



Enabling Grids for E-scienceE

EGEE Operations and Automations Update and Face to Face Summary

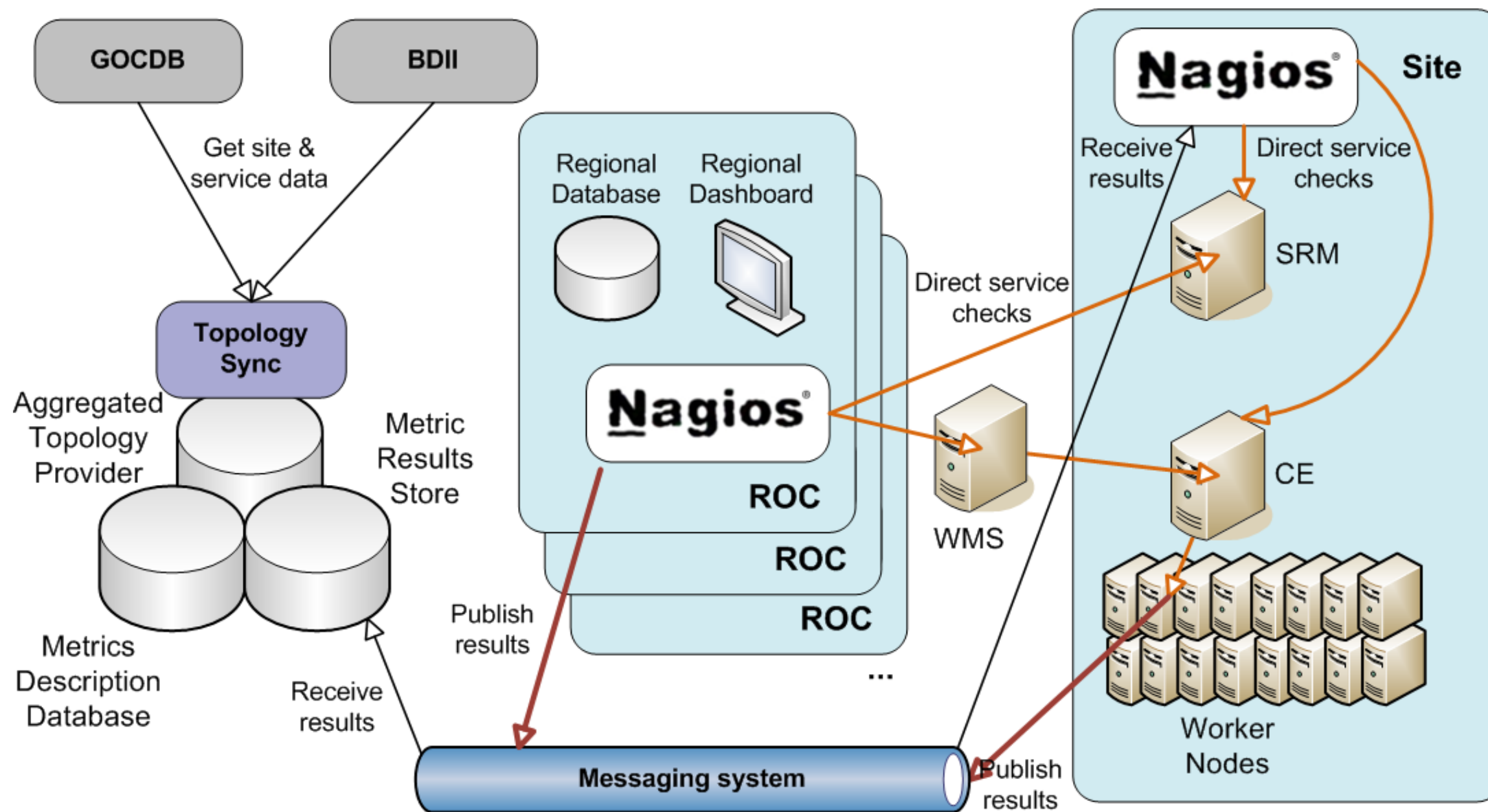
Apr 8th 2009

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- **Meeting at CERN Last Week**
- **Attended by**
 - GOCDDB - Gilles Mathieu
 - NAGIOS, NCG, YAIM, - Emir Imamagic, Steve Traylen
 - ActiveMQ Messaging - Emir Imamagic, James Casey
 - SAM, MDB, ATP - David Collados, Judit Novak, John Shade, Wojciech Lapka, Konstantin Skaburskas, Vaibhav Kumar
 - OSCT - Daniel Kouril
 - OSG, RSV, MyOSG - Rob Quick.
 - VO Experiment Input
 - § Alessandro Di Girolamo, ...
 - Regional Input
 - § Czech Republic - Ladislav Havlik
 - § Greece - Christos Triantafyllidis
 - § Italy - Giuseppe Misurelli
- **Productive week.**
 - Specialized meetings and a “Common Room”.

