Tier 3 Support and the OSG

US ATLAS Tier2/Tier3 Workshop at UChicago

August 20, 2009

Marco Mambelli – marco@hep.uchicago.edu

What is OSG?

- ## Abstraction
  - Provides ways to refer, discover and use heterogeneous and distributed resources (Grid)

- ## Software stack
  - Implementation, supporting resources, processes

- ## Services and support
  - GOC, monitoring and accounting

- ## A community
  - Virtual Organizations, developers, integrators, Site administrators

Principle: Autonomy

- Sites and VOs are autonomous
  - You make decisions about your site
  - We provide software
  - You decide when to install, upgrade
  - You make operational decisions
  - We help out, but you are responsible for your site: we expect you to care about your site.

What is the role of ATLAS?

- An OSG site administrator should
  - Keep in touch with OSG for operation
  - Plan how your site works
  - Attempt to keep up to date with software
  - Be part of the OSG community
  - Request to support software you need
  - Validate releases against your software
  - Suggest directions
  - Manage users and membership

What does OSG do for ATLAS?

- We should provide:
  - Up to date grid software
  - An easy installation and upgrade process
  - Assistance in times of need
  - A community of site administrators to share experiences with
  - Possibility to access and offer resources
  - An exciting, cutting-edge, 21st-century collaborative distributed computing grid cloud buzzword-compliant environment

Release cycle

- Software becomes available
- Validation Testbed (VTB) checks that new components work with the current/new release
- VDT and OSG prepare a release candidate
- Integration Testbed (ITB) tests the release candidate (e.g. OSG 1.1) on a larger scale
- OSG is released
- Updates and support are available

What can offer to Tier 3

- Client
- Computing Element
- Local Resource Manager (Condor)
- Storage Element
- Network client diagnostic tools

WLCG-Client

- Thin level on top of OSG Client
  - Tested with ATLAS software
  - Compatibility problems solved
- Provides
  - (VOMS) proxy management
  - Data movement: srmcp, lcg-cp, globus-url-copy, …
  - Job submission: globus-job-run, condor_submit
  - Catalog access: lfc-ls
- Provides Grid and catalog (LFC) support for
  - DQ2Clients
  - Pathena

WLCG-Client supported platforms

- VDT supported platforms:
  - http://vdt.cs.wisc.edu/releases/2.0.0/requirements.html
  - http://vdt.cs.wisc.edu/releases/1.10.1/requirements.html

Operating System in 1.10	Architectures	Operating System in 2.0	Architectures
AIX 5	ppc	AIX 5.3	ppc
CentOS 5	x86, x86-64	CentOS 5	x86, x86-64
Debian 3.1 (Sarge)	x86	Debian 4	x86, x86-64
Debian 4	x86, x86-64	Debian 5	x86, x86-64
Mac OS X 10.4	x86	Mac OS X 10.4	x86
ROCKS Linux 3.3	x86	ROCKS Linux 3.3	x86
Red Hat Enterprise Linux 3 AS	x86, x86-64, x86 on x86-64, IA-64	Red Hat Enterprise Linux 3 AS	x86, x86-64, IA-64
Red Hat Enterprise Linux 4 AS	x86, x86-64, x86 on x86-64	Red Hat Enterprise Linux 4 AS	x86, x86-64
Red Hat Enterprise Linux 5 AP	x86, x86-64, x86 on x86-64	Red Hat Enterprise Linux 5 AP	x86, x86-64
SUSE Linux 9	x86-64, IA-64	SUSE Linux 9	x86-64, IA-64
Scientific Linux 4	IA-64	Scientific Linux 4	IA-64
Scientific Linux Fermi 3	x86	Scientific Linux Fermi 3	x86
Scientific Linux Fermi 4	x86, x86-64, x86 on x86-64	Scientific Linux Fermi 4	x86, x86-64

Network client diagnostic tools

- Use perfSONAR services

- Troubleshoot network problems

- Server installed at Tier 1 and Tier 2

- Clients: NDT, OWAMP, BWCTL, NPAD

- https://twiki.grid.iu.edu/bin/view/Release Documentation/NetworkPerformanceHandsOn

Computing Element

- ## The head node to your site.

- ## Users submit jobs to the CE

- ## Well-defined set of software

- VDT Subset:
  - Globus
  - RSV
  - PRIMA
  - Gratia… and another dozen
- OSG bits:
  - Information about OSG VOs
  - OSG configuration script (configure-osg)

Condor

- Simple installation
- Packaging
- Testing
- Documentation
  - Manual
  - Use cases
- Support

Storage Element

- Manages large set of data at your site
- SRM protocol
- Multiple implementations
  - dCache
  - BeStMan-xrootd
  - BeStMan-Hadoop
  - BeStMan (gateway) over FS

Discussion, Questions

- Questions? Thoughts? Comments?

- Requests?