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Abstract

This report describes the activity taking place during the EGI-InSPIRE project during the second quarter (PQ2) running between August to September 2010.



I. COPYRIGHT NOTICE

II. DELIVERY SLIP

	Name	Partner/Activity	Date
From	Steven Newhouse et al.	EGI.eu	15/11/2010
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III. DOCUMENT LOG

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1	15/11/2010	First draft	Steven Newhouse et al
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4	10/1/2011	Final version	Steven Newhouse et al

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/results/glossary/.

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

Project quarter 2 (PQ2) saw the first major public meeting of the EGI Community supported by the EGI-InSPIRE project. The EGI-Technical Forum in Amsterdam attracted over 400 attendees and provided a venue for many project related meetings, technical sessions, training sessions and meetings to promote collaborations with the EGI Community.

The operational infrastructure continues to establish its various functional tasks defined in SA1. The Security Vulnerability Group has established contacts with the main middleware distributions. EGI CSIRT handled two security incidents and issued six security advisories on security vulnerabilities, of which one was critical, two moderate and three high. The timetable to end support for the gLite 3.1 components deployed on the infrastructure was agreed following input from the NGIs. Eight gLite3.2 updates (of which one skipped staged rollout being an emergency fix), and one gLite 3.1 update (including eight component updates) have been deployed in PQ2. Networking support and middleware support workflows for IGE and EMI projects have been established within the EGI Helpdesk. New versions of the GOCDB (v4) and the Operations Portal (both centralised and regionalised) versions were released. Nagios probes for these and other operational tools are being written to incorporate these tools into the availability and reliability monitoring infrastructure. After the release of glite-APEL last quarter, the Operations Management Board (OMB) agreed that the central R-GMA registry could be scheduled to close at the end of 2010 if the migration to the APEL AMQ client progresses well. Five new procedures relevant to EGI oversight activities have been drafted and approved by the OMB.

This user-centric approach being adopted by the User Community Support Team closely integrates user communities (Virtual Research Communities - VRCs) in the planning and coordination processes of EGI. To this end a template Memorandum of Understanding (MoU) has been circulated to potential VRCs in order to initiate discussions. NA3 and SA3 have worked closely to ensure that the more mature Heavy User Communities such as WLCG and the Life Sciences as well as the fast-growing emerging communities (CLARIN & DARIAH) sign the MoU. The third month of PQ2 involved the two work packages working towards the formal establishment of VRCs for many of the discipline areas in order to initiate the User Community Board (UCB) meetings early in PQ3 which will focus on the results from an initial round of requirements gathering.

In PQ2, the Software Provisioning activity focused on two main areas: Finalisation of the Software rollout process, and raising the issue reporting through DMSU. The Software Rollout process is currently being implemented by integrating EGI tools such as RT, and the number of issues reported through the DMSU is rising. Collaboration with other groups within EGI-InSPIRE has started with the aim of closing communication loopholes and establishing and integrating inter-activity processes.

In addition to the support provided to the EGITF, the dissemination team attended the ICT 2010 in Brussels, the eChallenges event in Warsaw and the OGF30/Grid2010 in Brussels, and produced the regular project newsletter, director's letters and articles for other publications. The policy team established the Terms of Reference for the various EGI policy groups and this work has been reflected on the website. All the funded DCI projects have been engaged in producing a collaborative

roadmap that describes the expected interactions between the different projects and the potential results of these collaborations to the technical landscape and the production infrastructure.

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1. INTRODUCTION

1.1. PURPOSE

This document describes the progress of the EGI-InSPIRE project during its second quarter of activity (PQ2) from July to September 2010.

1.2. 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.

1.3. 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

1.4. TERMINOLOGY

A complete project glossary is provided in the EGI-InSPIRE glossary:
http://www.egi.eu/results/glossary/.

2. OPERATIONS

2.1. SUMMARY

The EGITF during the second month of PQ2 provided a chance for ad-hoc meetings in each of the SA1 technical task areas and training in operational security and regional operations. The meeting was well attended by most of the NGI operations communities.