- **Component/Architecture Review.**
- **SAM Portal Replacement - MyOSG ?**
- **Static Site Properties.**
 - Definitive lists of services, lists of VOs.
- **Security Tests**
- **Message Flow - Project , ROC, Site, VO.**
- **Metric Description Database (The MDD)**
- **Aggregated Topology Provider (The ATP)**
- **Nagios Host Identity Changes**
- **Deployment of Tools**
- **CERN Project Nagios Boxes**
- **Nagios and The VOs, Experiments.**
- **Current Deployment Summary**

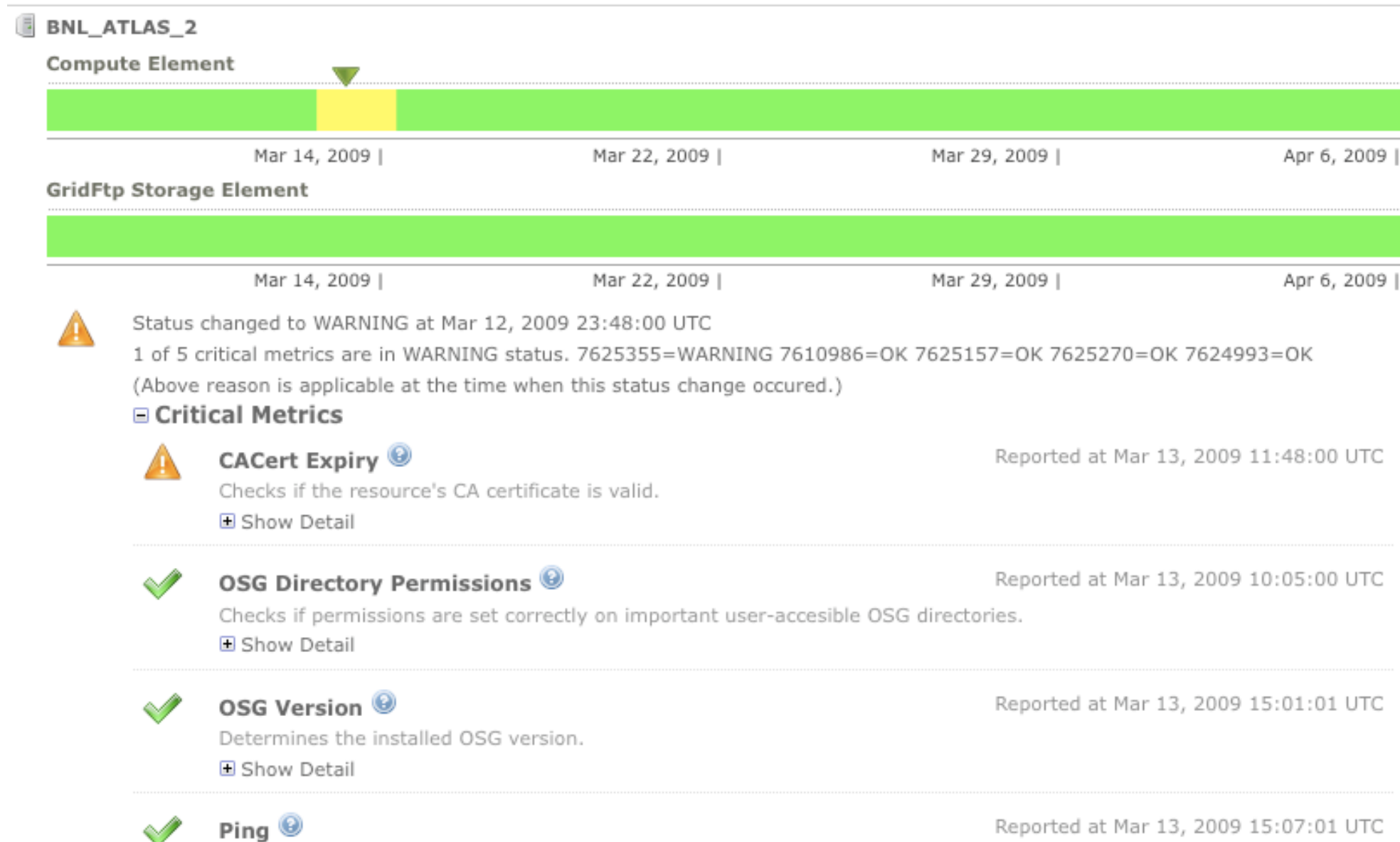


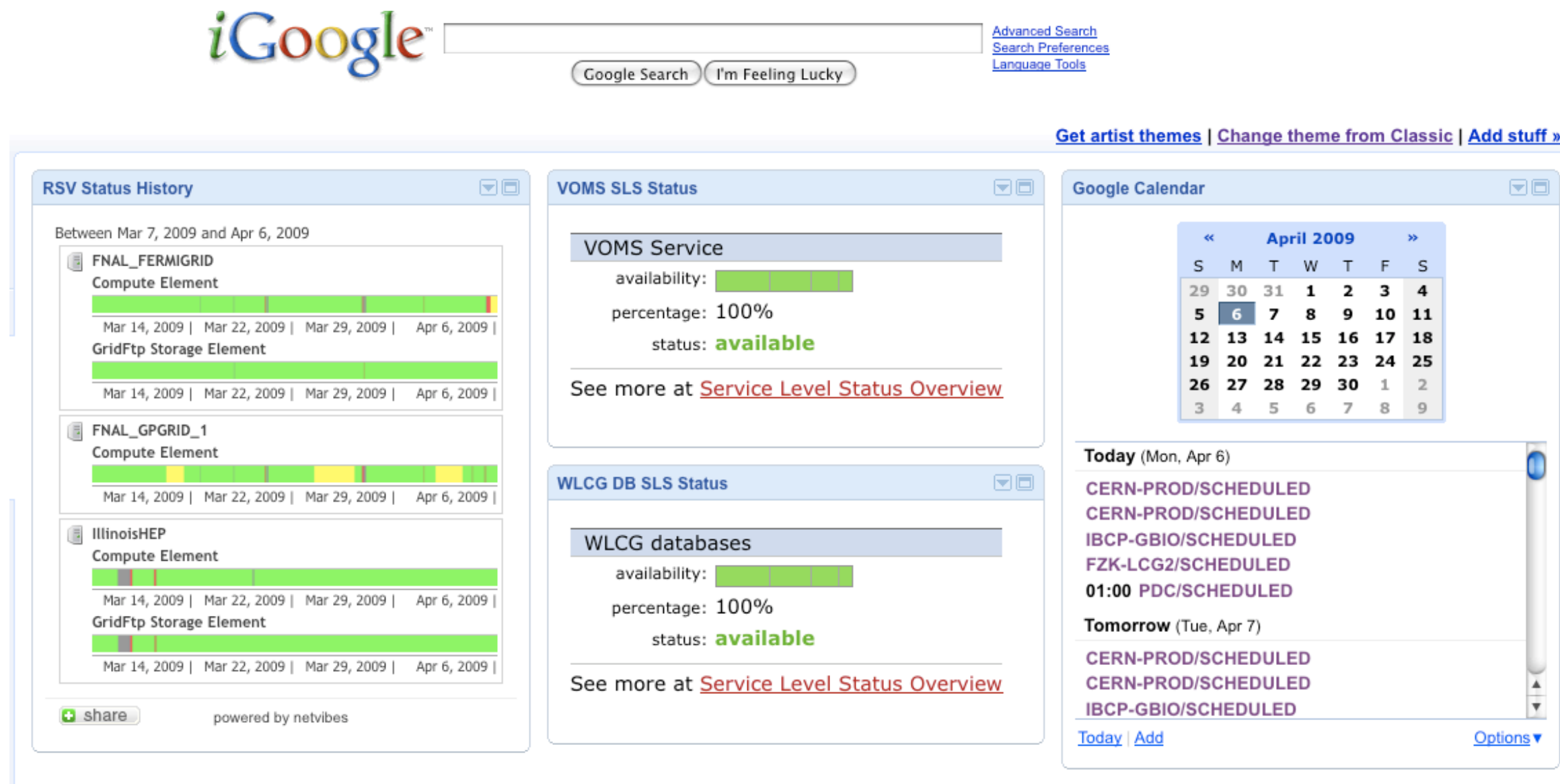
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<https://twiki.cern.ch/twiki/bin/view/EGEE/MultiLevelMonitoringOverview>

