Rsv-control

Marco Mambelli – marco@hep.uchicago.edu

Site Coordination meeting

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rsv-control

- Utility to control and manage OSG-RSV and its probe
  - List metrics
  - Enable/disable metrics
  - Test probes
  - Configure probes
  - Start/stop and setup RSV
- Resource and Service Validation (RSV) framework
- RSV within the OSG monitoring and information system
- Probes and metrics
- Site operations

OSG Monitoring and Information

- OSG Information Management (OIM) System
- MyOSG
- Resource and Service Validation (RSV)
- BDII
- Generic Information Provider (GIP)
- CEMon
- Resource Selection Service (ReSS)
- Gratia

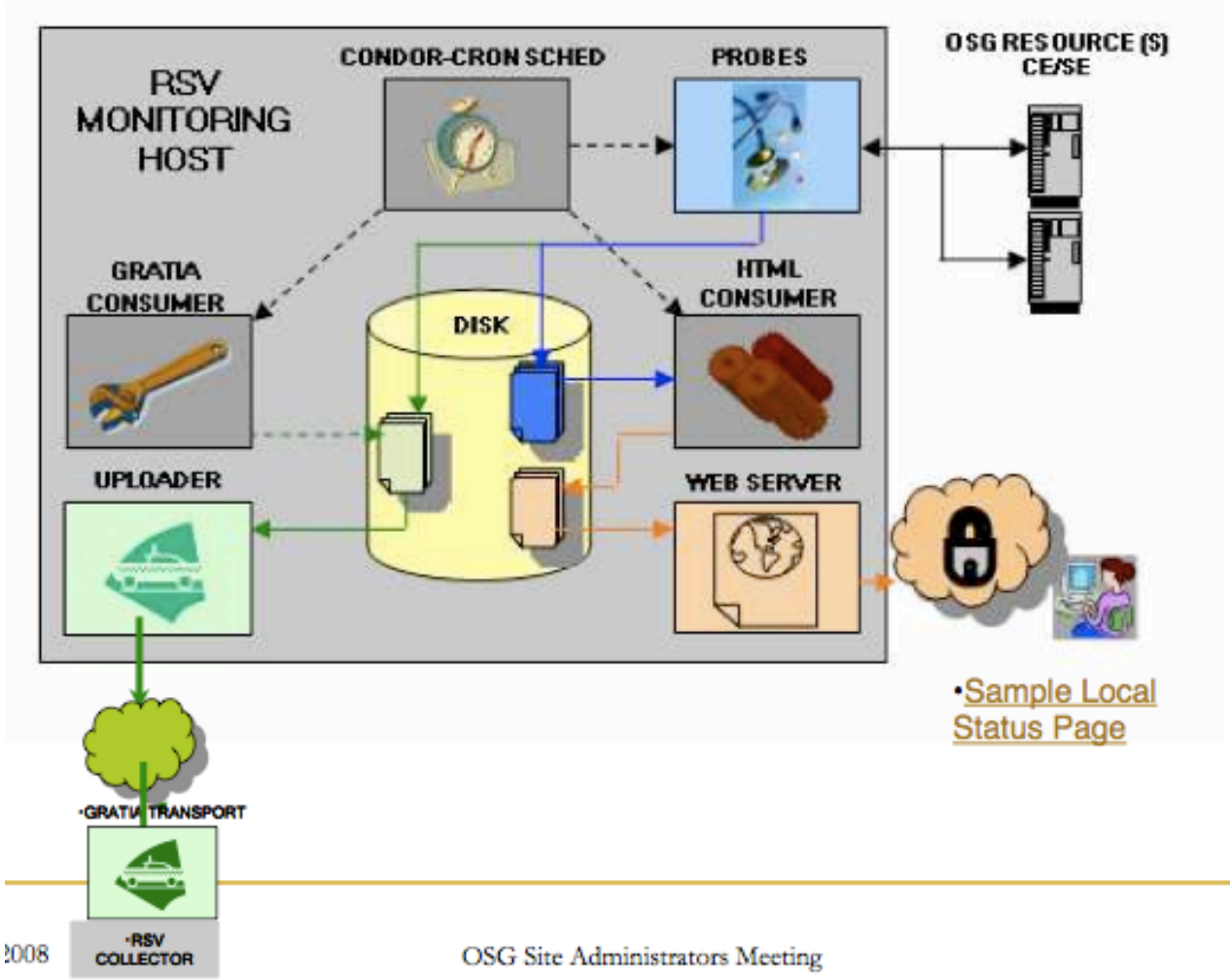
- https://twiki.grid.iu.edu/twiki/bin/view/MonitoringInformation/WebHome