Security. The SVG group has been finally setup. It now has 15 members and has established contacts with the software developers of the main deployed middleware stacks. During PQ2 five middleware vulnerability issues have been addressed. EGI CSIRT handled two security incidents and issued 6 security advisories on security vulnerabilities, of which one was critical, two moderate and three high. To mitigate the risk of critical vulnerability (CVE-2010-3081), EGI CSIRT imposed a 7-day mandatory patching timescale across EGI sites; all EGI sites applied the patch before the deadline to avoid suspension.

Deployed Software. Task TSA1.3 has contributed to the definition of the EGI software release workflow, which enhances what already defined in MS402[R1] A calendar detailing the end of support calendar of gLite 3.1 components has been discussed with the EGI operations community, and finally approved in agreement with the gLite Collaboration (http://glite.web.cern.ch/glite/packages/R3.1/). This followed input from the NGIs through a questionnaire (https://documents.egi.eu/document/142). Input from NGIs and sites was collected about open bugs and enhancements affecting the deployed middleware, this input will be provided to the EMI project during the first TCB meeting. Eight gLite3.2 updates (and one update that skipped staged rollout as it was an emergency fix), and one gLite 3.1 update (including eight component updates) have been handled.

Staged rollout. Six gLite 3.2 component updates successfully passed staged rollout, while three where rejected. None of the gLite 3.1 components underwent a full staged rollout process due to the lack of engagement from the designated early adopter sites. The number of sites participating to Staged Rollout increased from 26 to 30 in PQ2.

Support. New EGI Helpdesk ticket workflows have been agreed with the software providers (EMI and IGE) and representatives of SA2, this requiring a EGI Helpdesk adaptation to restrict ticket submission rights for some of the SUs, and a revision of the internal support unit hierarchy. The navigation facilities offered by the EGI Helpdesk interface have been improved.

Five new procedures relevant to EGI oversight activities (COD) have been drafted and approved by the OMB: *New NGI creation process coordination*, *Validation of a ROC/NGI Nagios*, *Handling availability/reliability reports*, *COD escalation procedure* and *Operations Centre decommissioning*. [R2] Two new additional procedures have been drafted. The responsibility of COD in the process of definition of Nagios metrics generating dashboard notifications was clarified. TPM (first-line support) had an average workload of 250 tickets per month. Representatives have been gathered from each NGI for network support, network support information was made available from the EGI wiki, and a network support task force started defining an EGI network support model in collaboration with NRENs.

Operations tools. Several central operational tools have been upgraded in October: a new version of GOCDB (GOCDB4) and of the Operations Portal. NGI_CZ, NGI_GRNET and NGI_IBERGRID are the three NGIs with a running regionalized Operations Portal. Currently, there are 24 Nagios instances in production. Seven additional Nagios instances are in various validation phases. The development of

Nagios probes for operational tool monitoring is on-going. The central tool monitoring server now also monitors GOCDB.

Accounting. The production APEL accounting repository ran smoothly throughout this quarter with no scheduled or unscheduled interventions or outages. After the release of glite-APEL last quarter, the OMB agreed that the central R-GMA registry could be scheduled to close at the end of 2010 if the migration to the APEL AMQ client progresses well. Nagios tests were developed and deployed to replace the SAM ones, which have now been discontinued.

Operational Level Agreements (OLA) and availability. A NGI task force has been organized to work on a OLA roadmap proposal that will define the first year evolution plan of the existing, the proposal is due for discussion in November 2010. Implications on OLA extensions on tool development plans have been discussed during a set of dedicated meetings. The amendment of the existing availability calculation algorithm was requested to WLCG.

EGI Core services. The migration of the DTEAM VOMS service from CERN was finalized. In addition, a procedure has been defined on providing Catch ALL VOMS services for newly created VOs.

Documentation. Plans have been discussed at the EGITF and a team of people was gathered working on different documentation areas.

2.2. MAIN ACHIEVEMENTS

2.2.1. Security

The Operational Security Procedures, developed by EGI SVG and EGI CSIRT, are described in MS405 [R3] and are now being used in daily operations. EGI CSIRT and EGI SVG organized a face to face meeting at EGITF. EGI CSIRT also organised a security training session at EGITF which was well attended. EGI SVG produced a poster which was also presented at EGITF in order to raise awareness of this activity.

