



Open Science Grid

OSG Software: Now with RPMs!

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My goal

- Rob asked me to give a how-to talk on using the new RPM-based OSG Software 3.0
- This talk is short so:
 - I'll go a bit quickly
 - Please ask questions now and later
 - I'm here until Thursday @ noon



OSG Software recap

December 2011

OSG 3.0 Released!

- RPM-based
- RHEL 5, CentOS 5, and SL5
- Almost everything included
 - Missing GUMS & Gratia

January – March 2012

Steady stream of improvements

- Software upgrades (Globus, Condor, Bestman...)
- Streamlining/Bug fixes (osg-configure, RSV, Gratia...)
- SL6 support (worker node)

Requirements for using OSG Software 3.0

- RHEL 5, CentOS 5, or Scientific Linux 5
 - The entire OSG Software 3.0 stack
- RHEL 5, CentOS 5, or Scientific Linux 6
 - Just the worker node for now, but more soon
- We rely on software from three sources:
 - OSG
 - OS
 - EPEL
- You install software with:
 - Yum
 - RPM

Differences from OSG Software 1.2

- No more Pacman
- Install software into standard locations
 - /usr/bin/grid-proxy-init
 - /usr/sbin/globus-gridftp-server
 - /etc/osg/config.d/
 - /var/log/globus-gatekeeper.log
- Life is easiest if you're using standard tools & cluster management system

Software changes

Upgrades:

Software	New Version	Old Version
Globus	5.2	4.0
Bestman	2.2	2.0
VOMS	2.0	1.8
Condor	7.6	7.2
glexec	0.8	0.6
hdfs	0.2	---

Changes:

New	Old
lcmaps	PRIMA
configure-osg	osg-configure
---	vdt-control



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Let's do an example install



Install EPEL

```
# rpm -Uvh http://dl.fedoraproject.org/pub/epel/5/i386/  
epel-release-5-4.noarch.rpm  
Retrieving http://dl.fedoraproject.org/pub/epel/5/i386/  
epel-release-5-4.noarch.rpm  
Preparing...      ##### [100%]  
 1:epel-release   ##### [100%]
```




Install Yum priorities

```
# yum install yum-priorities
...
=====
Package          Arch    Version           Repository      Size
=====
Installing:
yum-priorities  noarch 1.1.16-14.el5     sl-base        14 k
...
Is this ok [y/N]: y
...
Installed:
  yum-priorities.noarch 0:1.1.16-14.el5
```



Install OSG repo

```
# rpm -Uvh http://repo.grid.iu.edu/osg-el5-release-
latest.rpm
Retrieving http://repo.grid.iu.edu/osg-el5-release-
latest.rpm
warning: /var/tmp/rpm-xfer.2wCD1t: Header V3 DSA signature:
NOKEY, key ID 824b8603
Preparing... ##### [100%]
 1:osg-release ##### [100%]
```



Install the CA certificates

You get to choose the variety of CA certificates. Here's the default:

```
# yum install osg-ca-certs
=====
Package          Arch    Version              Repository    Size
=====
Installing:
  osg-ca-certs   noarch 1.26-3.osg.el5      osg           281 k
```

Install the Software (CE)

```
# yum install osg-ce-condor
=====
Package           Arch    Version           Repository      Size
=====
Installing:
osg-ce-condor     x86_64  3.0.0-26          osg              4.5 k

Installing for dependencies:
CGSI-gSOAP        x86_64  1.3.4.2-3.osg    osg              56 k
I2util            x86_64  1.1-1             osg              67 k
...
```



Some configuration

```
# ls -l /etc/osg/config.d/  
01-squid.ini  
10-misc.ini  
10-storage.ini  
15-managedfork.ini  
20-condor.ini  
30-cemon.ini  
30-gip.ini  
30-gratia.ini  
40-localsettings.ini  
40-network.ini  
40-siteinfo.ini
```

```
# less /etc/lcmaps.db  
gumsclient =  
  "lcmaps_gums_client.mod"  
  "-resourcetype ce"  
  "-actiontype execute-now"  
...  
  "--endpoint https://foo.osg.edu:  
8443/gums/services/  
GUMSXACMLAuthorizationServicePort"
```



Run `osg-configure` & start services

```
# osg-configure -v  
Configuration verified successfully  
  
# osg-configure -c  
Running /usr/sbin/fetch-crl, this process make take  
some time to fetch all the crl updates  
/usr/sbin/osg-configure completed  
  
# service globus-gatekeeper start  
Started globus-gatekeeper[ OK ]  
  
# service globus-gridftp-server start  
Started GridFTP Server[ OK ]
```



It's ready to go!

```
% voms-proxy-init -voms Engage
Enter GRID pass phrase for this identity:
Your identity: /DC=org/DC=doegrids/OU=People/CN=Alain
Roy 424511
Creating temporary proxy ..... Done
Contacting osg-engage.renci.org:15001 [/DC=org/
DC=doegrids/OU=Services/CN=osg-engage.renci.org]
"Engage" Done
Creating proxy ..... Done

Your proxy is valid until Mon Mar 19 03:07:41 2012

% globus-job-run fermicloud084.fnal.gov /bin/hostname
fermicloud084.fnal.gov
```



Q & A

Q: Can I use SL6?

A: For the worker node: yes
Everything else in April

Q: How do I update my system?

A: yum update
Can select specific packages if you wish



More Q & A

Q: Can I mix Pacman and RPM on one machine?

A: No

Q: Can I use Pacman on some machines and RPMs on others?

A: Yes



Coming soon: Bug fixes

- Bugs in Globus, Gratia integration, etc.
- Expect bug release *soon*, within 1-2 weeks.
 - Many bug fixes are in place already
 - Working through a few remaining bugs

Coming soon: Add back missing functionality

- GUMS
 - In testing/evaluation right now
 - Release at end of March, if it goes well
- Gratia Service
 - In development right now
 - Release in April?
- Equivalent to “ vdt-control --off ”

Coming Soon: Scientific Linux 6 support

- Today: Fully supported on worker nodes
- Client & CE are in testing
 - Tomcat issues to explore
- Goal: Early April for CE + SE
 - Unless bug fixes/missing functionality go slowly
- Scientific Linux 6 in mid-April



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Questions? Feedback?

