EGI-InSPIRE

OPERATIONAL LEVEL AGREEMENTS WITHIN THE EGI PRODUCTION INFRASTRUCTURE

EU MILESTONE: MS418

Document identifier:	EGI-MS418-v0.7
Date:	**23 May 2012**
Activity:	**SA1**
Lead Partner:	**AUTH/GRNET**
Document Status:	**DRAFT**
Dissemination Level:	**PUBLIC**
Document Link:	https://documents.egi.eu/document/1057

Abstract

This document presents the status of the EGI Operational Level Agreements framework.

I. COPYRIGHT NOTICE

Copyright © Members of the EGI-InSPIRE Collaboration, 2010-2014. See www.egi.eu for details of the EGI-InSPIRE project and the collaboration. EGI-InSPIRE ("European Grid Initiative: Integrated Sustainable Pan-European Infrastructure for Researchers in Europe") is a project co-funded by the European Commission as an Integrated Infrastructure Initiative within the 7th Framework Programme. EGI-InSPIRE began in May 2010 and will run for 4 years. This work is licensed under the Creative Commons Attribution-Noncommercial 3.0 License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc/3.0/ or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, and USA. The work must be attributed by attaching the following reference to the copied elements: "Copyright © Members of the EGI-InSPIRE Collaboration, 2010-2014. See www.egi.eu for details of the EGI-InSPIRE project and the collaboration". Using this document in a way and/or for purposes not foreseen in the license, requires the prior written permission of the copyright holders. The information contained in this document represents the views of the copyright holders as of the date such views are published.

II. DELIVERY SLIP

	Name	Partner/Activity	Date
From	George Fergadis	AUTH-GRNET/TSA1.8	9 May 2012
Reviewed by	**Moderator:** **Reviewers:**		
Approved by	**AMB & PMB**		

George Fergadis 5/23/12 10:20 PM
Comment [1]: To be completed by project office on submission to AMB/PMB

George Fergadis 5/23/12 10:20 PM
Comment [2]: To be completed by project office on submission to EC

III. DOCUMENT LOG

Issue	Date	Comment	Author/Partner
ToC	15 March 2012	Table of Contents	G. Fergadis/AUTH-GRNET, T. Ferrari/EGI.eu
1	23 March 2012	First draft	G. Fergadis/AUTH-GRNET
2	27 April 2012	Second draft	P. Solagna/EGI.eu
3	09 May 2012	Final draft	G. Fergadis/AUTH-GRNET, P. Solagna/EGI.eu
4			

IV. APPLICATION AREA

This document is a formal deliverable for the European Commission, applicable to all members of the EGI-InSPIRE project, beneficiaries and Joint Research Unit members, as well as its collaborating projects.

V. DOCUMENT AMENDMENT PROCEDURE

Amendments, comments and suggestions should be sent to the authors. The procedures documented in the EGI-InSPIRE "Document Management Procedure" will be followed: https://wiki.egi.eu/wiki/Procedures

VI. TERMINOLOGY

A complete project glossary is provided at the following page: http://www.egi.eu/about/glossary/. Additional Operations specific terms are provided at the Operations glossary page: https://wiki.egi.eu/wiki/Glossary.

George Fergadis 5/24/12 3:17 PM
Formatted: Keep with next

VII. PROJECT SUMMARY

To support science and innovation, a lasting operational model for e-Science is needed – both for coordinating the infrastructure and for delivering integrated services that cross national borders. The EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit user communities within the European Research Area.

EGI-InSPIRE will collect user requirements and provide support for the current and potential new user communities, for example within the ESFRI projects. Additional support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

The objectives of the project are:

1. The continued operation and expansion of today's production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
2. The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
3. The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
4. Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
5. Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
6. Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community. The production infrastructure supports Virtual Research Communities (VRCs) – structured international user communities – that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

VIII. EXECUTIVE SUMMARY

Operational Level Agreements (OLAs) are defined in the Information Technology Infrastructure Library [ITIL] and describe how IT groups work together to meet IT service level requirements.