In PQ2, EGI SVG has handled 5 vulnerabilities reported in the Grid Middleware used by EGI, (all with Target Dates for resolution in the future) and issued or revised advisories for 6 'old' issues reported prior to the start of EGI. The EGI CSIRT has handled two security incidents and issued six security advisories on security vulnerabilities, of which one is critical, two moderate and three high. To mitigate the risk of critical vulnerability (CVE-2010-3081), EGI CSIRT imposed a 7-day mandatory patching timescale across EGI sites; all EGI sites applied the patch before the deadline to avoid suspension from the Grid. To support this work EGI SVG has established contacts for the software providers, packagers, and EGI middleware unit. The Risk Assessment Team of EGI SVG now has 15 members including representatives from gLite, ARC, Unicore and the CSIRT team. The ToR for EGI SVG has been written. EGI CSIRT is continuing improving its security monitoring tool - Pakiti, now NGI security officers and site security officers can access the Pakiti results.

2.2.2. Service Deployment

During the reporting period the "New Software Release Workflow" (NSRW) has been devised, discussed between EGI-InSPIRE tasks TSA1.3 and TSA2, and now being technically implemented: https://wiki.egi.eu/wiki/NSRW_IMPLEMENTATION_RT

A new RT queue called "sw-rel" has been created in RT, to manage the overall SW release process. This Workflow is an evolution of the one described in MS402.[R4] It details both the custom fields being implemented, or already implemented in this RT queue, as well as the interaction with the EGI repositories. TSA1.3 has made valuable contributions in these discussions and decisions towards the final implementation.

A calendar detailing the end of support calendar of gLite 3.1 components has been discussed with the EGI operations community, and finally approved in agreement with the gLite Collaboration (http://glite.web.cern.ch/glite/packages/R3.1/). Input on the proposed schedule was collected from NGIs through a questionnaire (https://documents.egi.eu/document/142).

The calendar was widely publicized, discussed inside the TSA1 (Grid Operations meeting), presented in the September OMB meeting. At the October OMB, a decision has been made to accept this calendar with a few exceptions regarding the timelines of the client components to be extended a few more months into the end of April 2011.

At the same time input from NGIs and sites was collected about open bugs and enhancements affecting the deployed middleware, this input was provided to the EMI project during the first TCB meeting.

Software Releases:

- gLite 3.2: four updates. A total of 8 components have been updated, of which three had two updates (VOBOX, SiteBDII and TopBDII). One of the TopBDII updates was an urgent fix that went into production without going through the Staged Rollout process. Most of the components are now able to publish their resources in the Glue 2.0 schema, and the last update of the Top and Site BDII implement this publishing alongside with the Glue1.3 schema.
- gLite 3.1: one update was done for each architecture (i386 and x86_64). A total of four components were updated for the i386 architecture and four for the x86_64 architecture. The low number of updates to the gLite 3.1 series is mainly due to the upcoming end of life of most of its components.
- JRA1 Operational Tools: two updates where the staged rollout used the EGI RT queue "staged-rollout" of the Nagios/SAM component. One third update was in the initial stage of the workflow already using the new RT queue "sw-rel"
- For the gLite 3.2, six components passed the staged rollout process while three components were rejected by the Early Adopter teams. As for the glite 3.1, none of the components underwent the full staged rollout process as the designated sites within the NGIs failed to carry out an assessment in the defined timescales.

Early Adopters (EA). At the end of PQ2 the number of EA teams has increased to 30 from 26 EA teams in PQ1. The increase in the number of teams does not always translate to a corresponding increase in the number of staged rollout test that need to be performed, as this number depends on the frequency of the updates and the area of interest from the site. Nonetheless, and comparing to the last report, there was a slight increase of the fraction of gLite 3.2 components that underwent the staged-rollout process.

Interoperability. The integration of different middleware distributions with the operational tools is being established in MS407 [R5] and discussions at the EGITF identified many critical requirements coming from the NGIs or from collaborations with other infrastructure providers. These will need to be formulated and followed up with the operational tool developers through the OTAG. As a result MS407 will provide a solid document that can serve as a reference for integrating new resources into the EGI production infrastructure. Some of the problems that were identified at the start have already been solved, e.g. the integration of new service types for Globus and UNICORE resources.

