INSTALLING OSG COMPUTE ELEMENT

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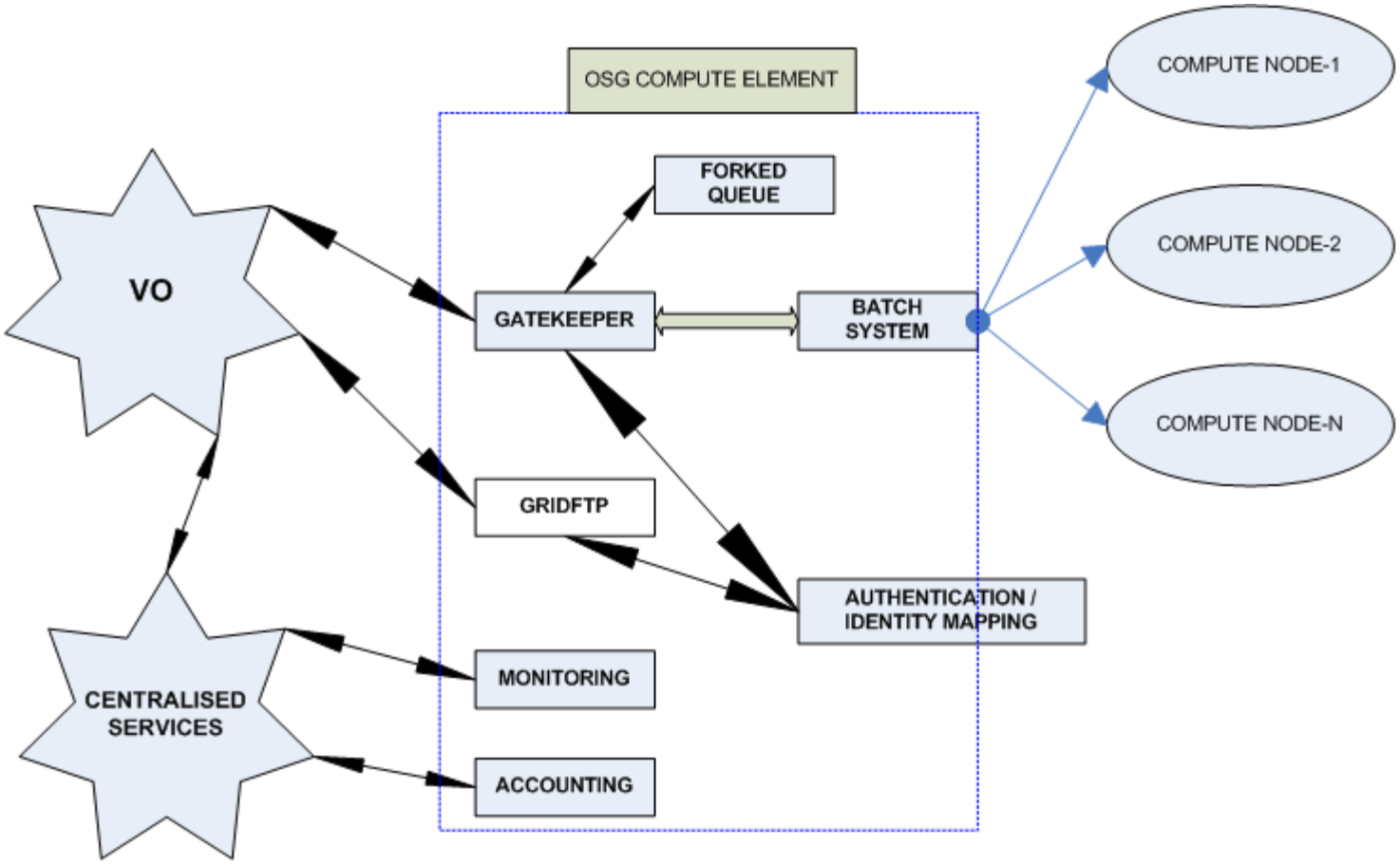
OVERVIEW

- As OSG-Site Admins we are responsible for providing some services such as
  - gatekeeper
  - gridftp
  - Monitoring and accounting
- There are some tools/packages which help us provide these services
  - Pacman
  - Osg-CE
    - bundle of packages
      - VDT/Globus
      - Condor
      - Gratia(monitoring)

