ATMOSPHERIC SCIENCE DATA CENTER UPDATE

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Head, ASDC

CERES Science Team Meeting
May 1, 2012
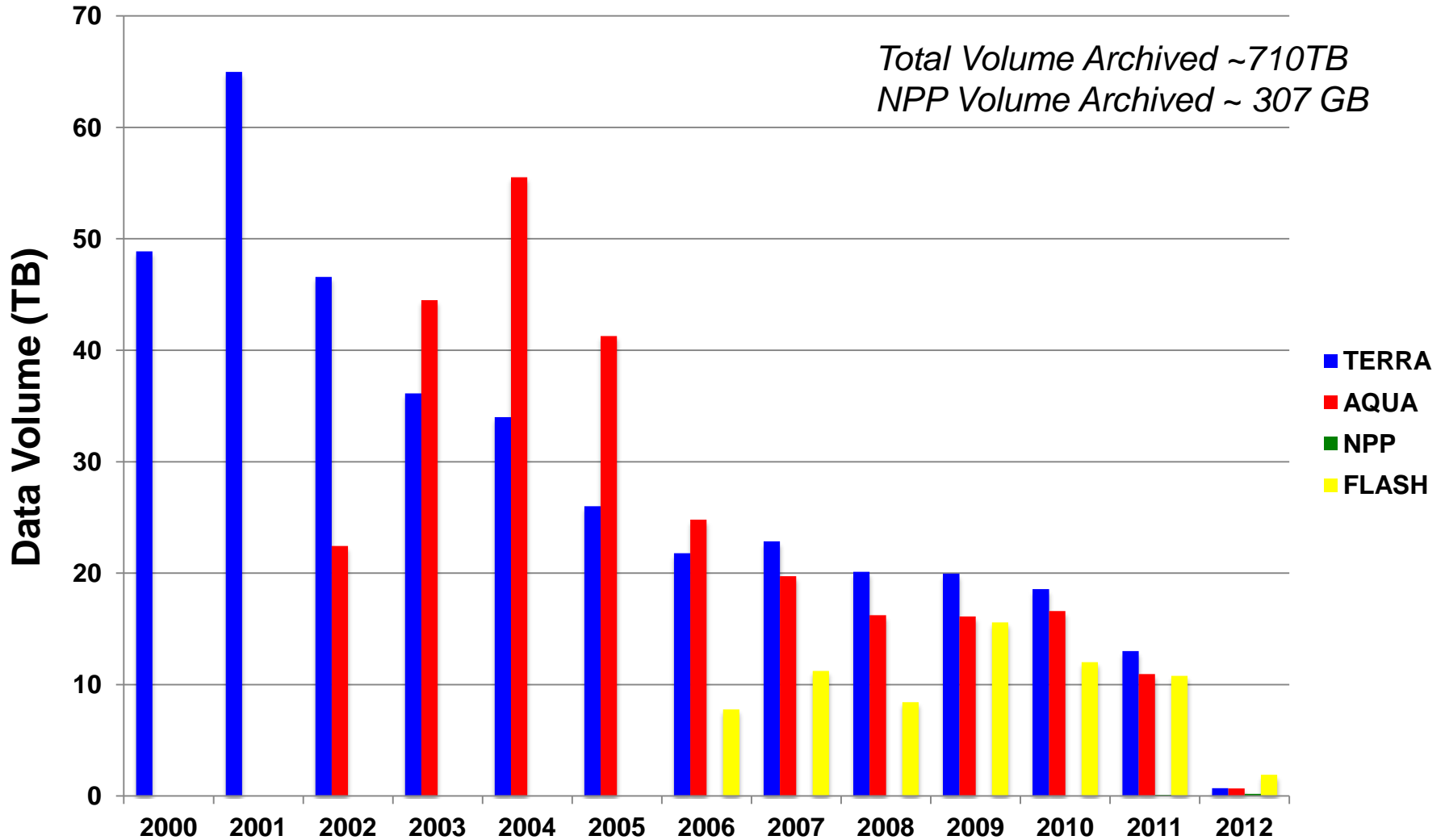