The purpose of the OLA is to optimize the delivery of IT services to customers [CUST] and users. It is an internal agreement that defines how two different units within an organization will work together to support the delivery of a set of IT services to customers and users.

Within EGI, the OLAs serve various purposes:

- Ensure mutual understanding of the principles of cooperation between parties of the operations community;
- Define the responsibilities of each party;
- Define the services to be delivered and the corresponding level parameters according to the needs of the users and/or the operators of the infrastructure as applicable;
- Support the EGI service level management procedures needed to monitor the delivered service quality.

During the project year 2 (PY2) of EGI-InSPIRE two OLAs have been approved by Operations Management Board and enforced in the EGI infrastructure: Resource infrastructure Provider[1] (RP) OLA [RPOLA] and Resource Centre[2] (RC) OLA [RCOLA]. This milestone describes the main feature of these two OLAs, together with the first draft of the EGI.eu OLA [EGIOLA], which is currently being drafted.

Section 5 contains an overview of the technical tools developed and deployed for service level monitoring, and development still needed to cover all the main service types in the infrastructure. In section 6 the procedures involved in the availability calculation process are briefly described.

George Fergadis 5/24/12 3:18 PM
Formatted: Page break before

George Fergadis 5/24/12 12:49 AM
Deleted: s

p s 5/29/12 10:26 PM
Formatted: English (US)

p s 5/29/12 10:25 PM
Formatted: English (US)

[1] https://wiki.egi.eu/wiki/Glossary#Resource_Infrastructure_Provider

[2] https://wiki.egi.eu/wiki/Glossary#Resource_Centre

TABLE OF CONTENTS

1 INTRODUCTION 7
2 RESOURCE CENTRE OLA 8
3 RESOURCE INFRASTRUCTURE PROVIDER OLA 9
3.1 Release notes v. 1.0 9
3.2 Release notes v. 1.1 9
4 EGI.EU OLA 11
5 REPORTING TOOLS 12
5.1 RC OLA reporting 12
5.1.1 Description of SAM Framework 12
5.1.2 Mechanism for Report Generation 12
5.1.3 ROC_CRITICAL profile for A/R computation 12
5.1.4 extensions needed for GLOBUS and UNICORE 13
5.2 RP OLA reporting 13
5.2.1 top-BDII reports 13
5.2.2 GOCDB virtual site proposalservice groups 14
5.2.3 NGI services site in GOCDB 14
5.2.4 Need more info 14
5.2.5 ROD performance index 14
6 SERVICE LEVEL MANAGEMENT 16
6.1 Targets 16
6.1.1 Resource Centres 16
6.1.2 Resource infrastructure Providers 17
6.2 Procedures 17
6.2.1 Rprocedure under revision for requesting changes to the monitoring results 17
6.2.2 Rprocedure to request changes in the A/R profile 18
7 CONCLUSIONS AND FUTURE WORK 19
8 REFERENCES 20

1 INTRODUCTION

This Milestone presents the status of the EGI Operational Level Agreement (OLA) framework, the reporting tools and the procedures in place for the service level management.

The OLA is the mechanism adopted in EGI to integrate resource providers into the pan-European production infrastructure while ensuring interoperation of operational services, Quality of Service, and to enforce a common set of policies and procedures.

EGI operations are based on a distributed service-oriented model comprehending Global and Local Services [ARCH], where different stakeholders play the role of service provider.

Crucial to EGI is the maximization of the Quality of Service experienced by the end-user, which is affected by the overall quality offered by the providers of operational services. It is therefore important that the providers commit to a minimum set of requirements to jointly offer a reliable, secure and highly available service infrastructure.

EGI OLA framework comprehends three types of OLAs (Figure 1).

The Resource Centre OLA (RC OLA) is defined between a Resource Centre (RC) and the respective Resource infrastructure Provider (RP).