Diagrammatic representation of an OSG-site, VO and Centralised Services



Instructions to start the UML

- ssh into workshop1.ci.uchicago.edu
- cd /uml1/
- execute /sw/site-install/run-vm
- Log in as root inside the vm. Run the hostname command.
- Run ifconfig and check for the existence of eth0.
- cd to /
- execute ./hssetup.sh
- Now try pinging to say 10.0.$N.1
- Then try pinging to a common site like www.google.com
- If pinging to google is unsiccessful try /etc/init.d/named start and if named starts successfully you should be able to ping to www.google.com

PACMAN

- Pacman is a package management tool that allows you to define, install, and configure software.
- Different versions of OSG require different versions of Pacman: the newer the OSG software version, the newer the release of Pacman required.
- For OSG 0.8.0 we use Pacman-3.21
- https://twiki.grid.edu/twiki/bin/view/ReleaseDocumentation/Pacmaninstall#Pacman

SOME NOTES ON PACMAN INSTALLATION

- Always remember that we need to have our software installed in a place where we can do something in the network.
- “usr/local” or “/nfs/xxx” are good candidates.
- It is also advisable to install Pacman in a directory of its own.
- In the current lab scenario /mnt is to be mounted on NFS. So trying doing installs in this directory.
- Follow the commands in section-1 of the handout to complete installation

THE CONDOR BATCH SYSTEM

- Advisable to be created in a separate directory- will allow asynchronous upgrades without loss.
- We shall do an rpm install of condor.
- Follow the command sequences in section-2 to install CONDOR
- Once install completes su as siddhu and try checking if the condor that was installed is able to accept jobs. There is a simple condor job sub already available in user siddhu's home directory. Try giving a condor_submit sub. The command may take a little while but we should be able to see the hostname in simple.out

Installing OSG CE Services

- Services will not necessarily run as root (e.g., by default Globus-ws will run under globus if it exists, or daemon if it doesn't; MySql a will run under daemon)
- So one needs to make sure Mysql user and group exists by id ' ing it. If not /etc/group or /etc/passwd or /etc/shadow may require a change.
- Choose an installation directory. This need not be shared by the worker nodes. Any software which needs to be seen from the worker nodes may be provided by the worker node client package.
- Follow the commands in the handout
- vdt-install.log--> can be monitored during installation (good place to look in for errors)

Obtaining and Configuring PKI certificates

- Refer to the handout for the certificate request command(Section-4)
- Fill in the requested information in a proper manner
- Your host cert request has to be approved and you will receive an email notification when you can download the host cert
- configure the OSG CE software

Next 3-steps

- Start Services
- Start Condor
- Set up Managed Fork
  - Follow the commands provided in the handout to complete these steps

Testing CE node (Grid maps)

- Grid mapfile is a type of identity mapping service
- This test is to be done as a normal user and not as root
- One has to create a proxy for himself
- Then type grid-proxy-info -identity
- The as root put an entry in the /etc/grid-security/grid-mapfile
- The entry would be “Certificate” <localusername>
- Save the changes
- Continue the commands for testing Fork-Queue

TESTS CONTINUED

- Test the job manager fork
- Test the job manager queue
- Test the GSIFTP services
  - Commands for these tests are explained in sections 7.2,7.3 and 7.4 of the commands handout.

Possible Error

- If you encounter “GRAM Job Submission failed because connection to the server failed”, it could possibly due to mismatch in the hostnames in the certificate and what you are generating in the command.
- When we are facing this error we need to export GLOBUS_HOSTNAME as the one in the cert.
- To do this we could go to vdt-local-setup.sh and vdt-local-setup.csh files in nfs/osg/vdt/etc, where nfs/osg is the place where my vdt and osg ce package is installed.
- restart the gatekeeper using the command /etc/init.d/xinetd restart
- Use $GLOBUS_HOSTNAME instead of $HOSTNAME

Site-Verification

- At this stage it is assumed that you have tested the job-manager queue, gsiftp and are ready to do the site-verify
- ./site_verify.pl –host = osg.hpc.ufl.edu is the command to be executed in the VDT_LOCATION/verify
- Check whether this command returns a bunch of results as untested. Look up to ensure essential results have not failed
- You can now give the gatekeeper jobs.

Further Info

- **https://twiki.grid.edu/twiki/bin/view/Documentation/WebHome**