OSG-RSV

- Framework to run probes and consumers
- Provide local validation of an OSG resource
- Collect centrally monitoring information
- Can run separately
- Integrated with the OSG resource
  - configure-osg configuring also the OSG-RSV framework

OSG-RSV framework (courtesy of Arvind Gopu)

- Metric
- Probe
- Consumer
- Uploader
- Web server
- Scheduler



Probe

- Script that accepts specific input parameters and returns output respecting a standard defined in WLCG
- Identified by the file name
- Can provide one or more metric
- Self describing
- Provided by a developer (not necessarily GOC)
- Collected and distributed (as probe-set) by GOC, the Grid Operation Center

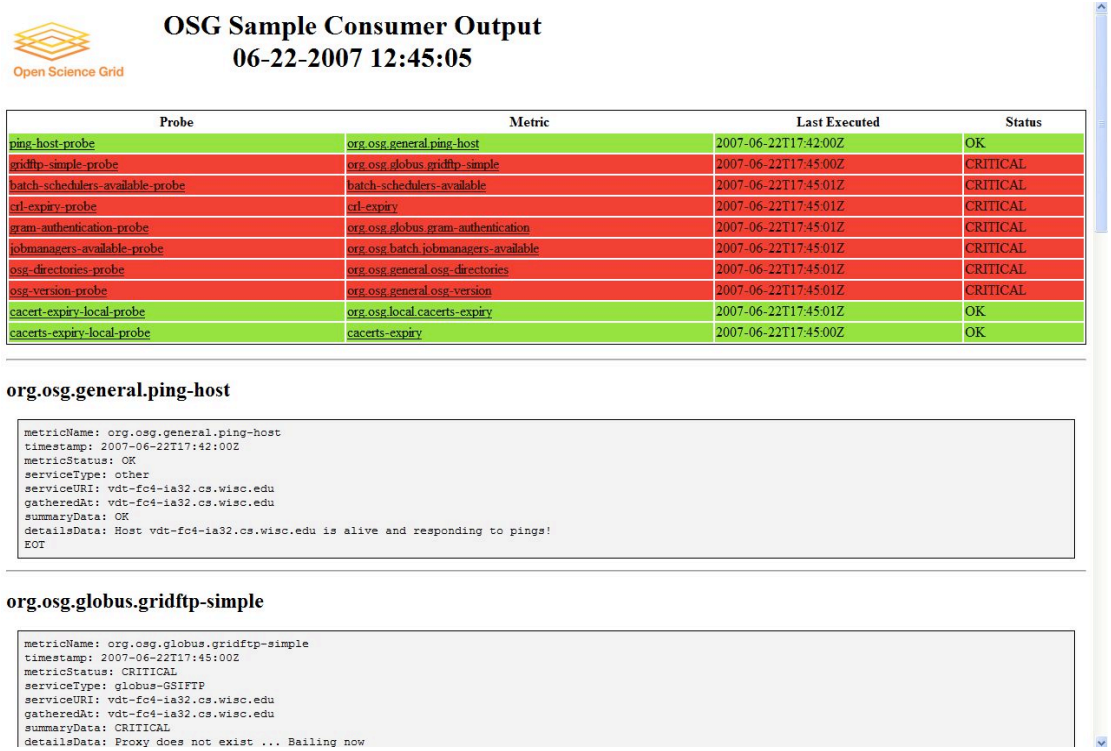
- https://twiki.cern.ch/twiki/bin/view/LCG/GridMonitoringProbeSpecification