CERES USER METRICS
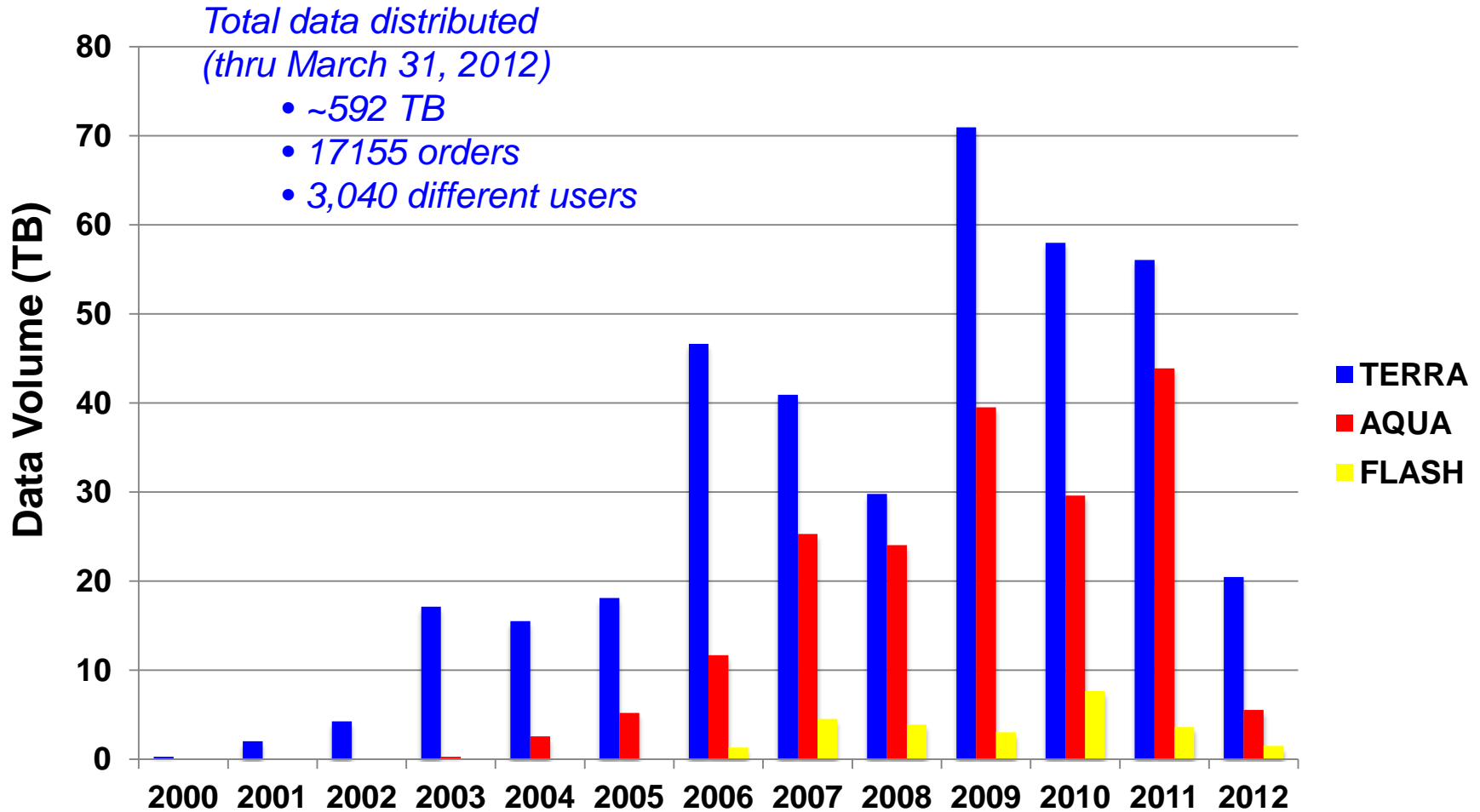
CERES and FLASHFlux Archive Volume
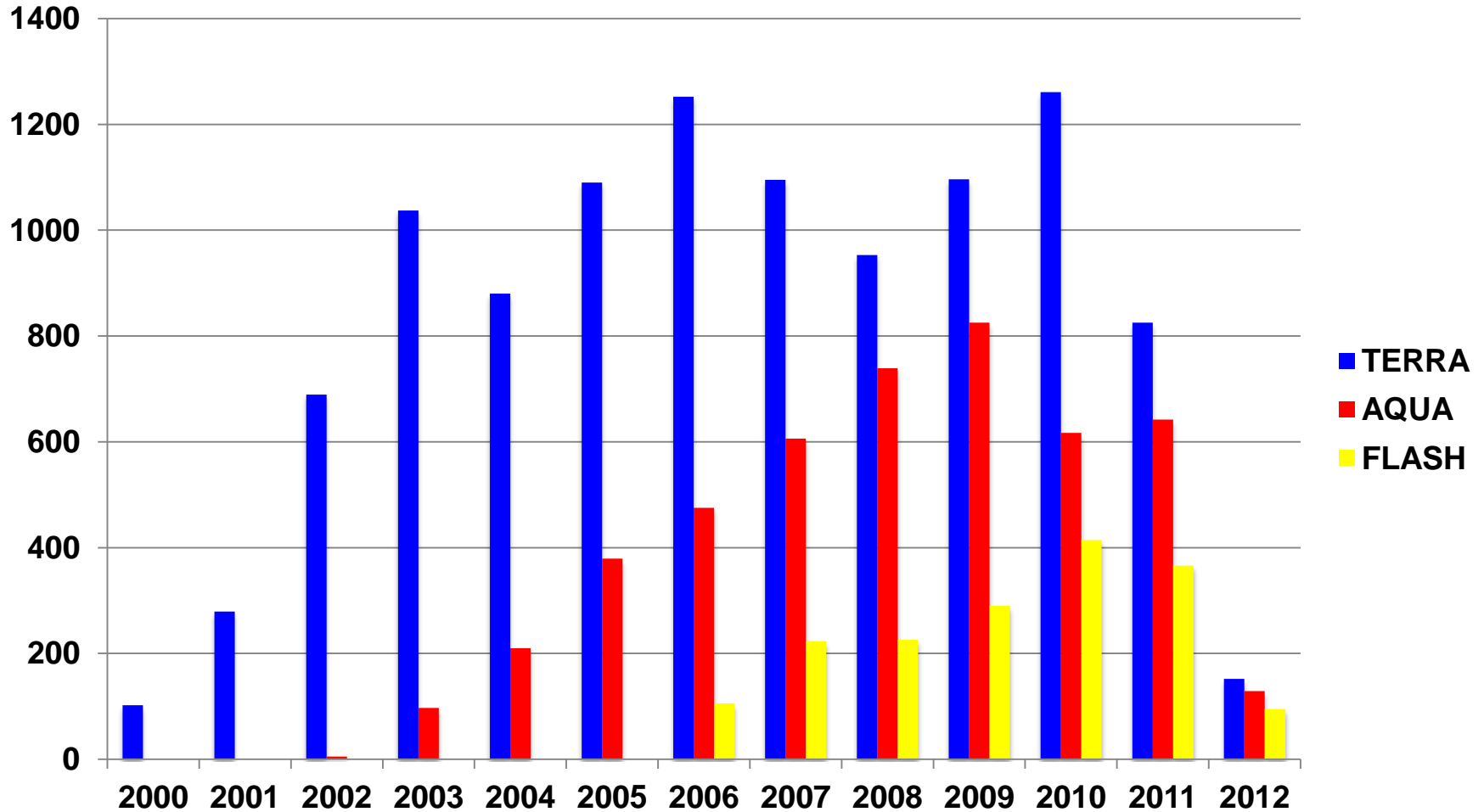
By Data Date through March 2012