The Resource infrastructure Provider OLA (RP OLA) is defined between a RP, its respective RCs, and EGI.eu.

The EGI.eu OLA is defined between the set of EGI Global Services that EGI.eu offers in collaboration with the EGI partners and the RPs

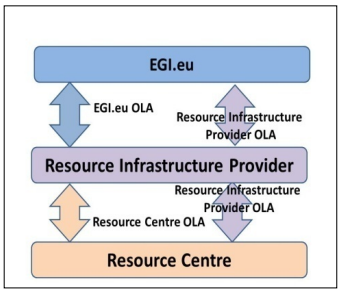

Figure 1. The entities in the EGI OLA framework. The arrows in the diagram indicate the partners involved in the respective OLAs.

Currently the RC OLA and RP OLA have been finalized, and there is work in progress to produce the EGI.eu OLA.

Peter Solagna 5/30/12 9:37 AM
Deleted: Figure 1

George Fergadis 5/24/12 3:40 PM
Deleted: Infrastructure

George Fergadis 5/24/12 3:42 PM
Deleted: Resource infrastructure Provider

George Fergadis 5/24/12 3:42 PM
Deleted: Resource Centre

George Fergadis 5/24/12 3:41 PM
Deleted: Resource Infrastructure Provider

2 RESOURCE CENTRE OLA

The RC OLA was extensively described in the previous milestone on the same subject [MS411]. In the last months the RC OLA was updated to version 1.1 which introduces the following changes:

- Various parts of the OLA have been fixed so that the OLA is now more general, and can be applied to RCs who deploy software that is not supporting the VO concept (e.g. GLOBUS and UNICORE)[3];
- Compliance to security policies and procedures has been reformulated so that no specific policy/procedure is referenced explicitly. The references section was updated accordingly;
- The OLA requires that all applicable security policies have to be accepted and enforced;
- The OLA was re-written to clarify that the whole agreement concerns all sites in UNCERTIFIED/SUSPENDED/CERTIFIED[4] status unless differently stated. Those parts of the OLA (such as availability requirements, response time to tickets) that are only applicable to CERTIFIED sites, are now explicitly mentioned to be only prescriptive to CERTIFIED sites. This is a major change in the OLA. This change was necessary to make sure that also UNCERTIFIED and SUSPENDED RCs enforce security policies;
- An additional responsibility statement for RCs about intellectual property rights was added in agreement with the Security Policy Group;
- Terminology was improved to keep it consistent with the EGI Glossary and ITIL definition of terms.

In March 2012 the Operations Management Board approved the version 1.1 of the RC OLA, RPs will disseminate and enforce the new OLA with their sites.

George Fergadis 5/24/12 3:43 PM
Deleted: Resource Centre OLA (

George Fergadis 5/24/12 3:43 PM
Deleted:)

George Fergadis 5/24/12 3:43 PM
Deleted: Resource Centre

George Fergadis 5/24/12 1:18 PM
Deleted: - see ticket 2574

George Fergadis 5/24/12 3:43 PM
Deleted: Resource Centre

George Fergadis 5/24/12 3:43 PM
Deleted: Resource Centre

p s 5/29/12 10:41 PM
Deleted: NGI

George Fergadis 5/24/12 1:18 PM
Formatted: English (US)

p s 5/29/12 10:27 PM
Formatted: English (US)

[3] https://rt.egi.eu/rt/Ticket/Display.html?id=2574

[4] https://wiki.egi.eu/wiki/GOCDB/Input_System_User_Documentation#Changing_Site_Certification_Status

3 RESOURCE INFRASTRUCTURE PROVIDER OLA

The RP OLA has been defined during the end of 2011 and the first quarter of 2012. The Operations Management Board approved the RP OLA on 25 October 2011 [OMB201110].