Metric

- Value that OSG wants to measure, collect or verify, e.g. the version of the installed OSG software or the consistency of some directories
- For the benefit of the system administrator, a Virtual Organization, users of the grid, Open Science Grid itself
- Useful for verification and troubleshooting: green light
- For monitoring
- For accounting
- For resource selection

Consumer

- HTML consumer generates local Web pages
- Gratia consumer reports to the gratia accounting system



OSG Sample Consumer Output
06-22-2007 12:45:05

Probe	Metric	Last Executed	Status
ping-host-probe	org.osg.general.ping-host	2007-06-22T17:42:00Z	OK
gridftp-simple-probe	org.osg.globus.gridftp-simple	2007-06-22T17:45:00Z	CRITICAL
batch-schedulers-available-probe	batch-schedulers-available	2007-06-22T17:45:01Z	CRITICAL
crl-expiry-probe	crl-expiry	2007-06-22T17:45:01Z	CRITICAL
gram-authentication-probe	org.osg.globus.gram-authentication	2007-06-22T17:45:01Z	CRITICAL
jobmanagers-available-probe	org.osg.batch.jobmanagers-available	2007-06-22T17:45:01Z	CRITICAL
osg-directories-probe	org.osg.general.osg-directories	2007-06-22T17:45:01Z	CRITICAL
osg-version-probe	org.osg.general.osg-version	2007-06-22T17:45:01Z	CRITICAL
cacert-expiry-local-probe	org.osg.local.cacerts-expiry	2007-06-22T17:45:01Z	OK
cacerts-expiry-local-probe	cacerts-expiry	2007-06-22T17:45:00Z	OK

org.osg.general.ping-host

```
metricName: org.osg.general.ping-host
timestamp: 2007-06-22T17:42:00Z
metricStatus: OK
serviceType: other
serviceURI: vdt-fc4-ia32.cs.wisc.edu
gatheredAt: vdt-fc4-ia32.cs.wisc.edu
summaryData: OK
detailsData: Host vdt-fc4-ia32.cs.wisc.edu is alive and responding to pings!
EOT
```

org.osg.globus.gridftp-simple

```
metricName: org.osg.globus.gridftp-simple
timestamp: 2007-06-22T17:45:00Z
metricStatus: CRITICAL
serviceType: globus-GSIFTP
serviceURI: vdt-fc4-ia32.cs.wisc.edu
gatheredAt: vdt-fc4-ia32.cs.wisc.edu
summaryData: CRITICAL
detailsData: Proxy does not exist ... Bailing now
```

Probes in RSV

- Probes are Perl scripts
- Use a wrapper and utilities provided in RSV
- Scheduled using CondorCron
- Probe ID: <filename>@<metricname>__<host>
- All files referring a metric (submit, stdout, stderr, log) start with the probe ID

- http://rsv.grid.iu.edu/documentation/help/
- https://twiki.grid.iu.edu/bin/view/ArchivedDocumentation/ITB/ITB090/ValidateRSV-Probes

Rsv-control

- Python modules to work with probes, the OSG-RSV installation, the scheduler (CondorCron) and the utility
- A wrapper to set the environment and invoke the Python code
- Provides ability to list installed probes and their status, to enable/disable probes and to test them
- The plan is to extend the tool and support more functionalities covering the operation of probes and OSG-RSV framework

Rsv-control: use

```
usage: rsv-control [ --verbose ]
  --help | -h
  --version
  --list [ --wide | -w | --full-width] [ --format <format> ] [ all | <probeID>]
  --enable  [--user <user>] --metric  <metric-name>  --host <host-name>
  --enable  [--user <user>] --service <service-name> --host <host-name>
  --disable [--user <user>] --metric  <metric-name>  --host <host-name>
  --disable [--user <user>] --service <service-name> --host <host-name>
  --full-test [--user <user>] --metric <metric-name>  --host <host-name>
  --test    [--user <user>] --metric <metric-name>   --host <host-name>
```

