

E.S. operational issues

David Weissenbach (IPGP)

Slides by André Gemünd (SCAI)

Earth Science VRC

trans-discipline, established on prior activities (strategic discipline cluster) in EGEE Meteorology, Hydrology, Seismology, Climatology, ... in all 34 applications in APPDB

offering technical support, unique contact point, providing connections, building community

Concerned with common challenges - access to external data, automation of recurring tasks, specific job types, best-practices

Sharing algorithms already ported on Grid, data sets, results, experience

Earth Science VRC

One generic VO: ESR

10 VO's for subdisciplines, e.g. cmip5 most recent: VERCE for earthquake/seismology research

Loosely coupled collaboration based on previous projects

No institution or dedicated funding except data tools through INSPIRE SA 3.6

Tools and libraries on sites

Commercial & open source compilers and runtime environments

Intel Compilers & MPI, IDL, Matlab, Geocluster, PVWave

MPI with interconnect support (Infiniband)

Numerical libraries and frameworks: optimized BLAS, LAPACK, CHOLMOD, METIS, SuperLU, etc.

File access/formats: HDF5, NetCDF, mseed, ArcLink, OPeNDAP, THREDDS

Other libraries: GEOS, CGAL, OWS clients

Frameworks: R, Octave, NumPy

HPC support

- support for parallel platforms (compiler and interconnect dependent MPIs & OpenMP, incl. installation support and best practices for Batch, at least at different sites)

- access to HPC sites

Access/interfaces from/to existing ES community infrastructures

- OGC W.S. (consulting and standard interfaces for processing @ data)

- Processing outside of the infrastructure (code to data!)

- Accessing data centers outside of Grid (e.g. OWS, handling high priority .. Copying and duplicating is no solution)

- Accessing databases from Grid (interfaces and support for solutions e.g. GReIC, OGSA-DAI, GENESI-DR)

Recurring problem: Authentication

Dedicated community infrastructure (e.g. ESG)

Starts with user database, often evolves to OpenID authentication and SAML token authorization

Even if PKI authentication is respected, it will in most cases rely on custom CAs or other incompatible specifics (c.f. id string in DN)

No AuthN / AuthZ at all (e.g. OWS)

How to include it later on to access the Grid?

AuthN / AuthZ existing, but not unified (e.g. GENESI-DR)

Different mechanisms and accounts on every data center

Can we simplify this for users?

More details:

EGU 2013 sessions:

<http://meetingorganizer.copernicus.org/EGU2013/orals/11658>

<http://meetingorganizer.copernicus.org/EGU2013/picos/11658>

QUESTIONS?