Collaboration with DEISA and PRACE started with a dedicated meeting on interoperability. More broadly a short presentation was given during the GIN session at the OGF30 in Brussels, followed by participation in the closed SIENA workshop and the Infrastructure Policy Group (IPG) meeting.

2.2.3. Helpdesk

During PQ2 most of the effort concerning the EGI Helpdesk went into the definition of the workflows for middleware related issues. This involved discussions with the external technology providers to come up with specific workflows for the various providers.

Technically, this meant an adaption of the system to these workflows, including a review of the support units. In the last releases various support units have been deleted, renamed and/or moved to other locations in the support unit hierarchy. The focus of the October release was on the workflow for middleware related issues for products for which EMI and IGE are responsible. A new workflow has been implemented ensuring that all middleware issues are routed through the EGI DMSU (Deployed Middleware Support Unit), where they are further assessed. This is to make sure that only bug related issues are then assigned to the external technology providers (EMI, IGE, etc.). Another topic covered during the last quarter was xGUS, helpdesk template for offered to NGIs or other interested parties by GGUS. After the EGITF we received several requests for an xGUS instance from NGIs.

The GGUS portal layout was also improved. The navigation that is by default positioned on the left hand side can be moved to the top by the user. For some tools like the report generator this improves usability. The addition of new created operational NGIs to GGUS is an on-going activity.

2.2.4. Support Teams

Grid Operations and e-Infrastructure oversight

Effort has been concentrated on the following procedures “New NGI creation process coordination”, “Handling availability/reliability reports”, “COD escalation procedure” and “Operations Centre decommission process coordination”. All four procedures have been approved by the OMB during PQ2.

Work has been done on the ROD team certification procedure and a procedure to fix the availability and reliability database. This is needed in case there is something has gone wrong with the monitoring and sites are measured as being down while they actually are not. There is a procedure now in draft state about setting the status of a Nagios test to critical.

At the EGITF one presentation on the COD work was given in the EGI Helpdesk – Support, Process and Implementation session. In addition a Grid Oversight sessions was organised which contained two parts. The first part was a session with presentations about the COD/ROD activity, the transitions from EGEE ROCs to NGIs and Operational Documentation. The second part was a free format discussion on the oversight work with our ROD teams. Further, there was a training session on the Grid oversight work together with the TSA1.8 activity.

1st Line Support

Within the timeframe July-September 2010 731 tickets were handled by the TPM. Tickets per months are: 262 in July, 240 in August, 229 in September. 41 tickets out of it were solved by TPM directly. 129 tickets were assigned by the TPM to the responsible SU later than one working hour. As in the quarter before most of them were submitted after 16hrs UTC, before 8 hrs UTC or during week-ends i.e. between Friday 16hrs and the following Monday 8am (UTC).

Coordination of Network Support

In PQ2 the network support coordination activity has further pursued the appointment of a representative person for network support within each NGI. The contact list now covers 2/3 of the total NGIs. Network support information on wiki has been consolidated, and overall information on the team is reported on https://wiki.egi.eu/wiki/NST. Information on the current set of available tools has been reported on http://net.egi.eu and https://wiki.egi.eu/wiki/Network.

A dedicated task force, in charge of designing an overall model for EGI network support was formed and started working. The goals for this task force is to produce an operational proposal for EGI about tools, workflows and procedures for the network support, after having assessed the NGI's preferences and gathered their requirements, taking into account the input and requests form EGI.eu operations as well. The proposal will be discussed at a joint face to face OMB meeting at the end of January 2011 in Amsterdam.

2.2.5. Grid Management

The new version of GOCDB Visualisation Portal was released at https://next.gocdb.eu/portal/ on August 18th 2010. On October 14th 2010 GOCDB 4 was fully deployed in the production. The new version of Operations Portal was released on October 11th. Detailed list of new features can be found in JRA1 section. At the end of the quarter there were three NGIs with regionalized version of Operations portal (NGI_CZ, NGI_GRNET and NGI_IBERGRID). The historical portal http://cic.gridops.org is still maintained and it will be switched off by the end of the 2010. In PQ2 there were two major releases of SAM/Nagios. Currently there are 24 Nagioses in production. The table below provides details. Further details can be found on the web at: https://twiki.cern.ch/twiki/bin/view/EGEE/ExternalROCNagios.