- **SAM Team is looking to replace the SAM portal.**
 - Data coming from NAGIOS via MsgBus and/or NDOUtils.
 - Must be usable at Project or ROC (NGI) level.
 - NagViz, PNP4Nagios, Nag2Cact, Nagios Business Process Module.
 - § All investigated, none quite right.
- **MyOSG from OSG looks maybe to fit the bill.**
 - Evaluation underway but no conclusion yet.
 - Schema comparison.
 - Phone conferences arranged with developers.
- **MyOSG, RSV status in particular.**
 - <http://myosg.grid.iu.edu/about>
 - In particular the “Status History”

- **Flexible interface.**
 - View one or many sites.
- **Exported as**
 - XML
 - iGoogle
 - NetVibes





- RSV Status from the OSG.
- VOMS status from CERN SLS.
- EGEE Downtimes from GOCDB (via LHCb)

- **The reliable, definitive source of information needed.**
 - List of services at a site.
 - VO support of services at site.
 - Presently in the GOCDB and dynamically in BDIs.
- **Assumptions for Any Solutions**
 - Site Admin Contacts needed centrally => GOCDB
 - Service Endpoints needed centrally => GOCDB
 - Service VO Mappings in the same place => GOCDB
- **Considerations for any Solution**
 - Services in test status.
 - Differentiate decommission and downtime.
 - A history is required.
 - Different regions wish to enter sites, services in different ways.
 - Downtimes needed centrally,
 - § allow sites to publish a downtime with a powercut.

1. Sites enter endpoints (as now) in GOCDB

- VO information in CLIC portal
- Mappings of sites to VOs is in GOCDB
- Closest to today's situation.

2. Sites enter endpoints and VO information in BDII.

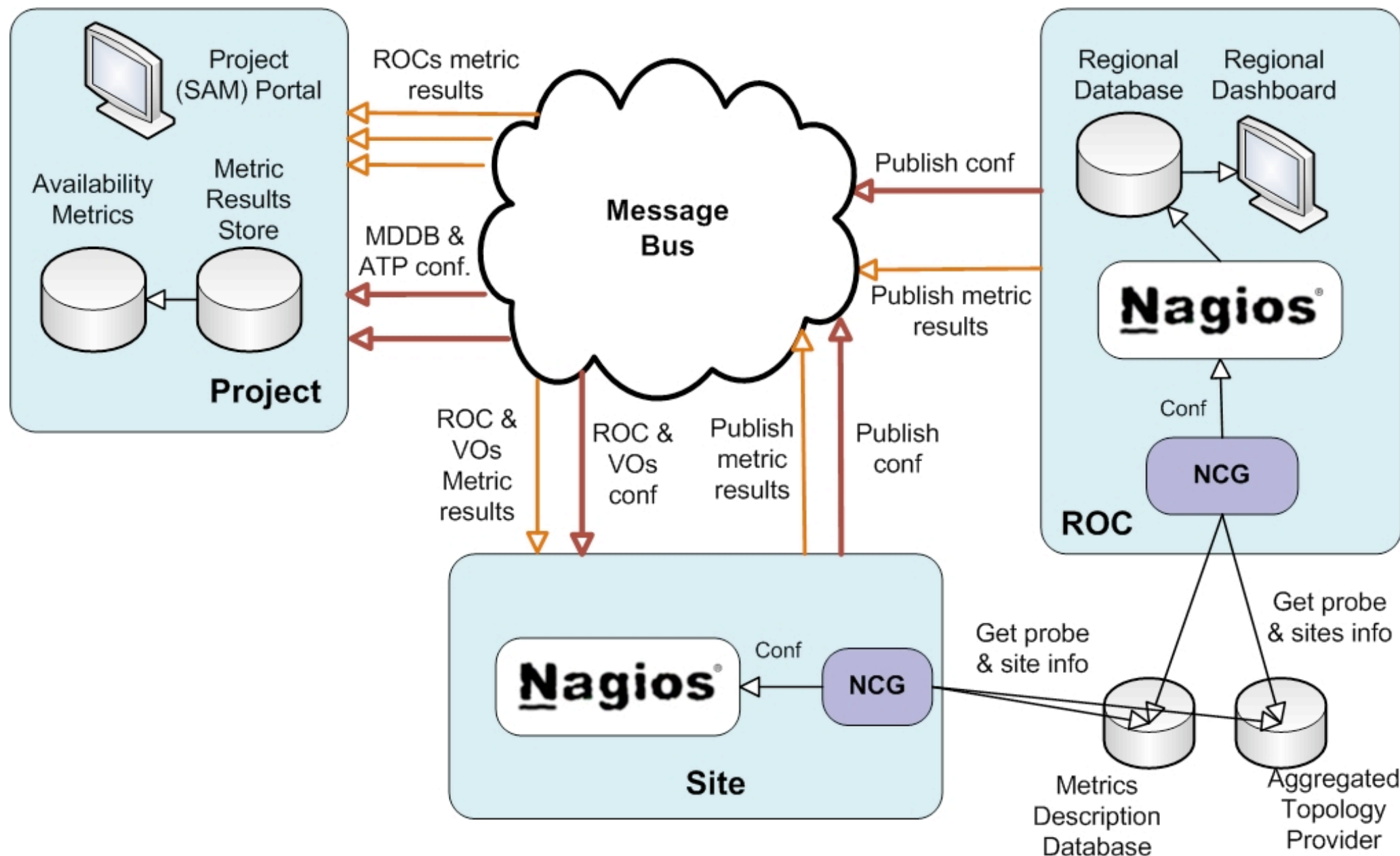
- GOCDB reads and stores information from there.
- Requires BDII -> GOCDB mechanism.
 - § Maybe some site notification and approval stage.
- GOCDB and ATP are now in overlap?
 - § ATP feeds from GOCDB & BDII & (the OSG OIM)