George Fergadis 5/24/12 3:38 PM
Deleted: Resource infrastructure Provider

3.1 Release notes v. 1.0

This is the first version of the EGI RP OLA adopting the EGI operations terminology defined in the EGI Operations Architecture (EGI-InSPIRE deliverable D4.1). The main elements of this version are:

George Fergadis 5/24/12 3:39 PM
Deleted: Resource infrastructure Centre

- Definition of the amendment procedure: changes to the document can now be requested by issuing a GGUS ticket.
- The termination clause says that after the end of the agreement the RP is no more part of the EGI infrastructure.
- EGI RCs are not part of the list of involved parties (EGI.eu and the RPs are the only partners involved, and that EGI.eu represents the interests of other RPs and of the EGI RCs). RCs do not need to be involved in negotiation and approval of this document.
- Terminology section is aligned with the ITIL standards. An incident SHOULD be resolved in 5 days - it is a recommendation (EGI.eu doesn't have a mechanism to control and enforce this at the time of this writing).
- The minimum service target (Availability/Reliability) of the RP Information Discovery service (top-BDII) are set to 99%/99%.
- The Resource infrastructure Provider is liable in case of low performance. If the service targets are not respected, the Resource infrastructure Provider is required to provide a report and a plan of improvement of the service(s) affected.

George Fergadis 5/24/12 3:43 PM
Deleted: Resource Centre

p s 5/29/12 10:45 PM
Deleted: NGI

3.2 Release notes v. 1.1

The second version of the document has been released to cover small incongruences between the OLA requirements and some sites specific deployment scenarios.

- Document Amendment Procedure: amendments are now requested by issuing a GGUS ticket to the service level management support unit, in order to improve traceability of requests. GGUS tickets replace e-mail messages sent to the OMB mailing list directly.
- Terminology: the NGI, UMD, VO and Capability definitions are updated to keep them consistent with the EGI glossary. Several other definition are improved to keep them consistent with are ITIL definitions.
- The list of responsibilities is now more comprehensive and includes text that was formerly part of the RC OLA.
- Added clause about intellectual property rights.
- NGI grid oversight service: COD and ROD teams have been experimenting a new metric to measure the performance of ROD teams. The metric is called ROD Performance Index and the maximum value is set to 10. The service level is defined below at section 5.2.3
- References were updated.

The Operations Management Board approved the v1.1 of the Resource Provider OLA in February 2011.

George Fergadis 5/24/12 2:23 PM
Deleted: at:[RODINDEX]

4 EGI.EU OLA

The EGI.eu Operations Level Agreement is in a draft status, still under definition. The OLA will define the set of EGI Global Services that EGI.eu offers to the RPs and the corresponding service levels and targets to be provided.

George Fergadis 5/24/12 3:40 PM
Deleted: Resource Infrastructure Provider

EGI.eu OLA will define the minimum service level for the provided technical services. Different availability targets will be defined for the critical and non-critical services.

For critical services, important in the day-by-day operations of the infrastructure and heavily used by the users or middleware services (e.g. the service registry GOCDB, the EGI helpdesk or the message brokers network-the full list of services considered critical will be defined in the EGI.eu OLA), EGI.eu has to assure an almost continuous availability: 99% availability/reliability on a monthly base.

Services with a lower grade of criticality (e.g. information aggregator like the metrics or accounting portal) do not require the same level of performances, although a good level of A/R is still required. The availability target for those services is currently being assessed.

5 REPORTING TOOLS

5.1 RC OLA reporting

5.1.1 Description of SAM Framework

The Service Availability Monitoring (SAM) is a grid monitoring and reporting system for large-scale production grids.

The SAM system is used to monitor the resources within the production infrastructure.

SAM is made up of several components [SAMC], some commodity and some specifically designed and developed for SAM. These include Nagios to execute tests, Messaging to transport test results between components, databases to store both configuration information: the Aggregate Topology Provider (ATP) and the Profile Management Database (POEM), databases to store the test results produced by Nagios: the Metric Result Store (MRS). Other components such as the Availability Calculation Engine (ACE) processes the raw test results to calculation metrics such as site and service availability and reliability. A portal, MyWLCG[5] or MyEGI[6] is provided to visualize both test results and availability calculations.

