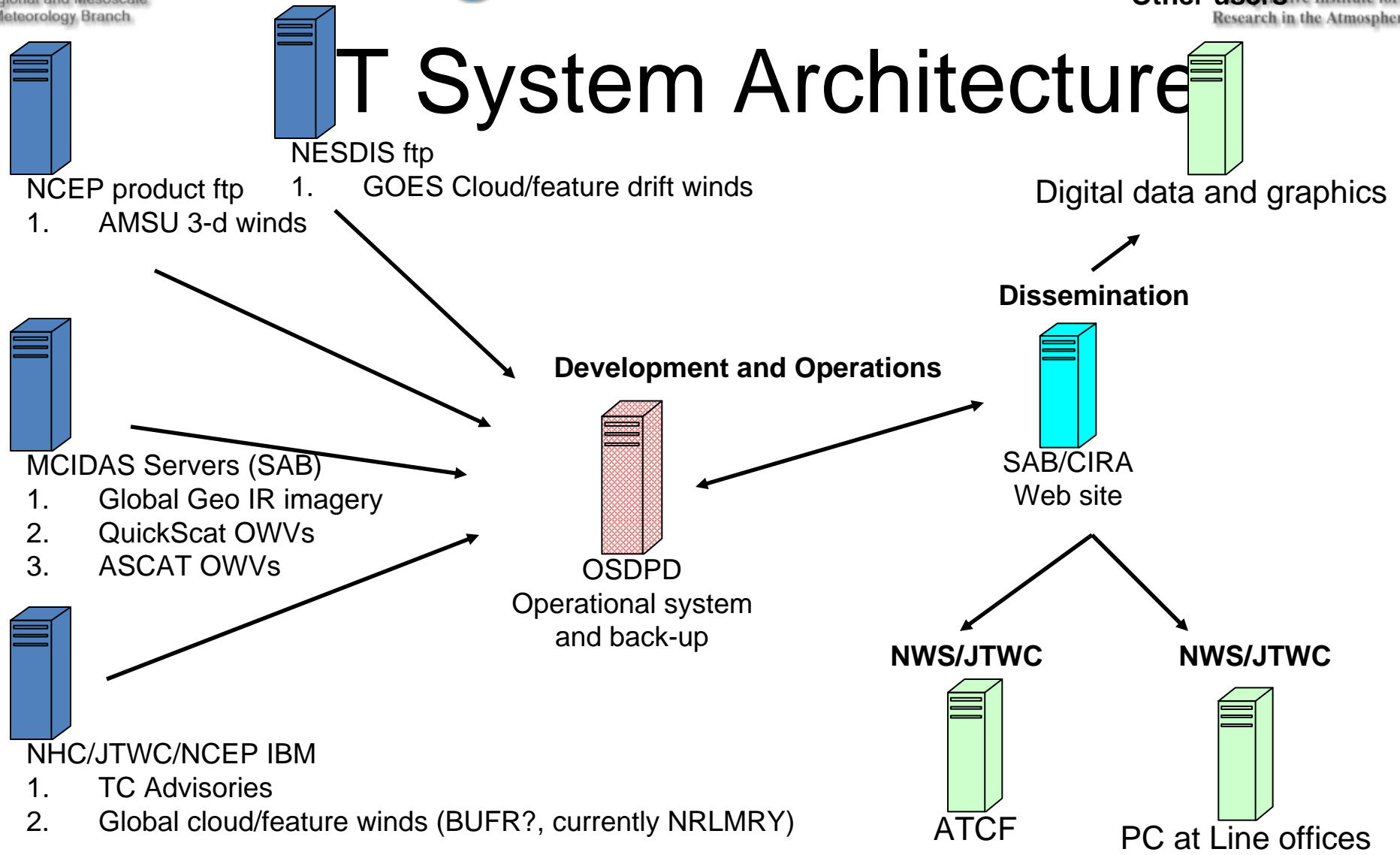
Example 1: GOES Satellite Only Tropical Cyclone Surface Wind Analysis

INPUT

- Global Geo. IR imagery
- Cloud/Feature track winds
- QuikSCAT OVW
- AMSU-based 2-d winds
- Real-time TC advisories

Source

- MCIDAS Servers at SAB
- ftp from NESDIS (GOES), ftp from NRLMRY (rest)
- MCIDAS MD files
- ftp from NCEP
- ftp from JTWC & NHC
- CIRA ingest & post (DPEAS)



Input Data Includes: IR imagery (GOES-E, GOES-W, MTSat, MSG, MET-7), Cloud/feature winds from NESDIS and others, TC Advisories from JTWC, CPHC and

Currently

Input Data Types

6

Sources for those data

8

Example 2: Tropical Cyclone Genesis Product

Products to display

- Gridded probabilities
- Time series plots
- Gridded model fields
- Gridded satellite products
- Satellite Imagery

Display tools

- GrADS
- gnuplot
- GrADS
- GrADS
- MCIDAS

Problems Encountered

- No GrADS or gnuplot on developmental machine – installed by developer
- Changes in operating systems – reinstalled
- Capabilities lost during backups - reinstalled
- Web pages written in .asp ... SAB only handles .html – developers rewrote web pages in html
- Migration to the operational system (AIX) not smooth. GrADS, gnuplot not working and holding up the current and future project. Communication is hampered by time zones and remote access.
- The current version of MCIDAS not yet installed on the developmental machine... needed to read MTSAT 's current format – developers pulling MTSAT data to SAB via ftp.

Example 3: Statistical Typhoon Prediction at NRLMRY/JTWC

Fairly smooth experimental and operational transition because:

- The TEDS database provided FORTRAN callable data access
- Buck Sampson (@ NRLMRY) is a good and capable liaison
- The Joint Typhoon Center (i.e., Operations) was motivated
- The Automated Tropical Cyclone Forecast (ATCF) system provided a means to create and disseminate forecasts in operations.

Problems with this project

- The TEDS database, while supporting new datasets at NRLMRY, money was not allocated for similar upgrades at JTWC.
- Now all forecasts are run outside of operations at NRLMRY and supplied via <https> to the ATCF at JTWC.
 - Resulting in inferior forecasts because of timing (using older interpolated track forecasts)

Summary of Desirable Attributes for a SATB

- Data access
 - A common set of tools that are supported in the SATB and operations
 - Allow remote access - SATB should be placed outside the firewall
- Common display tools
 - A wide array of software to display SATB products – Standard and Supported in operations to help with transition.
- Dissemination tools
 - A set of common tools to appropriately disseminate experimental products to potential users
- Local Liaisons
 - A technically and meteorologically sound person or a team to help developers implement their algorithms and disseminate their results.