EGI/WLCG – OSG Status Information Exchange

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Types of Communication

- # Machine to Machine
  - – BDII (Berkeley Database Information Index)
  - – Near real time status information
  - – "Semi-Static" information

- # Machine to People
  - – RSV (Resource Service Validation)
  - – Status information, "UP", "DOWN", "UNKNOWN"…
  - – Update time scale is a few minutes to a few hours
  - – Ultimately processed into Reliability/Availability

The GOC BDII

- The most critical service operated by the GOC (Grid Operations Center)
  - Operation defined by an SLA (Service Level Agreement)
- 99.91% Availability, down ~8 hrs/year
- 650 updates/minute
- 2500 total hits/minute
  - ~1/2 from WLCG
- 96 Mb/sec

The Service Level Agreement

- One of two "Critical" level services
- Depending on the severity of the problem, maximum acceptable resolution time is as low as 4 hours
- Availability of 99% required, only two unscheduled outages per six months.
- 24x7x365 coverage

GOC BDII implementation

- BDII v4

- Two servers in DNS Round Robin, geographically distributed (80 km apart)

- Dual quad-core Xeon 3.2 GHz

- Not virtualized

Future Implementation

- BDII v5

- Virtual machines, different hosts, same location

- LVS (Linux Virtual Server) for load balancing/high availability

- Tests show 1 VM can handle the entire load.

- Will maintain backup capability at second location

Use cases

Region

Use cases

- Some of you may be able to access a use case study document: https://twiki.cern.ch/twiki/pub/LCG/WLCGISArea/WLCG_IS_UseCases.pdf

- The entire contents of the OSG BDII are uploaded to the WLCG BDII every five minutes

RSV

- Resource and Service Validation
- A catalog of "probes" are available
- Resources may (but are not required to) run these probes
- Probe reports status to central collector
- Status records are (selectively) passed on to WLCG

Some Probes

- org.osg.crl.wlcg.freshness
  - Is your CRL current?

- org.osg.bdii.available
  - Is BDII working?

- There are many others:
  - Simple ping
  - Highly specialized, for example, measuring quantities associated with a specific Service Level Agreement

Running probes

- Resources run these probes via a prescribed mechanism

- Probes are chosen as appropriate for the specific resource

- Probes upload results to GOC

- Data processed for a variety of purposes

Processing RSV data

- If the "WLCG interoperability flag" is set, the RSV records are packaged (every 10 minutes) and passed to SAM. About 27k records are passed per day.

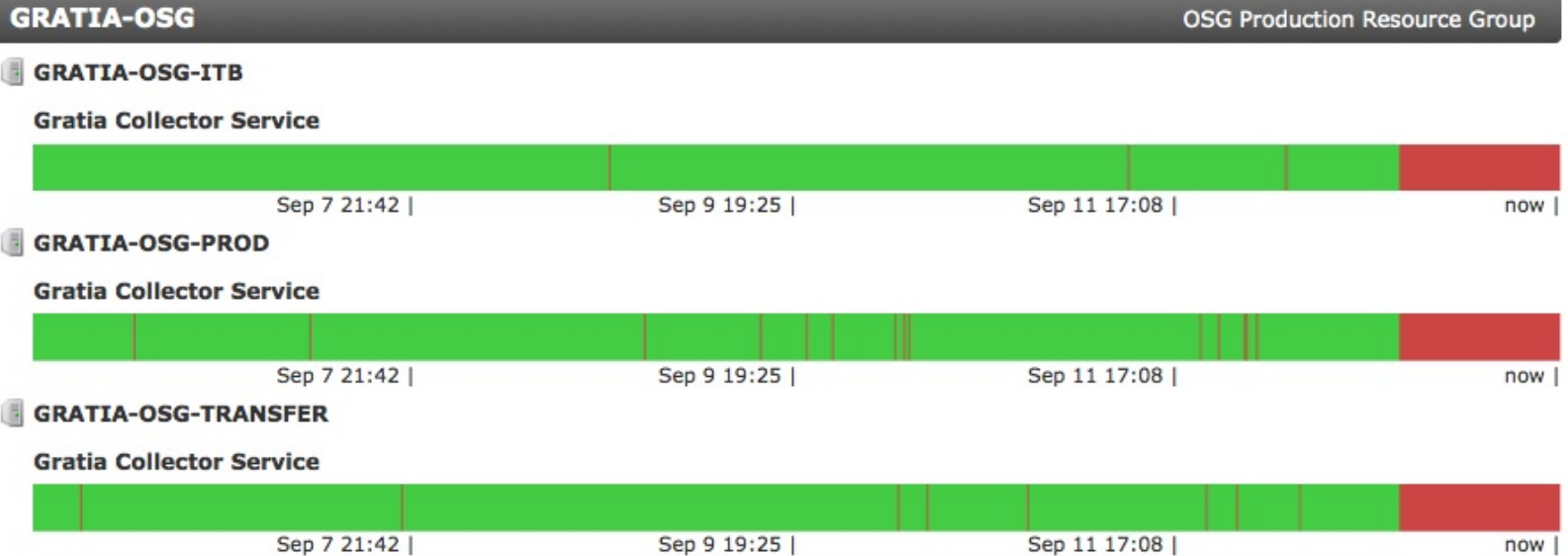- Resource status can be filtered and viewed interactively

