

OPeNDAP Developer Meeting

Friday - AM session

Discussion/ Directions

- Community forums for deciding on standards/ processes within (and beyond) the OPeNDAP community (1 hr)
- Qualify OPeNDAP the software versus OPeNDAP the reference implementation
- Process
 - IETF, create a doc, what to do, post to a forum, community input, iterate, exec decides on rough consensus to proceed, two types: 'users' and 'developers', convergent process, running code, timeframe for progress (and if not cut-off), can this be volunteer, would agencies cosponsor
 - OGC model (e.g. GALEON) test-beds for interop, draft spec, and feedback (sponsors for test-beds)
 - Opendap.org be the umbrella - register (incl. public) but no other restrictions, form WGs, 5 minimum/WG as a threshold, who is exec - opendap.org to propose (is exec the advisory board?), doc, milestones required

Discussion/ Directions

- Process (ctd)
 - Outcomes to evolve into specs., best practices, SOP, FYI/TNs
 - Is security an exception to completely public forums? Otherwise open. Can we use US-CERT as an announcement forum
 - Who is involved: whomever wants to be, 3 min. but organically determining limit, exec to vet the min. membership (user, dev)
 - How decisions are to be made
 - Java comm. Process (JCP) elected, ex-officio
 - Advisory board (it would have to evolve)?
 - Nominations sought from registered community, OPeNDAP pres and adv to select/approve exec (5-7)
 - Take these notes and build a terms-of-reference for WG/process (first job of exec)
 - Timeframes default: 3 months for doc,
 - Prototypes: required, where applic.
 - Beyond: funders versus blessers and standards bodies: **OGC**, ESIP, ISO, NASA/SPG, GEOSS, W3C, WMO
 - Intent is to take OPeNDAP specs/std/etc to appropriate groups

Hyrax and TDS (server handling or DAP spec?)

- Implementation issue for servers - are there implications for spec. (TN/BP/SOP)
- GET POST - affects DAP2 (and DAP4, e.g. protocol), response types...
- Server-side affects core of DAP spec.
- WG for existence of Hyrax and TDS - white paper (doc).
- PMEL (+Weathertop) has put significant effort into developing a server-side analysis capability based upon the TDS architecture
- Similarly, TDS already has WCS, aggregation and NcML-based "AIS" capabilities that are relatively mature
- The OPeNDAP community needs to strive for consistent use of configuration techniques (e.g. ncML)
- And to be efficient the community needs to limit duplication of efforts
- PMEL also want to avoid duplicating or stretching out the development efforts for server-side analysis, while also figuring out how to work with Hyrax
- All of these factors suggest a need to somehow "fuse" TDS and Hyrax
- Is there a way that TDS can be a front end to Hyrax?

Virtualization (data and md) aka. aggregation

- Vast amounts of gridded data are available through OPeNDAP in an unaggregated form creating barriers to the usability of the data
- Vast amounts of in-situ (station) data also have the same requirement.
- The vision of OPeNDAP is to leave "files" behind as relics of data management, and to shift the focus to "datasets"
- This cannot occur until we time-aggregate file collection
- The community has the tools it needs, but we are not using them
- We need to identify the barriers to building aggregations
- Then we need to develop solutions and plans that will get us past those barriers

Server-side processing

- The community has the tools it needs, but we are not using them
- We need to identify the barriers to building more general server side processing - has effects on implementation and on spec (response types)
- Stick to DAP2 spec.
- Then we need to develop solutions and plans
- Resource management (tasks) - cross cutting

DAP4 spec

- Need wg

Security: Ac/An/Az

- Lots of promising exploration as well as project specific implementation
- Clear need to address both best practices and the standards by which OPeNDAP and the DAP accommodate security (on access and secure data transmission)
- Yes, WG - define terminology
- BP on variety of security implementations - use cases (implemented)
- Doc on outcomes, recipes to meet sec. constr.
- At two levels (where it is in framework)
- Agreement on 'ticket/credential', auth in catalog
- Formulation of products used adhering to govt. controls and documentation, audit
- Testing?
- One WG on access control and one on intrusion?

Semantics

- Where and how to accommodate this in OPeNDAP and in DAP?
- Implementation and DAP issues?
- DAP data model - recommend to DAP4 or DAP3? Add URLs - would that break DAP2?
- Then - explore use of RDF (OWL) in an integrated way
- Will DAP look the same as other OO-lang...

Geospatial interop

- CF and netCDF have provided excellent interoperability for gridded data
- DAPPER holds great promise for certain types of in-situ collections
- Community efforts to develop an unstructured mesh standard are underway.
- Swath data models are starting to take shape (I think)
- All of these separate models need to be brought together under a unified data model that recognizes the "mutability" of the different outlooks, for example the equivalence of a profile and a Z line of a grid.
- And (IMPORTANTLY!) an API needs to be developed that sits on top of this data model
- I propose that the OPeNDAP community turn to Unidata to extend their CDM and their Java API and develop a c version of that API
- (The funding needed to support this work should be discussed as a community need.)

- WG needed about GRD; explore OGC relationship
- WG needs to consider the OGC object specs
- Selection based on coordinates

DAPPER

- How to support the work on this process, specification
- Several people expressed an interest in seeing the DAPPER conventions developed further
- We need to engage our community in this effort
- Need to identify those interested in moderating discussions and carrying the standard forward
- Hankin will volunteer the CF-development forum (at PCMDI) for this purpose and will help to get the issues tracking started there

- Exploration of in-situ data...
- Dapper focused on subset of ocean data
- There are implications at 'the opendap level'
- Semantics of sequences
- Is the OGC features spec relevant to this?

netCDF C++ client

- The ability to fully access HDF gridded files through the netCDF OPeNDAP client depends upon the "translation" capabilities that have been added in the latest OPeNDAP release. (3.6.2?)
- Similarly for Sequence data.
- Most of the translation capabilities seem to be working, but some bugs have shown up in the reading of Sequence data (the DDS and DAS seem to be fine).
- Need to squash these bugs.
- And to add 2-level (DAPPER) translation onto the to-do list for future work.
- The dual data model -- Arrays versus Sequences -- is a barrier to interoperability that we need to knock down.

Response types

- get_capabilities
- Etc.

- Discovery
- WG Needed? Yes!
- Features, protocols
- URL/GET limited

Metrics

- In Hyrax - from OLFS, BES, coordinated?
- Etc.

Asynch transactions

- No one wants to work on this.
- Etc.