George Fergadis 5/24/12 12:15 AM
Deleted: [

George Fergadis 5/24/12 12:15 AM
Deleted:]

5.1.2 Mechanism for Report Generation

The monthly Availability/Reliability reports are produced by the ACE team and are made available normally on 1st of the following month.

The detailed methodology for computing status and availability is described in the "ACE Service Availability Computation" document [ACE].

The deadline for requesting re-computations is 10 calendar days after the announcement of the reports for a given month. Assuming the reports are announced on the 1st of the following month, the deadline for requesting re-computations will be the 11th of that month. As soon as the re-computation is complete the GGUS ticket is closed and the submitter notified. The MyEGI service availability interface can be used to confirm the new availability numbers. The final report will be published shortly after the deadline.

If there are no requests for re-computation the first reports published at the beginning of the month are considered final reports. In any case, after the deadline, no further requests will be considered.

5.1.3 Availability and Reliability Profile

Availability and Reliability Profiles are a collection of metrics/services defined for VOs. Each profile defines its computation algorithm. Metrics can be in different levels such as critical, non-critical etc.

George Fergadis 5/24/12 1:30 PM
Deleted: ROC_CRITICAL profile for A/R computation

At the December 2011 OMB [OMB201112] it was approved the replacement of the current profile for Availability/Reliability computation (WLCG_CREAMCE_LCGCE_CRITICAL [PWLCG]) with a new profile (ROC_CRITICAL [PROC]) that includes the site BDII freshness metric org.bdii.Freshness.

The Availability/Reliability weekly statistics were compared during November and December to assess the impact of this change on resource centres, and for all resource centres affected (a minor percentage) the assessment showed that the decrease in availability was correctly related to failures of the freshness metric.

George Fergadis 5/24/12 3:59 PM
Formatted: Font:(Default) Times New Roman, 10 pt, English (US)

George Fergadis 5/24/12 3:59 PM
Formatted: English (US)

George Fergadis 5/24/12 4:00 PM
Formatted: Font:(Default) Times New Roman, 10 pt, English (US)

George Fergadis 5/24/12 4:00 PM
Formatted: English (US)

[5] http://grid-monitoring.cern.ch/mywlcg/

[6] http://grid-monitoring.cern.ch/myegi/

The comparison was also performed for the monthly A/R statistics of the whole month of December and the difference between WLCG_CREAMCE_LCGCE_CRITICAL and ROC_CRITICAL was found to be:

Difference	<1%	>1% and <10%	>10%
Number of Resource centres	360	4	3

Because of this positive result, it was confirmed the decision to replace WLCG_CREAMCE_LCGCE with ROC_CRITICAL for producing the A/R reports starting from January 2012. The first reports using the new ROC_CRITICAL profile were distributed at the beginning of February.

5.1.4 Extensions needed for GLOBUS and UNICORE

Nagios probes for Globus and UNICORE services are distributed within the SAM release but currently they are not in the profile for the availability and reliability calculation. The inclusion of such probes in the ROC_CRITICAL profile, after a period of validation, will lead to availability/reliability calculation also for sites deploying only UNICORE or Globus.

For sites deploying mixed middleware the OMB also need to agree on the availability calculation algorithm, for example how to combine services with the same capability from different middleware (as it is now done, for example, for CREAM-CE and ARC-CE).

5.2 RP OLA reporting

5.2.1 Top-BDII reports

The availability metrics of the Top-BDII have been recently introduced in the RP OLA, but the operational tools do not count with built in automatic tools to track such metrics. Nevertheless these services are monitored and their availability/reliability statistics are available in the SAM infrastructure.

To increase the availability of their Top-BDII, many NGIs deploy more than one instance of the service; they can be used as a service cluster, with a DNS high availability configuration, or used on the client side in failover configuration.

A wiki page is used to track the authoritative Top-BDII instances that are operated by the NGIs, maintained directly by the Operations Centres staff. Multiple instances can be listed if needed.