Total Volume Archived ~710TB
NPP Volume Archived ~ 307 GB

Legend:
- TERRA
- AQUA
- NPP
- FLASH

CERES and FLASHFlux Data Distribution

Total data distributed
(thru March 31, 2012)
- *~592 TB*
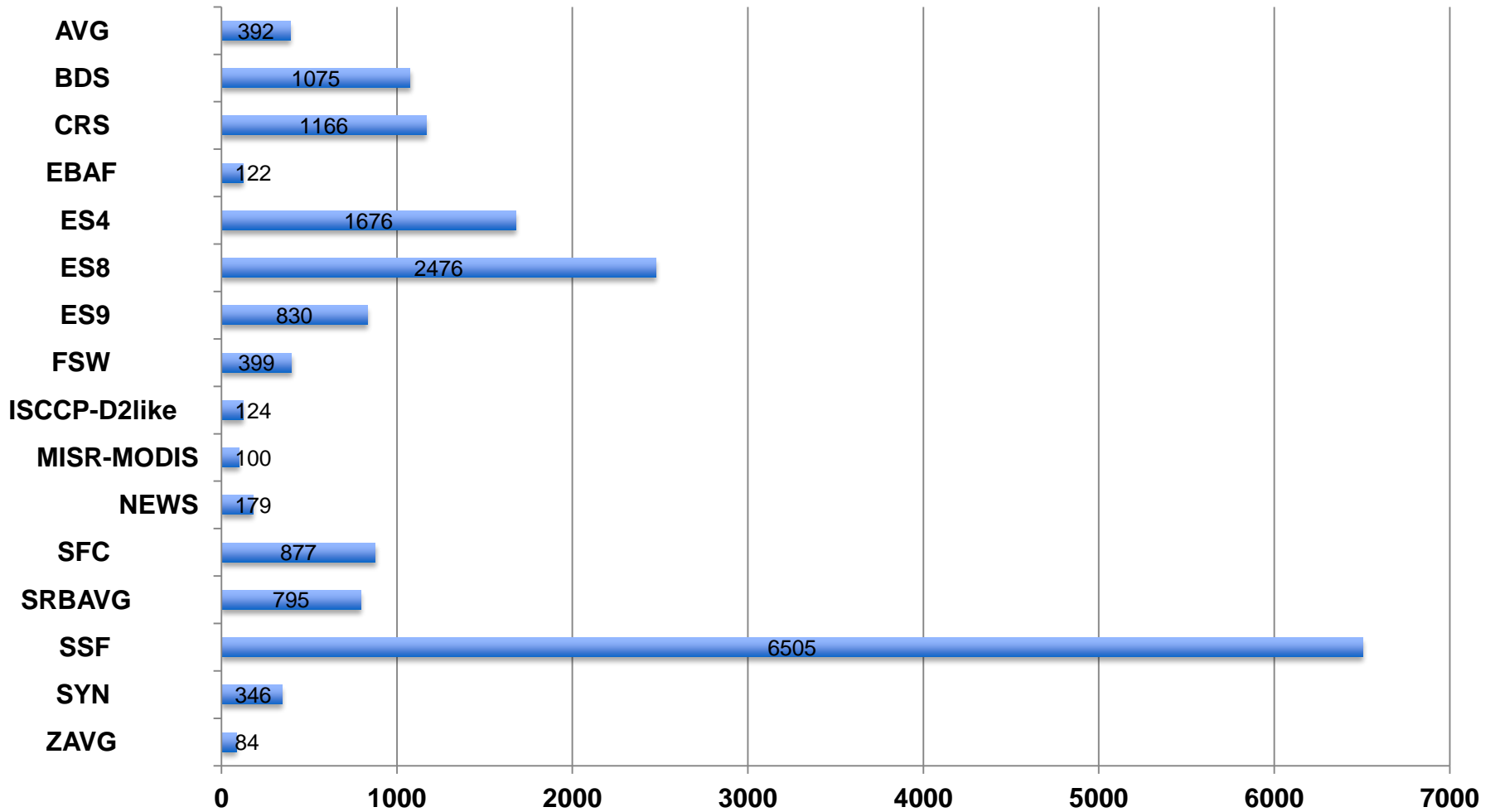- *17155 orders*
- *3,040 different users*