Type of instance	Number of instances	NGIs/ROCs	Number of EGI partners covered
NGI	14	Belarus, Belgium, Croatia, Czech Republic, France, Germany, Greece, Hungary, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, The Netherlands, Turkey	17
ROC	8	Canada, IGALC, Italy, Latin America, NorthernEurope, Russia, SouthEasternEurope, UKI	24
Project	2	AsiaPacific, CERN	2

The following Nagioses are in various stages of validation:

- 6 NGI instances covering 13 EGI partners: Armenia, Bulgaria, Cyprus, Israel, NDGF, Romania (NDGF being the operational umbrella of various countries);
- 1 ROC instance covering 1 EGI-InSPIRE partner: AsiaPacific.

The mailing list for operational tools administrators tool-admins@mailman.egi.eu has 89 members at the end of PQ2.

The migrating of operational tools addresses from the gridops.org domain to egi.eu was continued. At the end of the quarter there were 8 addresses in egi.eu domain (see the table below). Further details can be found in the RT ticket: https://rt.egi.eu/rt/Ticket/Display.html?id=187.

Operational tool	Addresses in egi.eu	Original address
Accounting portal	accounting.egi.eu	accounting.egi.cesga.es
GOCDB	goc.egi.eu	next.gocdb.eu
Gstat	gstat.egi.eu	gstat-prod.cern.ch

	gstat2.egi.eu	
Metrics Portal	metrics.egi.eu	metrics.egi.cesga.es
Network tools	net.egi.eu	eginet.garr.it
Operations Portal	operations-portal.egi.eu	operations-portal.in2p3.fr
SAM Central Portal	grid-monitoring.egi.eu	grid-monitoring.cern.ch

Development of probes for monitoring operational tools was continued. Details can be found in the RT ticket: https://rt.egi.eu/rt/Ticket/Display.html?id=79. The ops-monitor was extended with basic probes for monitoring GOCDB. The ops-monitor Nagios instance can be found on the following address: https://ops-monitor.cern.ch/nagios.

The production APEL accounting repository ran smoothly throughout this quarter with no scheduled or unscheduled interventions or outages. New hardware was introduced in August for the Front End service hosting the Accounting Summaries.

After the release of glite-APEL last quarter, the OMB agreed that the central R-GMA registry could be scheduled to close at the end of 2010 if the migration to the APEL AMQ client progresses well. The bulk of support work has been dealing with queries from sites migrating to glite-APEL. A couple of bugs were found and fixed in a new patch. Improvements were made to the documentation but most tickets were due to sites not fully following the documentation.

Nagios tests were developed and deployed to replace the SAM ones, which have now been discontinued.

An Accounting Workshop was held during the EGITF. Requirements were gathered for changes to the existing services as well as development requirements for JRA1 and EMI. One item we are working on is the ability to accept and identify local non-grid jobs alongside existing grid jobs. Work has started on enabling the accounting repository to receive summary records. This is a pre-requisite for regional publishing. Work also started on the design of the regional repository. No new releases of the Accounting Portal were made during PQ2. The production service ran smoothly.

The results of the OLA (Operational Level Agreements) questionnaire were presented at the OLA workshop during the EGITF.[R6] At the meeting it was decided that there was a need for setting up an OLA Task Force to work on the identification and definition of EGI OLAs and after the conference the task force started its works. During PQ2 the EGI Availability & Reliability League results were circulation for the months July, August and September.

In regards to the EGI core services, the migration of the DTEAM VO data from CERN to AUTH has been finalized. The primary and backup VOMS instances supporting the DTEAM VO have been setup and a procedure agreed to roll over to the new VOMS instances in the beginning of PQ3. Also, a procedure has been defined on providing Catch ALL VOMS services for newly created VOs.

In regards to the Operational Documentation activities, the main achievement for this quarter has really been to gather a team of people who will work on the sub tasks that are involved. The basis for starting the work (details in the minutes of the above meetings) has been established.

In addition to the four procedures mentioned, the Validation of a ROC/NGI Nagios procedure was also approved by OMB.