The information of this wiki page is used by a custom script to generate the monthly availability Top-BDII tables. The scripts query the SAM Programmatic Interface to retrieve the monthly statistics for every instance of the service, if an NGI lists more than one instance in the wiki page, the hourly A/R statistics of the single BDIIs are combined in an OR-algorithm.

The script generates an XLS file with the table and a PDF, which are then circulated together with the RCs availability tables.

This process to generate the availability tables for the Top-BDIIs is going to be integrated in the Operations Portal, a first release of this integration is expected for September 2012.

5.2.2 GOCDB service groups

To track the availability of the NGIs core services, the operational tools need to identify the authoritative instances directly operated by the NGIs. Wiki pages are a temporary solution, which is not sustainable for all the core services types.

To address such a use case, that is to semantically group a set of services distributed across different resource centres, GOCDB – starting from version 4.3 released in April 2012 – implements the services groups.

George Fergadis 5/24/12 1:34 PM
Formatted: Keep lines together

George Fergadis 5/24/12 2:28 PM
Formatted Table

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

NGIs are now able to group their core services into a specific service group – which will have an agreed naming policy – without removing the endpoint from the GOCDB entry of the site that is actually hosting the service.

Given the different nature of the service group and site, the first is not natively supported by the SAM infrastructure and other Operational Tools. The strategy for these implementations – in particular the calculation of A/R statistics – is currently being evaluated. The most likely scenario is that Operations Portal will provide availability statistics for the Services Groups as an extension of the currently planned work for the Top-BDIIs availability.

5.2.3 ROD performance index

The Regional Operator on Duty (ROD) performance index was introduced to track the level of Grid Oversight service delivered by Operations Centres according to RP OLA.

George Fergadis 5/24/12 4:28 PM
Deleted: (formerly known as ROD OLA metric)

The index was accepted during Technical Forum 2011 in Lyon and is available on EGI Operations Portal.
ROD performance index is the sum of:

- No. of ticket expired in the operations dashboard daily
- No. alarms older than 72h appearingin operations dashboard daily

A ticket in counted as **expired** in the Operations Portal dashboard if the "Expiration date" is set at a time in the past. The "Expiration date" field is set according to escalation procedure, but can be freely changed by ROD. It refers to the date when the status of issue should be checked next time.

The ROD performance index is calculated monthly from the data gathered by EGI Operations Portal. It does not take into account weekends.

5.3 EGI.eu OLA reporting tools

In order to track the availability performance of the operational tools maintained by EGI-InSPIRE partners on behalf of EGI.eu, the services endpoints have been added to the GOCDB, and described with a specific set of service types. The services have been grouped using the existing GOCDB container entities (sites and RPs) in order to produce availability calculation using the existing SAM infrastructure.

p s 5/29/12 10:43 PM
Deleted: NGIs

Most of the operational tools development teams already delivered probes to test the functionalities of the tools. Such probes now need to be integrated in the SAM infrastructure together with a profile to contain the relevant probes to be used for the availability/reliability calculation of the central tools.

6 SERVICE LEVEL MANAGEMENT

EGI Service Level Management is the process responsible for ensuring that all IT Service Management Processes, Operational Level Agreements are appropriate for the agreed Service Level Targets, with ITIL.

The EGI process relies on the distribution of monthly Availability and Reliability reports that provide information about the performance of the individual RCs, as well as of the EGI RPs. Both EGI participants and the integrated infrastructures are concerned by this process as all EGI certified RCs are bound to the same minimum set of Service Level Targets and to the acceptance of the RC OLA.

George Fergadis 5/24/12 3:40 PM
Deleted: Resource Infrastructure Provider

6.1 Targets

The following service targets are constantly monitored:

- **Availability** which is defined to be the percentage of time that the service was up and running.
- **Reliability** which is defined to be the percentage of time of a service is up, excluding periods of scheduled intervention
- **Unknown** which is defined to be the percentage of time where there is no information of the status of the service.

