GPN VO in OSG: Just the Beginning?

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Outline

* Great Plains Network (GPN) Overview
* Open Science Grid (OSG) Overview
* GPN in OSG
GPN Overview

- great plains region institutions pursuing joint research and education
- http://www.greatplains.net/
- middleware initiative
- introductions!
Why Grids?

- Grid analogy -- uniform access to reliable resources, independent of location
- Aggregate capability
- Mythological under-utilized resource
- Big Science!
- ...
OSG Overview

* **Usage**
  * Last month the top three user communities consumed over one million CPU hours (114 cpu hours)

* **Operational model**
  * based on VDT, tested then deployed in ITB for validation, then released

* **Intentionally Heterogeneous**
  * OSG defines what people need to have installed at a higher-level through the definition of services and interfaces.
  * eg. Globus 4 with a batch system, using pre-web services GRAM
OSG Overview

* Support
  * Grid Operations Center -- first call
  * Distributes to Support Center (one per VO)
  * Provides accountability, scalability

* http://www.opensciencegrid.org

* 5-year, $30M grant recently announced

* NSF, DOE solidly behind this initiative
GPN in OSG

- GPNgrid
- GPN VO and roles
- Challenges/Problems
- Future Directions
GPNGrid

* SUN grant of 5 compute nodes/site
  * 2-socket Opterons, gigE
* UArk, KU, MU and UNL
* Installed OSG 0.4.1
* formerly informal CA from UNL
GPN VO

* now formal OSG membership with GPN VO
* GPN VO package from OSG
  * installs GPN VO with research group “GPN” by default
  * could manually add education group
* other groups/roles? (user group?)
* other VOs? (EDU, OSG)
Governance

* GPN - Greg Monaco
* GPN VO -- UNL (Swanson)
* GPN VO SC -- UNL (Bockelman), UA (Baker)
* Other ... ?
Governance

* Resource is ultimately locally controlled, supported
* Broader access currently not throttled (not needed now)
* Perhaps ultimately limit access by contribution ... ?
* user access tied to GPN collaborator (policing)
Authorization/ Allocation

* GUMS maps groups/roles to resources
* Currently GPN members tied to GPN group
  * group=GPN, role=Apon, authenticate
  * /GPN indicates researcher, role indicates university association
  * group=GPN_EDU?
* group=EDU, role=*, not authenticate
Challenges/Problems

* Initial install!
* ROCKS issues
* VDT, certs, etc. Can be overwhelming for admins
* Personnel time!
* Data movement/storage - dCache?
* Parallel/MPI job submission
* Big Science!
Future Direction

* Develop Maintenance and Operations
* dedicated personnel
* email list works for now
* workshop? on-site visit(s)?
* increased hardware resources -- where?
* Courses -- Amy Apon, Mako Furukawa
* Usability/Portal?
* lower barrier to entry
Future Direction

- Joint grant submissions
- CRI -- LOI submitted
- MRI -- University limits constrain!
- CI ... other?
- OSG contribution? EDU?
- Alternatives? (Condor a la OSCER)
- Grid application management/development
- Key Application Partners (CMS, ATLAS, ...)


Further Discussion

* physical space!
* support organization
* experience (current hardware)
* experience (current user base)
* ...