CERES and FLASHFlux Data Orders

CERES Orders by Product
Mar 2000 - Mar 2012

CERES Customers by Affiliation

TERRA

AQUA

TERRA:
- Gov: 40%
- K-12: 0%
- Univ: 48%
- Comm: 4%
- Other: 8%

AQUA:
- Gov: 37%
- K-12: 0%
- Univ: 52%
- Comm: 3%
- Other: 8%

Legend:
- Gov
- K-12
- Univ
- Comm
- Other
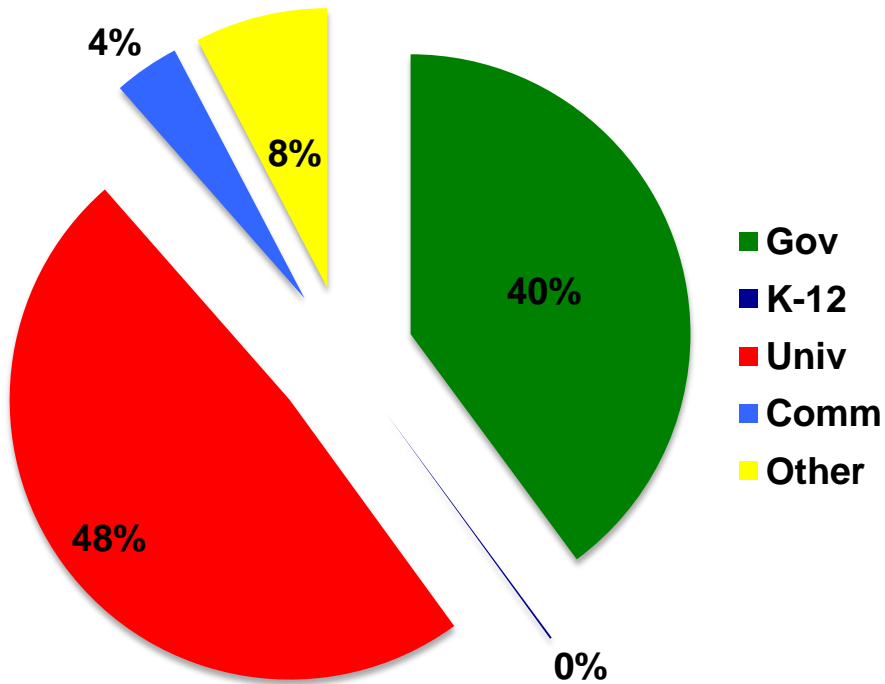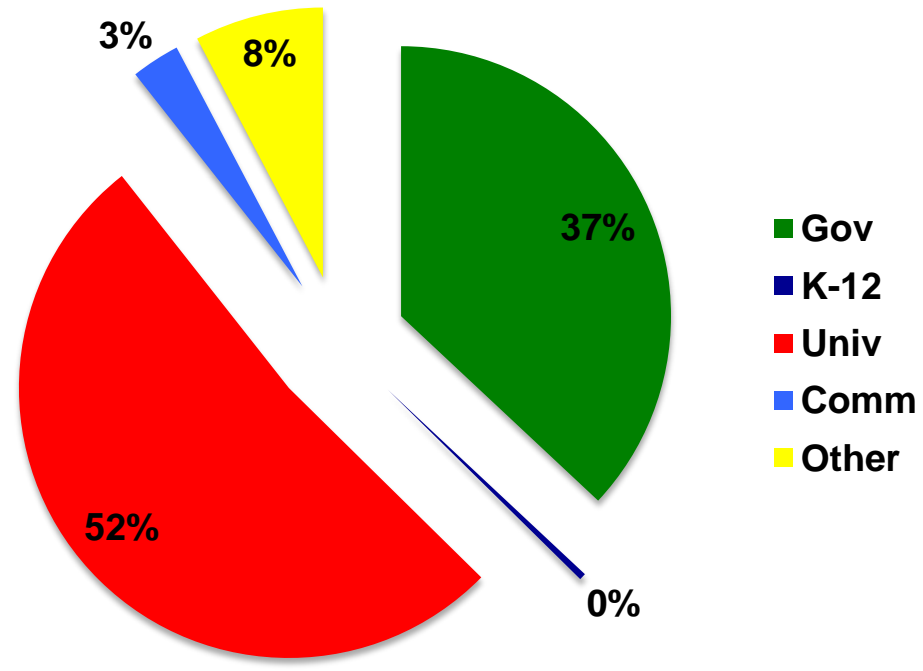
ASDC CERES Data Users