While Availability measures the level of correct functionality delivered by a set of capabilities, Reliability estimates the quality of problem/incident management of a service.

The Unknown target was approved at the December 2011 OMB [OMB201112] in order to reduce the number of UNKNOWN test results.

6.1.1 Resource Centres

It is mandatory that EGI certified RCs provide the following monthly targets, based on ROC_CRITICAL profile, as specified to the following table:

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

Availability	must be above 70%
Reliability	must be above 75%
Unknown	must be below 10%

Failure to meet the specified targets will trigger the conditions for actions as described below:

Condition for suspension: RCs which have an Availability of less than 70% for three consecutive months will be suspended, i.e. removed from the production infrastructure. The new suspension policy, as defined in RC OLA, was approved in April 2011 OMB [OMB201104], to increase the original 50% threshold to 70%.

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

George Fergadis 5/24/12 4:46 PM
Deleted: introduced

Condition for justification: RCs not providing minimum monthly performance (70% availability, 75% reliability) MUST provide justification through a GGUS ticket. Also starting from Jan 2012 each month COD team will send a GGUS tickets to RPs indicating the list of sites which are above 10% of UNKNOWN. In the ticket COD will ask the RP to investigate the issue and fix the problem. RPs should close the ticket as a sign that they are aware of the problem and received the information.

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

p s 5/29/12 10:44 PM
Deleted: NGIs

p s 5/29/12 10:45 PM
Deleted: NGI

p s 5/29/12 10:45 PM
Deleted: NGIs

6.1.2 Resource infrastructure Providers

It is mandatory that EGI Resource infrastructure Providers provide the following monthly targets, as specified to the following table:

top -BDII Availability	must be above 99%
top-BDII Reliability	must be above 99%
ROD performance index	must not exceed 10

As of January 2012, it is mandatory that **top-BDII** services operated by NGIs provide these targets, based on ROC_CRITICAL profile. Resource infrastructure Providers not providing the requested monthly performance for one month MUST provide a service improvement plan.

The maximum value of the ROD performance index must be 10. Above this value ROD teams has to provide explanation and provide a plan of improvement of the oversight service.

6.2 Procedures

6.2.1 Request changes to the monitoring results

The procedure for requesting changes (re-computations) to the calculated SAM results is defined in PROC10 ([PROC10]).

This procedure documents the steps for requesting a correction in the OPS VO [OPSVO] SAM test results and in the related availability/reliability statistics, if applicable.

This procedure applies only to EGI OPS test results. Procedures for the computation of VO-specific availability report are VO-specific and are out of this scope.

Starting from the 01 May 2012 monitoring results can be recomputed only in the case of problems with the monitoring infrastructure itself. No re-computations will be performed in case of issues with the deployed middleware (e.g. in case of documented bugs affecting the availability of a production service end-point), which will be consequently reflected in lower availability/reliability.

The deadline for requesting re-computations is 10 calendar days after the publication and announcement of the monthly Availability/Reliability reports for a given month, which is typically the 1st day of the next month.

According to the re-computation requests received, the A/R final reports will be regenerated only once for each month, after the deadline of the re-computations has been passed.

6.2.2 Request changes in the A/R profile

A change in the profile is needed every time a new Nagios test needs to be added/removed to/from the profile, in order to have its results included/removed in/from Availability and Reliability monthly statistics. A change in the OPS Availability and Reliability profile affects the computation of the monthly Availability and Reliability statistics of all EGI Resource Infrastructures and RCs.

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

This procedure is defined in PROC08 [PROC08] and is applicable to the EGI OPS Availability and Reliability profile. The procedure requires that the new profile is calculated in parallel with the old one and the results are compared for at least one month. Any change applied is global, as it has effects on all EGI RCs.

George Fergadis 5/24/12 3:44 PM
Deleted: Resource Centre

This procedure is NOT applicable to VO-specific Availability and Reliability profiles used by non-OPS VOs (e.g. user communities, national operations VOs, etc.).