3. Sites publish information to messaging system.

- GOCDB reads and stores information from there.
- Requires both:
 - § Site to message system and message system to GOCDB tools.
- Easier to imagine NGI, EGEE, OSG, ... visible in the same way.
 - § NGI, EGEE or OSG publish their sites.
 - § The publisher's scope is irrelevant , e.g individual sites, country, infrastructure.

- **Evaluate if Glue 1.3 can accommodate this static service information that is required.**
 - Certainly it can't obviously accommodate future downtimes.
- **Evaluate quantity of work for a messaging solution.**
 - Consider a name space.
 - Consider what tools would be needed.

- **Some sam tests available.**
 - CRL and file permission checks
 - Results only available to security contacts
- **Port the test to the Nagios-based framework**
 - ROC (or even project/VO) level Nagios will perform the test
 - Security matters – results must be encrypted, access policy defined
- **Further security probes to be developed**
 - Based on risk analysis and/or previous incidents
- **Pakiti campaign**
 - Many sites not applying security patches (vanilla SL3 distributions!), a wide range exploits exist in the wild.
 - OSCT will establish a Pakiti server to collect and evaluate information about the sites' patching status
 - The middle-term goal is to move the Pakiti framework to Nagios



- ROC sends site configuration for site nagios and Project.
- ROC sends results to site nagios and Project.
- Sites also publish own results. Not a requirement anyway.

- **Each ROC Nagios publishes configuration of its tests.**
 - i.e what each site Nagios should expect to receive.
 - Site Nagios creates passive test slots effectively.
- **ROC metric results published to a topic:**
 - `grid.probe.metricOutput.EGEE.ROC.<ROCNAME>.<SITEID>`
- **Similar topic names as well.**
 - `grid.probe.metricOutput.EGEE.VO.<VONAME>.<SITEID>`
 - `grid.probe.metricOutput.EGEE.NGI.<COUNTRYNAME>.<SITEID>`
- **Who ever is then interested is welcome to subscribe.**
 - e.g CERN-PROD is interested in
 - `grid.probe.metricOutput.EGEE.Project.*.CERN-PROD`
 - `grid.probe.metricOutput.EGEE.ROC.*.CERN-PROD`
 - `grid.probe.metricOutput.EGEE.VO.*.CERN-PROD`

- **Current situation for nagios hostcert**
 - Owned by root.
 - A root cron retrieves a VO members credential from MyProxy.
 - § Users proxy is given to nagios service running as user NAGIOS.
 - § A passive Nagios results is
- **Agreed for the future.**
 - Host certificate will be given to the NAGIOS service.
 - § This IS permitted by the CPSes of the CAs .
 - Allows Nagios to trigger the VO member proxy retrieval.
 - § Allows better dependencies to be specified and resolved.
 - Allows Nagios to interact with services requiring a real certificate.
 - § e.g. GGUS.
- **NRPE Configuration Mirroring.**
 - Currently NRPE UI retrieves via a cron job on the UI.
 - This will now be done via a single pre-configured NRPE check.