Number of Customers

Number of Customers

1 to 15	25 to 50	~60	~150	~800

1000 km (équateur)
1000 mi (equator)

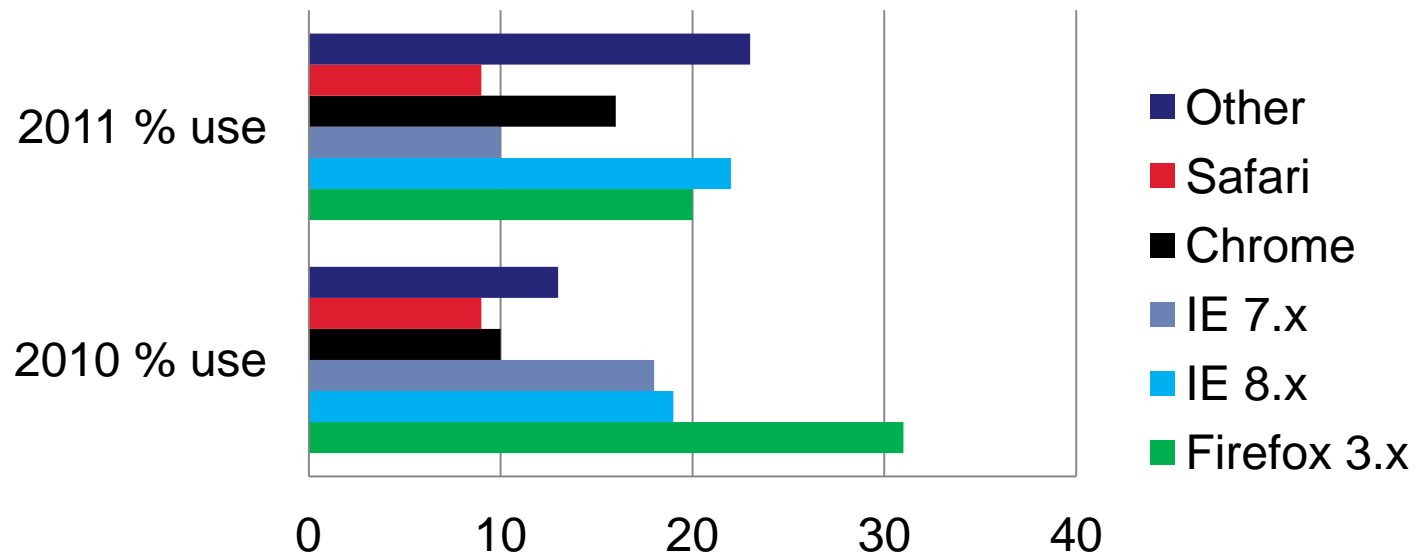© Daniel Dalet / d-maps.com
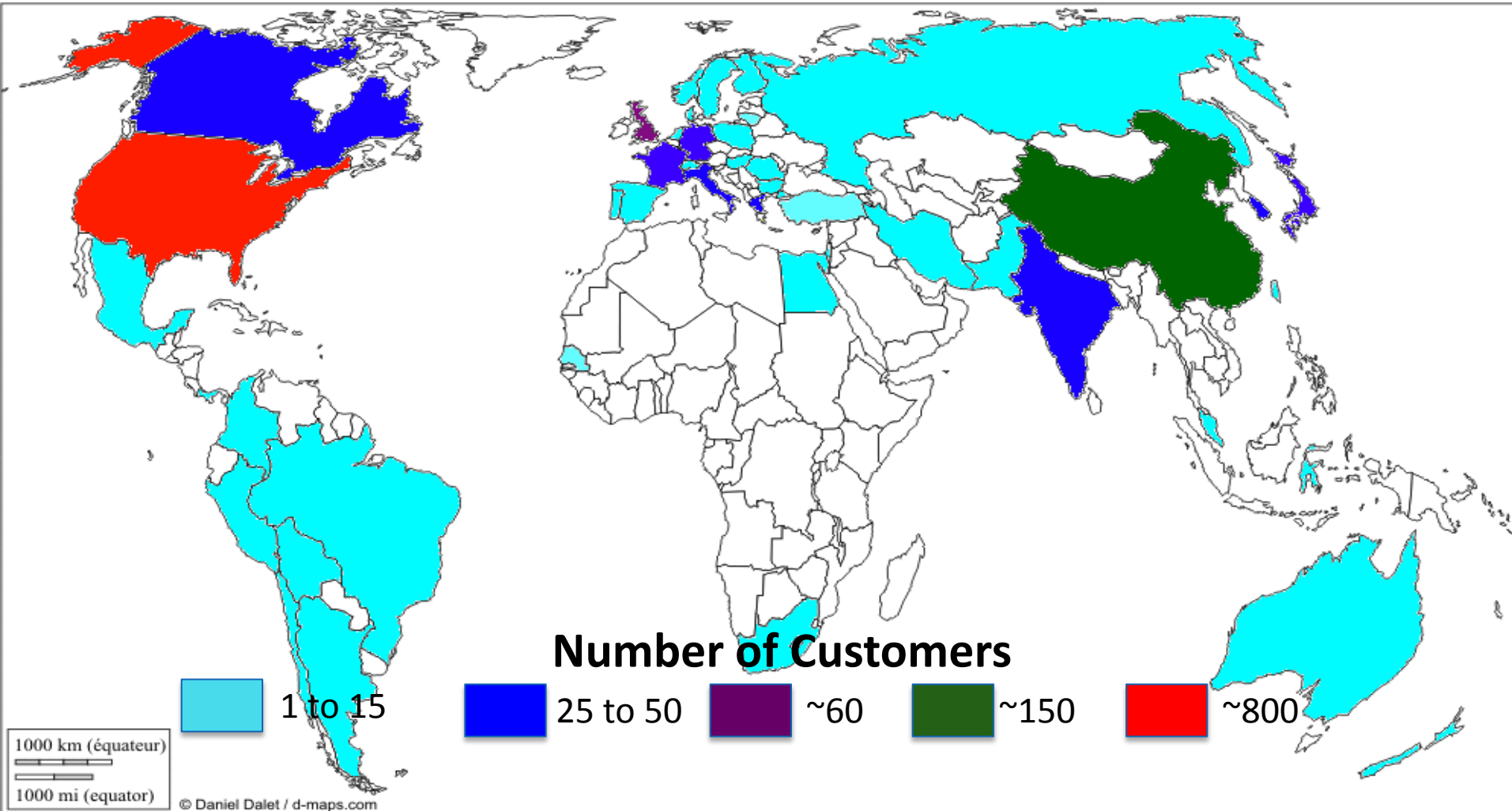
Distribution Mechanisms