7 CONCLUSIONS AND FUTURE WORK

The OLA framework defines the service quality levels and the responsibilities of delivering quality services to the end users. The OLAs have been defined as middleware independent as possible to be applied to the middleware stacks currently in use in the infrastructure. With the integration of other middleware types in the EGI infrastructure, the OLAs may be updated to be compatible with the new services, as part of an evolution process developed within the OMB.

As the GOCDB service groups are widely deployed by the RPs to group their global services, and the need availability calculation tools are extended, it will be possible to extend the RP OLA to include more core services in the RP OLA, on top of the Top-BDII, to have a more precise picture of the quality level of the service provisioning.

p s 5/29/12 10:45 PM
Deleted: NGIs

The main task for the next months will be the definition of the EGI.eu OLA, which will set the service level for the EGI Global services, together with the deployment of monitoring tools to calculate the availability and reliability statistics for the central tools.

8 REFERENCES

[ACE]	Computing of Service Availability Metrics in ACE https://tomtools.cern.ch/confluence/download/attachments/2261694/Ace_Service_Availability_Computation.pdf?version=1&modificationDate=1314361543000
[ARCH]	EGI Operations Architecture: grid service management best practices https://documents.egi.eu/document/763
[CUST]	ITILv3 Customer http://www.knowledgetransfer.net/dictionary/ITIL/en/Customer.htm
[ITIL]	ITIL Glossary http://www.itil-officialsite.com/InternationalActivities/ITILGlossaries_2.aspx
[MS411]	Operational Level Agreements (OLAs) within the EGI production infrastructure https://documents.egi.eu/document/524
[OMB201104]	Operations Management Board (face-to-face in Vilnius) https://indico.egi.eu/indico/conferenceDisplay.py?confId=267
[OMB201110]	Operations Management Board (25 October 2011) https://www.egi.eu/indico/conferenceDisplay.py?confId=615
[OMB201112]	Operations Management Board (20 December 2011) https://www.egi.eu/indico/conferenceDisplay.py?confId=617
[OMB201202]	Operations Management Board (28 February) https://www.egi.eu/indico/conferenceDisplay.py?confId=719
[PROC08]	Management of the EGI OPS Availability and Reliability Profile https://wiki.egi.eu/wiki/PROC08
[PROC10]	Procedure for the recomputation of SAM results and/or availability/reliability statistics https://wiki.egi.eu/wiki/PROC10
[RCOLA]	EGI Resource Centre Operational Level Agreement https://documents.egi.eu/document/31
[RPOLA]	Resource infrastructure Provider Operational Level Agreement https://documents.egi.eu/document/463
[EGIOLA]	EGI.eu Operational Level Agreement - DRAFT https://documents.egi.eu/document/1093
[OPSVO]	https://wiki.egi.eu/wiki/OPS_vo
[SAMC]	SAM Components https://tomtools.cern.ch/confluence/display/SAMWEB/Components
[PWLCG]	Definition of WLCG_CREAMCE_LCGCE_CRITICAL http://grid-monitoring.cern.ch/myegi/sam-pi/metrics_in_profiles?vo_name=ops&profile_name=WLCG_CREAM_LCGCE_CRITICAL&output=json
[PROC]	Definition of ROC_CRITICAL http://grid-monitoring.cern.ch/myegi/sam-pi/metrics_in_profiles?vo_name=ops&profile_name=ROC_CRITICAL&output=json

George Fergadis 5/24/12 2:27 PM
Deleted: [RODINDEX] ... [1]

George Fergadis 5/24/12 3:57 PM
Formatted: English (US)

Unknown
Field Code Changed

George Fergadis 5/24/12 3:57 PM
Formatted: Hyperlink, English (US)

George Fergadis 5/24/12 4:13 PM
Formatted: English (US)

George Fergadis 5/24/12 4:14 PM
Formatted: English (US)