- **MOCK (Fedora) building for SL4/5 i386/x86_64 for packages.**
 - MOCK (chroot + install base via yum + rpmbuild)
 - <http://fedoraproject.org/wiki/Projects/Mock>
- **Test repositories now exist for sl4 and sl5.**
 - <http://www.sysadmin.hep.ac.uk/rpms/egee-SA1/sl4>, sl4-test , sl5, sl5-test.
 - § Three sites now running instances with test configuration.
- **Software changes recorded in the RPM %changelog.**
 - repoview creates pretty web pages.
 - § <http://www.sysadmin.hep.ac.uk/rpms/egee-SA1/sl4/i386/repodata/>
 - RSS feeds inform administrators.
 - No software announcements are made beyond this.
 - § unless changes are significant.
- **SL5 NAGIOS with SA1 tools is completed and available**
 - Can be run against an SL4 gLite-UI in NRPE mode.
 - Can be run on top of SL5 glite-WN. Submission tests fail of course.
 - Will be released properly with SL5 gLite-UI node.

- **MDB now available**
 - <http://gridops.cern.ch/metric-des/web/>
- **Contains profiles of tests for different situations**
 - List of tests for Sites or ROC
 - e.g resource-BDII makes no sense at ROC level.
- **Test profiles can contain a new future tests.**
- **NCG (Nagios Configuration Tool)**
 - Currently we distribute MDB data as a static file.
 - Next version uses the JSON feed from the MDB.
 - Allows us to reprogram test set centrally.
 - Decouples us from software release.

Metric description List

Metric Name	Description	
ch.cern.FTS-ChannelList	ch.cern.FTS-ChannelList	
ch.cern.LFC-Read	ch.cern.LFC-Read	
ch.cern.LFC-ReadDir	ch.cern.LFC-ReadDir	
ch.cern.LFC-ReadDli	ch.cern.LFC-ReadDli	
ch.cern.LFC-Write	ch.cern.LFC-Write	
ch.cern.RGMA-ServiceStatus	ch.cern.RGMA-ServiceStatus	
hr.srce.CAdist-Version	hr.srce.CAdist-Version	
hr.srce.DPNS-List	hr.srce.DPNS-List	
hr.srce.GRAM-Auth	hr.srce.GRAM-Auth	
hr.srce.GRAM-CertLifetime	hr.srce.GRAM-CertLifetime	
hr.srce.GRAM-Command	hr.srce.GRAM-Command	
hr.srce.GridFTP-Transfer	hr.srce.GridFTP-Transfer	
hr.srce.GridProxy-Valid	hr.srce.GridProxy-Valid	
hr.srce.MyProxy-CertLifetime	hr.srce.MyProxy-CertLifetime	
hr.srce.MyProxy-Store	hr.srce.MyProxy-Store	
hr.srce.ResourceBroker-CertLifetime	hr.srce.ResourceBroker-CertLifetime	
hr.srce.ResourceBroker-RunJob	hr.srce.ResourceBroker-RunJob	
hr.srce.SRM-Transfer	hr.srce.SRM-Transfer	
hr.srce.SRM1-CertLifetime	hr.srce.SRM1-CertLifetime	
hr.srce.SRM1-Ping	hr.srce.SRM1-Ping	
hr.srce.SRM2-CertLifetime	hr.srce.SRM2-CertLifetime	
hr.srce.WMProxy-CertLifetime	hr.srce.WMProxy-CertLifetime	
hr.srce.WMProxy-RunJob	hr.srce.WMProxy-RunJob	
hr.srce.WMS-CertLifetime	hr.srce.WMS-CertLifetime	
hr.srce.WMS-RunJob	hr.srce.WMS-RunJob	

62 Results. Showing 1 to 25

1 - 2 - 3

[Create](#)

- The ATP now exists and collects data from
 - GOCDB, BDII and OIM
 - A central topology for other tools. JSON or XML.
- <http://gridops.cern.ch/atp/>

