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ARM Climate Research Facility Data Management Facility Quarterly Report

NN Keck

September 2014



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1.0 Introduction

The Data Management Facility (DMF) is the data center that houses several critical Atmospheric Radiation Measurement (ARM) Climate Research Facility services, including first-level data processing for the ARM Mobile Facilities (AMF), Eastern North Atlantic (ENA), North Slope of Alaska (NSA), Southern Great Plains (SGP), and Tropical Western Pacific (TWP) sites, as well as value-added product (VAP) processing, development systems, and other network services.

2.0 Key Events During the Quarter

During the second quarter of fiscal year (FY) 2014, the DMF:

- Supported the Brazil (AMF1) deployment
- Supported the Finland (AMF2) deployment
- Supported the Finland (AMF2) deployment shutdown
- Supported the Azores deployment (Phase 2)
- Supported the Oliktok deployment (Phase 2)
- Supported the Manus facility shutdown
- Started Preparations for the ARM Cloud Aerosol Precipitation Experiment (ACAPEX) deployment (Engineering Work Order (EWO)-15993)
- Ran a script for AMF2 status data flow during deployment (EWO-16145)
- Configured the AMF2 system to run SQLite for on-site ingests (EWO-16142)
- Continued migrating services/processes to RedHat 6 (Engineering Change Order (ECO)-867)
- Continued Aerosol Observing System (AOS) Matrix and Harmonization Efforts
- Supported DMF outage during hardware re-racking
- Supported the test and set-up of the Micropulse Lidar Cloud Mask (MPLCMASK) VAP on RedHat 6
- Started supporting the ARM Data Center (ADC) Team Teleconference
- Continued working with Oak Ridge National Laboratory staff on establishing /data/archive policies, data patterns, and file clean-up
- Prepared the DOE fourth quarter metrics
- Migrated task.arm.gov, oss.arm.gov, and maillist.arm.gov to Automatic Weather Stations (AWS) VPC
- Standardized /data/conf version management on the DMF (EWO-14768).

3.0 Upcoming Next Quarter

In the first quarter of FY2015, the DMF will conduct:

- PVC data cleanup (EWO-15980)
- MAG data cleanup (EWO-15981)
- Continued support for all sites, facilities, and mobile deployments
- Manus data recovery, reprocessing, and general cleanup (EWO-15979)
- Finalization of /data/archive policy on new DMF storage system (ECO-975, EWO-15120)
- Assistance with radar collections (EWOs 16238, 16246, 16242, 16250)
- ACAPEX pre-deployment system validation test (EWO-16329).

4.0 Follow-up Items, Questions, and Issues

Currently, the DMF is:

- Waiting on large-file storage at the ARM Data Archive (ECO-00969)
- Waiting for radar time checks (EWO-15006)
- Waiting for the W-Band ARM Cloud Radar Spectra Filter (WACRSPEC) ingest (TASK-2888)
- Waiting for operational VAP documentation (EWO-14455)
- Creating DMF to ARM Data Archive data flow (ECO-1030).

5.0 Concerns Regarding Radar Data Expectations and Current Disk Space on the DMF Metrics

In the fourth quarter of FY2014, the DMF had:

- 3.4 million files received in 53 TB
- 350 thousand files delivered in 20 TB
- 45.1 thousand files delayed for archival
- 214 software package releases
- 735.9 thousand ingest processes ran
- 120 Data Quality and Problem Reporting System (DQPRS) entered for instrument issues
- 35 unique VAPs run in production for multiple sites/facilities
- 3 processing issues on average per day
- 7 archival issues on average per day.