Top Browsers Used by ASDC Customers
(as of Nov 2011)

- The ASDC maintains interfaces that are compatible with many current and "not so current" browsers to meet our customers' needs
- The "other" category represents older browsers (IE 6.x), and the emerging use of mobile apps like Mobile Safari for iPhones and Opera for other smart phones

CATALYST

ASDC Fully Engaged in CATALYST

- Supporting the application of software engineering practices to effort
  - Requirements development and management
  - Operational concept documentation
  - Schedule with Gantt chart with critical path
  - Test plans and test cases
- Ensuring the AMI system is stable and consistent
  - Including AMI-P
- Focus on collaboration
  - Recognize that everyone is working toward the same goal
  - Share information as much as possible
  - Work collaboratively to address issues as they arise
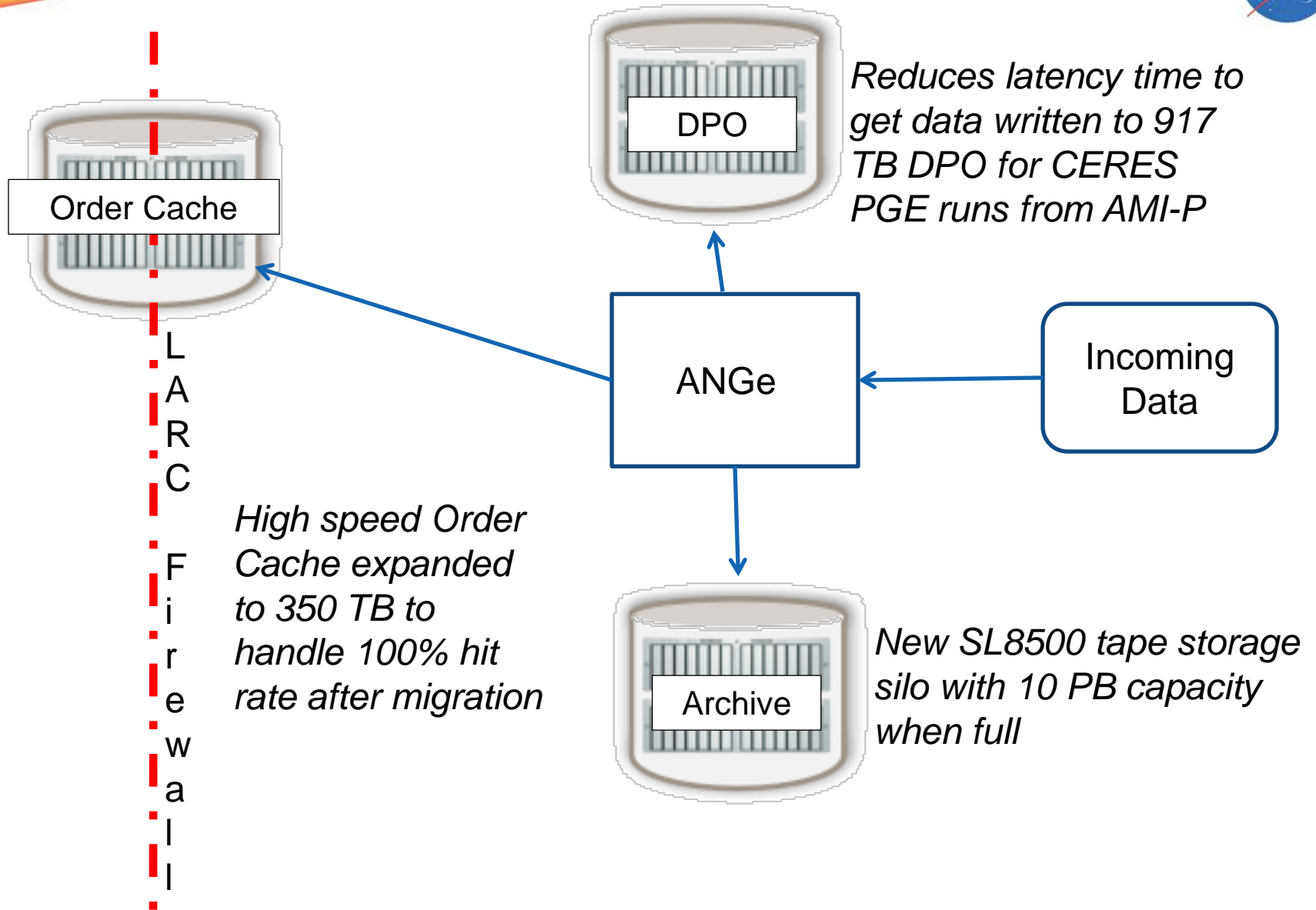
CERES Processing on AMI-P
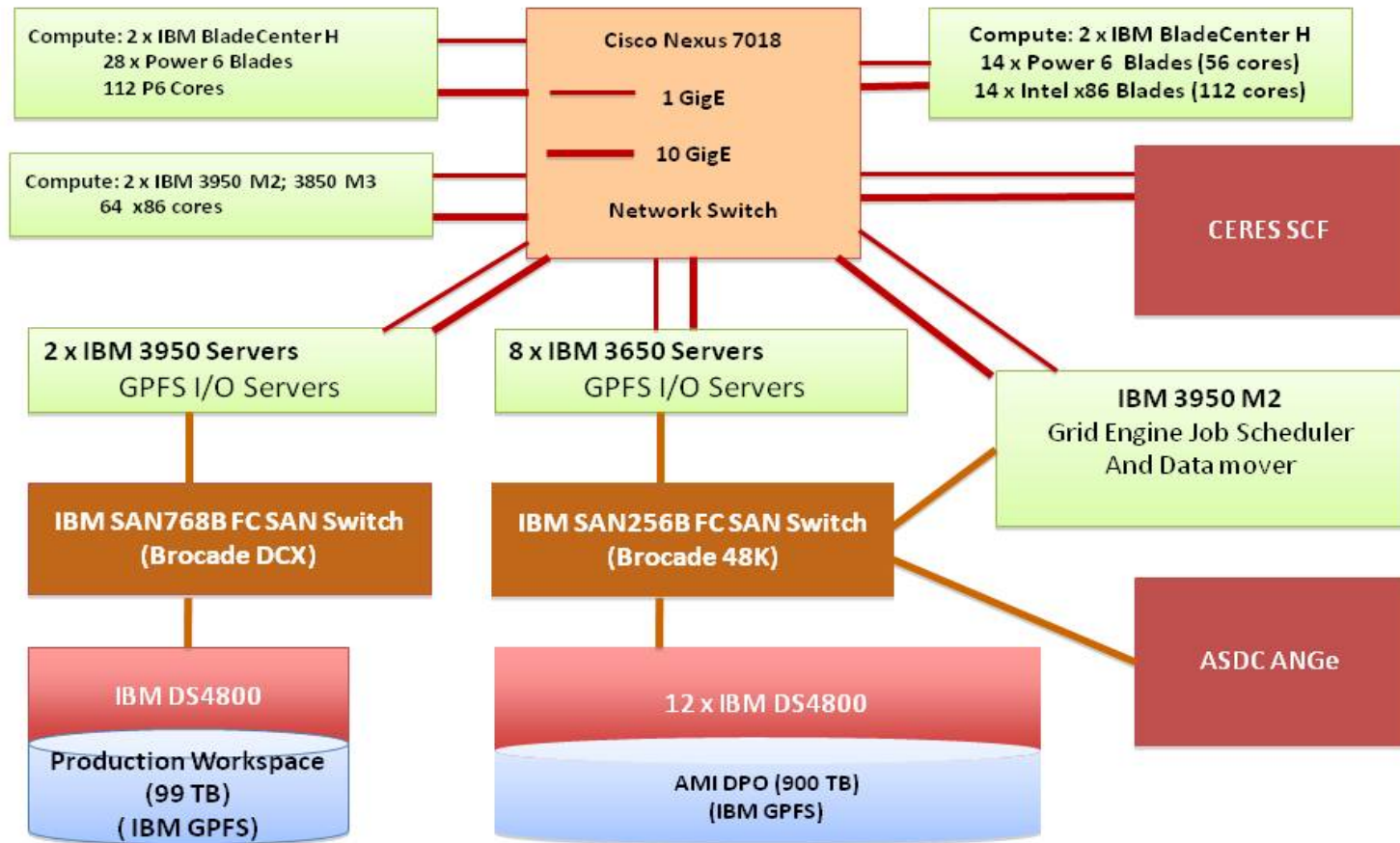
DATA ACCESS ENHANCEMENTS

