

LA-UR-15-26895

Approved for public release; distribution is unlimited.

Title: Met and the ADESH Operations Integration Office

Author(s): McKown, Bradford Thomas

Intended for: presentation to the DOE Meteorology Coordinating Council

Issued: 2015-09-01

Disclaimer:

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under contract DE-AC52-06NA25396. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.



MET and the ADESH Operations Integration Office

Services.
Systems.
Processes.



August 20, 2015

UNCLASSIFIED

ADESH Operations Integration Office

Mission

The ADESH Operations Integration Office (OIO) works to help the Directorate achieve process improvements in efficiency and productivity through strategic investments in sustainable processes and systems.

OIO manages all IT and data systems work and several cross-divisional business processes and services.

OIO works with management and staff to

- define work process requirements,
- identify areas for improvement and efficiencies,
- develop projects and software quality management
- then build or modify systems and processes to meet those requirements while eliminating redundant systems.

UNCLASSIFIED

Slide 2

ADESH Operations Integration Office

- OIO was formed in 2013 to consolidate the management of all IT systems across ADESH in order to:
 - Leverage institutional IT resources. Goal is to eliminate single point of failure with one developer per system.
 - Work with Directorate management team to prioritize development and support for IT systems
 - Manage IT development efforts as projects (not level of effort)
 - Identify cross directorate opportunities for IT development to increase efficiency
 - Identify issues with, and make improvements to, software quality management
 - Support transformation from an internally focused personnel based organization to an externally focused systems based organization

UNCLASSIFIED

How does this apply to MET?

MET – Maintenance and Operations – keep what we have running

- Original system built 20+ years ago
 - HP Unix – “flat files” and scripts to move data
- 2012-2015: Stabilized existing data management system on modern hardware
- Replaced stand-alone servers with virtual “Infrastructure-on-demand” for Yellow Network
- Ensured support for software/hardware
 - Working towards no single point of failure by leveraging institutional computing
 - Current software/hardware support about 2.5 individuals
- Ongoing M&O through request ticketing system
- Upgraded Green (public) access security per LANL requirements

UNCLASSIFIED

Slide 4

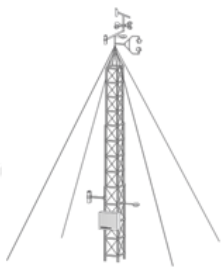
How does this apply to MET?

MET – Development – replace with modern system – FY16

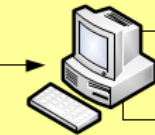
- Priority – MET replacement is a top 5 priority for ADESH
- Follow PMP practices to develop project for MET replacement
 - Draft requirements – in progress
 - Stakeholder identification – in progress
- Ensure LANL standards for software/hardware are followed
 - Software quality – P1040 – determines documentation, development, and deployment requirements.
 - Web page – follow LANL content management standards
- Push for Commercial Off The Shelf (COTS) applications whenever possible (make/buy analysis)
 - Vista Data Vision, MET Console, additional ideas?
- Leverage virtual/cloud computing
- Work with meteorology team to interface new CS 3000 data loggers

UNCLASSIFIED

Slide 5



Met towers



Met-pc
pn1282189.lanl.gov



weathernet-dev.lanl.gov
Development Server



Weathernet-green.lanl.gov



enviroweb.lanl.gov
green web server

<http://www.weather.lanl.gov>



adeshwebsrv
yellow IOD web server
<http://weather.lanl.gov>



weathernet-prod.lanl.gov
Production Server
Linux IOD



sodarpc.lanl.gov



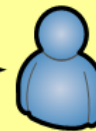
Sodar



Green web user



Yellow web user



Yellow direct request user
(accesses data request via cgi-bin)

All sodar goes to prod and processed by prod

Prod syncs binary data files

Prod pushes data to enviroweb via mirror_ftp.pl

adeshwebsrv requests data from prod

Weathernet-green serves Environwebs raw data requests