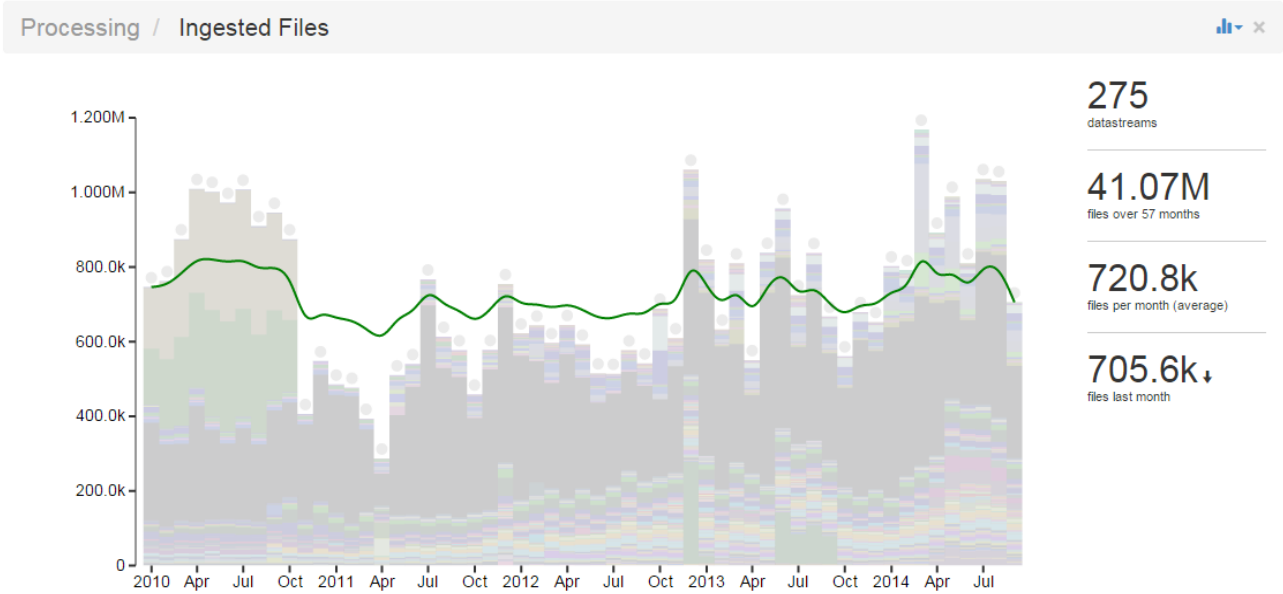


Figure 1. This graph shows the trend for ingested files since 2010.

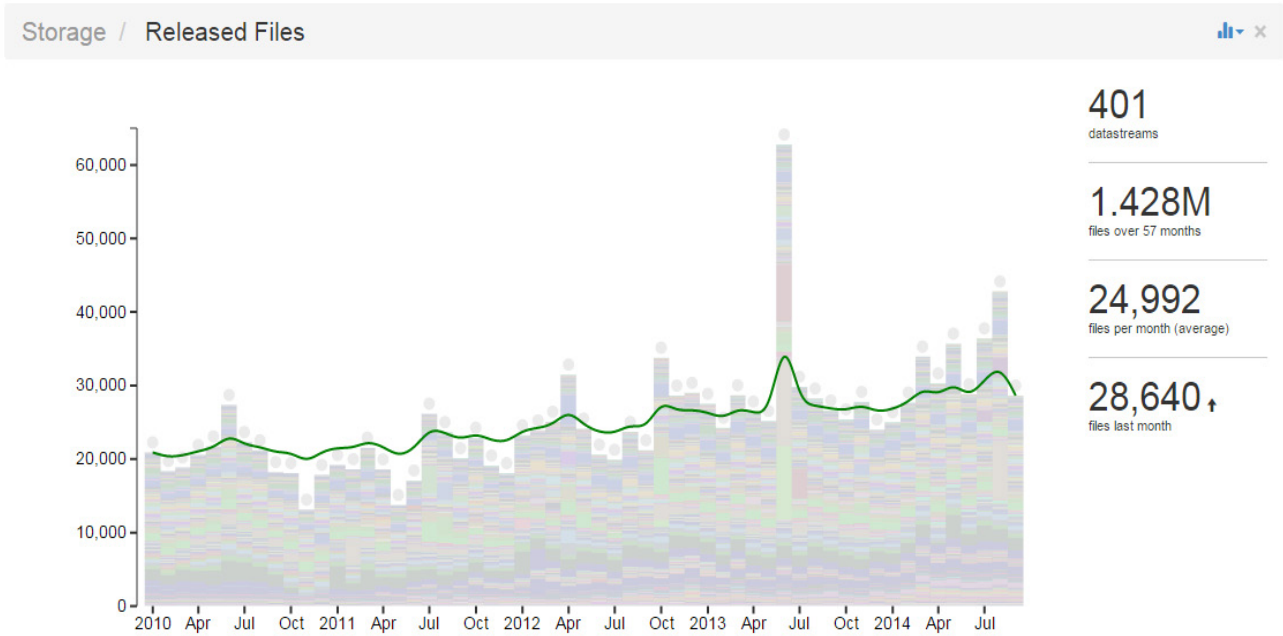


Figure 2. The trend for released files since 2010 is shown in this graph.

To view more graphs like these, please visit <http://www.dmf.arm.gov/statistics/#g/s/>



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