Examples

Normal Priority Services			
GOC_OIM	❌ **CRITICAL**	Current Status Detail	Status History
OSG_Display	✅ **OK**	Current Status Detail	Status History
GRATIA-OSG	❌ **CRITICAL**	Current Status Detail	Status History
GOC_Ticket	✅ **OK**	Current Status Detail	Status History
GOC_BDII_ITB	✅ **OK**	Current Status Detail	Status History
OSG_TWiki	✅ **OK**	Current Status Detail	Status History
OSG_Homepage	✅ **OK**	Current Status Detail	Status History

Examples

Between Sep 6, 2011 and Sep 13, 2011

GRATIA-OSG   OSG Production Resource Group

GRATIA-OSG-ITB

Gratia Collector Service

Sep 7 21:42 | Sep 9 19:25 | Sep 11 17:08 | now |

GRATIA-OSG-PROD

Gratia Collector Service

Sep 7 21:42 | Sep 9 19:25 | Sep 11 17:08 | now |

GRATIA-OSG-TRANSFER

Gratia Collector Service

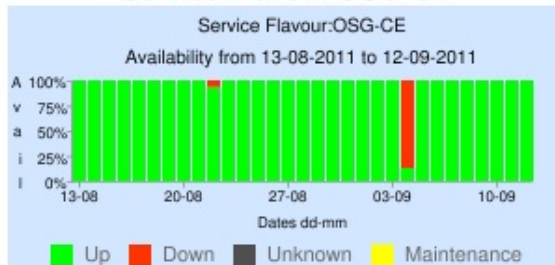Sep 7 21:42 | Sep 9 19:25 | Sep 11 17:08 | now |

Examples

Availability from 13-08-2011 to 12-09-2011
Site:AGLT2
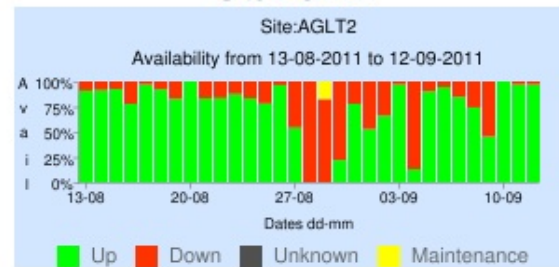
Individual Service Availability for Site:AGLT2 Profile:WLCG_CREAM_LCGCE_CRITICAL (Daily Report)
Availability from 13-08-2011 to 12-09-2011

Service Flavour:OSG-CE

Service Flavour:OSG-SRMv2