ANGe 2.0

- ANGe 2.0 was promoted in January 2012
- Encompassed software and hardware changes that will improve back-end operations and utilize new hardware
  - Software changes will allow storage of files in multiple locations: new tape system; Data Products On-line (DPO) and order cache (a disk-based data-store accessible from outside LaRCNET)
  - New files written by ANGe in observation date
  - Storage configuration information maintained more efficiently
  - ANGe 2.0 significantly improves efficiency and expands capability

Order Cache

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l

High speed Order Cache expanded to 350 TB to handle 100% hit rate after migration

DPO

Reduces latency time to get data written to 917 TB DPO for CERES PGE runs from AMI-P

ANGe

Incoming Data

Archive

New SL8500 tape storage silo with 10 PB capacity when full

Subsetting

Approach

- Capability to subset data requested by the ASDC User Working Group and ASDC users
- The ASDC responded with an architecture that
  - Provides a common back-end framework supporting for services for multiple products
  - Provides a flexible environment that handles product specific differences on a case by case basis
    - Will not force a "one size fits all solution" or complex design
  - Allows customers to provide their own user interface (UI) if they prefer to define the user's experience based on their customer relationship

Progress:

Project	Products	Collaboration	Status
CALIPSO	L1 and L2 Lidar data	UI produced by project; maintained by ASDC	Available
CERES	L2 SSF data	UI produced and maintained by project	Available
TES	L2 and L3 data	UI produced and maintained by ASDC	Collaborative testing underway
MOPITT	L2 and L3 data	UI produced and maintained by ASDC	Under development
MISR	TBR	TBR	Future initiative to refresh the current subsetter

EOSWEB Re-design Effort

Goal

- Deploy a web site that provides users with an "easy to use" interface that provides
  - Data information
  - Data ordering
  - Tools/Services
  - Easy access to external sites
- Improve the sustainability and maintainability by ASDC staff and science content providers
- Modernize ASDC site using current technologies
- Collaborate with stakeholders to ensure we are meeting the needs of our user community communities (instrument scientists, modelers, decision makers)

EOSWEB Re-design Effort

Status

- Initial focus on EOSWEB non-ordering (e.g. informational) pages
  - Questionnaire released September 15, 2011
  - One-on-one discussions following the survey to clarify and elaborate responses
  - Prototype pages developed to refine requirements
    - Drupal 7 used for Content Management System – modular and easier to maintain
  - Aim is to have pages in production by the end of CY 2012
- EOSWEB ordering pages re-design initiated
  - Initial operational concepts document generated to help refine requirements

Prototype Mock-Up ASDC Landing Page

Conclusion

- Continual increase in CERES archive and distribution of products worldwide
- CERES is making progress moving to AMI-P
  - 10 Instrument PGEs   1 Synoptic SARB PGE
  - 7 ERBE-like PGEs   3 TISA Averaging PGEs
  - 2 RegridMOA PGEs   2 TISA Gridding PGEs
- FLASHFlux production is running on AMI-P
- CATALYST collaborative effort proceeding effectively
- Subsetting efforts are progressing
- Effort to improve the user experience for those visiting ASDC data pages is underway