OSG Site

- Provide one or more of the following capabilities:
  - access to local computational resources using a batch queue
  - interactive access to local computational resources
  - storage of large amounts of data using a distributed file system
  - access to external computing resources on the Grid
  - the ability to transfer large datasets to and from the Grid
- Offer computing resources and data to fellow grid users

Agreements

- Offer services to at least one organization within OSG. You agree to
- Advertise your services accurately, represent your capabilities fairly, and make your requirements and limitations known via OSG standard mechanisms
- Not attempt to circumvent OSG process or controls by falsely representing your status or capabilities.
- While fair access is encouraged, you need not offer services to all organizations within OSG
- Do not knowingly interfere with the operation of other resources
- Do not breach trust chains, be responsible and responsive on security issues

Requirements: System/SW

- No hardware requirement
- Supported OS for services:
  - SL5 is the main testing platform
  - OSG 3.0 (RPM): RHEL 5 based OS (including SL and CentOS).
  - OSG 1.2 (Pacman): VDT 2.0 supported platform http://vdt.cs.wisc.edu/releases/2.0.0/requirements.html
- Worker Nodes
  - No specific requirement
  - Possibly compatible with the OSG WN client (same as supported OS for services). Needed for most VOs

Requirements: Users

- Root access to install and update OSG software (not required for most of OSG 1.2)
- Users to run services specified in installation documents
- Some VO prefer VO users, some require pool accounts
  - All are not privileged
  - Glexec
  - https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/InstallConfigureAndManageGUMS
- User or groups should allow consistent file access

Requirements: Storage

- Requirements agreed periodically by Vos
- Space for VO applications, $OSG_APP
- Space for VO data
  - At least 10 GB per Worker Node
  - Different options: shared file system ($OSG_DATA), special file systems ($OSG_READ, $OSG_WRITE), convenient Storage Element ($OSG_DEFAULT_SE)
  - Consistent access across the resource (gatekeeper and all nodes)
  - A CE can provide $OSG_DATA, both $OSG_SITE_READ and $OSG_SITE_WRITE, or none of them if it has a local SE specified in $OSG_DEFAULT_SE
- Scratch space, $OSG_WN_TMP
- https://twiki.grid.iu.edu/bin/view/Documentation/Release3/LocalStorageConfiguration

$OSG_APP

- can be read-only mounted on the worker nodes in the cluster
- Clusters can allow installation jobs on all nodes, only on the gatekeeper, in a special queue, or not at all
- Some clusters allow installation jobs on all nodes, some only on the gatekeeper,
- Only users with software installation privileges in their VO should have write privileges to these directories.
- At least 10 GB of space should be allocated per VO.

Requirements: Networking

- Services
  - Public IP, name in DNS
  - Variable connection requirements specified in the installation and firewall documents
    - https://twiki.grid.iu.edu/bin/view/Documentation/Release3/FirewallInformation
    - https://twiki.grid.iu.edu/bin/view/Documentation/Release3/InstallRSV
- Worker nodes
  - No specific requirement (updated CRLs)
  - VO are encouraged not to require persistent services on WN
  - Most VO use some outbound connectivity

Typical VO requirements for OSG Sites*

- Requirements are common for OSG VO from multiple disciplines (HEP, NP, Astro, Bio, Civil Engineer , etc.)

- Worker nodes require outbound internet access (nodes can be behind NAT)
- Preferred worker node OS: RHEL 5, CentOS5 or SL5
- Worker node memory: 1GB / slot minimum, assume 1.5-2 GB
- Worker node scratch: assume 10G per job slot (not stringent)
- The worker nodes require the OSG CA certs that are installed as part of the OSG Worker Node Client. Host certs on the worker nodes are not required.
- OSG wn-client package is required; lcg-utils heavily used for SRM
- Prefer availability of site squid (for data 10 MB to 200 MB)
- Jobs can generally deal well with preemption
- Jobs can generally interact with glexec, if present

* Source: VO requirements for ATLAS sites
http://www.usatlas.bnl.gov/twiki/bin/view/Admins/AccessOSG.html

Typical GlideinWMS network requirements*

- For every user job slot, a pilot job process starts up.
- The pilot job sends outbound TCP traffic over HTTP to a host at UCSD or IU ("factory") and via HTTP to a host at the VO submit site ("frontend").
- The pilot job spawns a condor startd, which spawns a condor starter.
- The startd sends outbound UDP traffic to a single port on the frontend. This is randomly chosen (per pilot) from a range of 200 ports. This can be changed to TCP if necessary.
- The starter sends outbound TCP traffic to a port on the frontend. This is chosen randomly (per pilot) from the frontend's ephemeral ports.

- Example Hosts and ports:
  - The HCC frontend is glidein.unl.edu (129.93.239.145). Ports: 80, 9618-9820
  - The UCSD factory is glidein-1.t2.ucsd.edu. Port 8319

* Source: Derek Weitzel et al. HCC VO requirements for ATLAS sites http://www.usatlas.bnl.gov/twiki/bin/view/Admins/SupportingHCC.htmll