List

- List probe information. If no probe is specified in the argument all probes are listed in a short tabular form. Each line has probe name, type and status or host (if the probe is enabled). Lines may be truncated to fit the page. The table list one line for each enabled metric. If that metric is not enabled against any host, it list one line with the metric status (probably DISABLED).
- Formatting option:
  - wide: Wide list display (156 columns instead of the 76 by default)
  - full-width: Avoid truncation in probe listing
- format: Specify the information to list
  - local: status in OSG-RSV
  - brief: status for the submitter (condor-cron)
  - long: long status (output of 'condor_cron_q ID')
  - full: full status (full list of classads returned by condor-cron)
  - log: dump of the log file (userlog for condor-cron)
  - out: dump of the stdout returned by the probe execution againsts the specific host
  - err: dump of the stderr returned by the probe execution againsts the specific host

Test

- Run against the HOST (URI) the probe returning METRIC. Probe is executed and output returned. No file is written.
- metric: Specify the metric to enable/disable (e.g. org.osg.general.ping-host)
- host: Specify the host FQDN and optionally the port to be used by the probe (e.g. host or host:port). This is optional depending on the requirement of the probe. See the documentation for the specific probe
- user: Specify the user to use to run the probe. You must be able to switch to that user.

Full test

- Test against the HOST (URI) the probe returning METRIC. It takes the same arguments of Test.
- Probe is executed within the OSG-RSV framework, only once, immediately.
- Testing a probe will not affect normal execution but will create some files in the installation. Log, output and error files are different.

Enable/disable

- Enable or disable a probe or a SERVICE. Support the same options as test and service.
- service: Specify the service type of the probes to enable/disable. All the probes matching the service type will be enabled/disabled (e.g. OSG-CE)
- Modify the configuration files and submits/removes the job from CondorCron
- Idempotent: multiple invocation will not change the final result (probe enabled/disabled)

Installation and setup (temporary)

- Installation (choose a directory)

<download> rsvcontrol-test-v010.tar.gz

tar xvzf rsvcontrol-test-v010.tar.gz

export PATH=$PATH:`pwd`/rsvctrl-test/bin

- Setup

$VDT_LOCATION/setup.sh

export PATH=$PATH:<install_dir>/rsvctrl-test/bin/

https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/RsvControl

Example

- rsv-control --list

```
Metric                                      | Service       | Hostname
--------------------------------------------+---------------+--------------------
...osg.batch.jobmanager-condor-ext-status | OSG-CE        | DISABLED
org.osg.batch.jobmanager-condor-status    | OSG-CE        | DISABLED
org.osg.batch.jobmanager-default-status   | OSG-CE        | uct3-edge7.uchic...
...sg.batch.jobmanager-ext-default-status | OSG-CE        | DISABLED
org.osg.batch.jobmanager-fork-ext-status  | OSG-CE        | DISABLED
org.osg.batch.jobmanager-fork-status      | OSG-CE        | DISABLED
...atch.jobmanager-loadleveler-ext-status | OSG-CE        | DISABLED
...sg.batch.jobmanager-loadleveler-status | OSG-CE        | DISABLED
org.osg.batch.jobmanager-lsf-ext-status   | OSG-CE        | DISABLED
org.osg.batch.jobmanager-lsf-status       | OSG-CE        | DISABLED
...atch.jobmanager-managedfork-ext-status | OSG-CE        | DISABLED
...sg.batch.jobmanager-managedfork-status | OSG-CE        | DISABLED
org.osg.batch.jobmanager-pbs-ext-status   | OSG-CE        | DISABLED
org.osg.batch.jobmanager-pbs-status       | OSG-CE        | DISABLED
org.osg.batch.jobmanagers-available       | OSG-CE        | uct3-edge7.uchic...
org.osg.certificate.supportedvo.verify    | OSG-CE        | DISABLED
org.osg.certificates.cacert-expiry        | OSG-CE        | uct3-edge7.uchic...
org.osg.certificates.crl-expiry           | OSG-CE        | uct3-edge7.uchic...
```

More information

- OSG-RSV
  - http://rsv.grid.iu.edu/documentation/vdt-package.html
  - http://rsv.grid.iu.edu/documentation/rsv-contact-info.html
- rsv-control
  - https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/RsvControl
- Send your feedback!
  - marco@hep.uchicago.edu
- Support
  - OSG tickets: https://ticket.grid.iu.edu/goc/open
  - OSG Campfire: http://integrationcloud.campfirenow.com/6e62e