

# GPN VO in OSG: Just the Beginning?

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David Swanson  
Director, Research Computing Facility  
University Nebraska-Lincoln

# 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 (1 14 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)
- \* ...