WLCG Aggregated Topology Provider (using Validation DB)

Home

Nodes (JSON, XML)

SITE NAME	NODE NAME	LAST SEEN (UTC)	Feeds
#####IN2P3-CC	cclcgalice01.in2p3.fr	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	bdii.phy.bg.ac.yu	2009-04-07T14:23:30Z	JSON, XML
AEGIS01-PHY-SCL	ce64.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	lfc.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	mon.phy.bg.ac.yu	2009-04-07T14:23:30Z	JSON, XML
AEGIS01-PHY-SCL	myproxy.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	se.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	voms.phy.bg.ac.yu	2009-04-07T14:23:30Z	JSON, XML
AEGIS01-PHY-SCL	wms-aegis.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AEGIS01-PHY-SCL	wms.phy.bg.ac.yu	2009-04-07T14:24:10Z	JSON, XML
AEGIS07-PHY-ATLAS	ce-atlas.phy.bg.ac.yu	2009-04-07T14:24:09Z	JSON, XML
AGLT2	da2.aalt2.ora	2009-04-07T14:24:09Z	JSON, XML

- **CERN has set up ten “project” NAGIOS boxes one per ROC.**
 - <https://sam-uki-roc.cern.ch/nagios/>
 - <https://sam-see-roc.cern.ch/nagios/>
 -
- **SAM like database is being populated with results**
- **A GridView availability calculation will be run over the data.**
 - Results to be compared against existing SAM for Equivalence.
- **Known differences today for Nagios and SAM.**
 - Node list is smaller for NAGIOS than SAM.
 - § NCG and so NAGIOS only contains hosts in the GOCDB.
 - § Old SAM gets hosts from SAMDB in turn from GOCDB and BDII.
 - § Resolution - the ATP or the Aggregated Topology Provider.
 - § NCG and so NAGIOS will get its host list from the ATP.
 - CE tests still missing from NAGIOS submission.
 - § All written, configuration with next NCG release.
- **In the future the ROC Nagios will be the source of course.**

- **VOs need to run their tests.**
 - Existing tests - samtest-run
 - § This wraps a SAM test and runs it in the NAGIOS & MSG bus framework.
 - New tests - nagios probes, follow the NAGIOS API.
 - Results published to VO topics , will appear on site Nagios
 - § What everyone wants
 - An integration week will be held during May with VO test authors.
 - <https://twiki.cern.ch/twiki/bin/view/LCG/SAMToNagios>
- **Publishing service status to SLS (Service Level Status)**
 - Three stage plan
 - § NCG to generate static XML for SLS.
 - *Collate and view centrally*
 - § NAGIOS to generate dynamic XML for SLS
 - *Collate and view centrally*
 - § Deployment of SLS interface with NAGIOS instances at sites rocs?
 - *Would allow a Site, ROC, NGI instance of SLS*
 - *Currently requires Oracle, remove that requirement first.*

- **January**
 - Network of brokers now at CERN and in Croatia - Done
- **February**
 - Nagios results from ROC to Site across MsgBus.
 - § Partially complete -> messages & configuration sent, not processed when received.
 - Project NAGIOS boxes at CERN - complete.
 - GOCDB PI available - complete.
- **March**
 - Integration with MDB - complete, tested still to be released.
- **Upcoming Milestones - Next 3 Months.**
 - NCG to integrate with MDB and ATP - MDB done.
 - A comparative availability between Nagios and Sam results.
 - Integrated with Regionalized Dashboard alarm system
- <https://twiki.cern.ch/twiki/bin/view/EGEE/MultiLevelMonitoringMilestones>

- **At least 120 sites are being monitored by EGEE OAT NAGIOS solutions. - Results on the MsgBus**
- **Installed and publishing at ROCs.**
 - UK/I , Italy, SEE, SWE,
 - § May be others (meta monitoring was down today :-))
 - § <http://vtb-generic-108:2323/nagios/> (CERN only, in development)
- **All sites strongly encouraged to install.**
 - <https://twiki.cern.ch/twiki/bin/view/EGEE/GridMonitoringNcgYaim>
 - Support for co-existence with existing nagios now supported.
 - § Feed back welcome.
- **ROC detected problems appearing at site NAGIOS will happen very soon.**
- **MDB and ATP progressing well.**
 - <http://gridops.cern.ch/metric-des/web/>
 - <http://gridops.cern.ch/atp/>