2.2.6. Tools

During PQ2 there were a total of 6 releases (2 for SAM, 1 for GOCDB, 1 for Operational Portal, 2 for GGUS), including a major release for the GOCDB that put into production the GOCDB4. Details on these releases are given on the following sections dedicated to each tool.

Beside maintenance, all the development teams continued the activity started in PQ1 on the development of NAGIOS probes for the tools themselves in order to remotely check their status and to measure their availability; the deadline for this activity was set at the end of 2010.

Another focus during PQ2 was the support to development of probes for new middleware types and their integration into the SAM monitoring framework. Requests for integration came from ARC, UNICORE, GLOBUS5 and there were preliminary contacts with EDGI representatives for the desktop grids.

The requirements collection from the OTAG group and in general from the SA1 and NA3 community started with a survey that closed on the 20th of October. Requirements are now tracked in RT tickets (OTAG queue) and will be discussed and prioritized during OTAG meetings that will start in PQ3.

Members of JRA1 were present at EGITF contributing to various sessions and organizing the "Operation Tools Roadmap" [R7] one where all the JRA1 product teams presented their products and development plans.

JRA1 helped SA2 in the definition of the quality criteria to be applied to monitoring tools during the release and staged rollout process. A process of unification of the license and copyright statements for all the tools has started during PQ2 in agreement with SA2.

Discussion on how to aggregate for monitoring purposes physical sites and services into virtual or logical sites started during this quarter with the SA1 activity. Tools impacted by such an aggregation are the SAM framework (i.e. the ATP component that provide Grid topology information), the GOCDB and the Ops Portal (for information storing and browsing purposes).

2.2.6.1. Operations Portal

A new release (V2.3) of the Central Operations Portal was produced during PQ2. This release is essentially based on the migration of the VO ID card in this new Portal. Some improvements to the dashboard and to the web pages look and feel are also available in this version. New features related to VO Management are provided as a prototype. Once the prototype has been validated by the EGI VO administrators it will become the official way to register and update the static information of a VO. (For more information refer to the release notes available at http://operations-portal.egi.eu/aboutportal/releaseNotesBrowser. The portal operators expect NA3 to provide feedback on the new features of the VO registration and validation pages of the release candidate. The details are currently under discussion, the testing and finalisation of these sections based on NA3 feedback will be done in Q3. The migration of the broadcast tool to the Symphony framework foreseen for PQ2 was postponed to PQ3 because the development of the new VO ID cards took longer than expected and due to the delay in receiving feedback from the project about its implementation. The development work needed for the notification system and for the Lavoisier web service programmatic interface, started in PQ1, is still ongoing and should be completed in PQ3.

As described in QR1 the Operations Portal is now a regionalized tool and currently there are 3 regional packages deployed in production in the following NGIs: NGI_CZ, NGI_IBERGRID and NGI_GRNET. The validation of the IBERGRID instance was completed during PQ2 as foreseen in QR1.

2.2.6.2. GOCDB

Focus of development in PQ2 was the GOCDB4 major release and the decommissioning of GOCDB3. The new GOCDB was put in production on the 14th of October after an intense testing phase that involved many actors within and outside the JRA1 activity.

The release plan (https://www.egi.eu/indico/getFile.py/access?contribId=2&resId=0&materialId=0&confId=63)

focused on two steps, release of the programmatic interface, completed in PQ1, and release of the input system and visualization portal completed in October. The results of the testing phase were tracked through GGUS tickets: https://gus.fzk.de/ws/ticket_info.php?ticket=61549 (and its child tickets). User feedback coming from various actors on this new release was collected in a wiki page (http://goc.grid.sinica.edu.tw/gocwiki/GOCDB4_feedback). Minor bugs and cosmetic improvements were fixed on the fly when possible otherwise savannah bugs were opened to track the issues (https://savannah.cern.ch/task/?group=gocdb). No blocking problems were found.

GOCDB4 release is a huge step towards the regionalisation of the system since the regional module could not work until the GOCDB3 was fully decommission. More information and technical details are available at http://goc.grid.sinica.edu.tw/gocwiki/GOCDB_Regional_Module_Technical_Documentation .

Work was performed during PQ2 on the following items and all of them will be continued in PQ3:

- Provide a production quality packaging of the regional module
- Data access optimization
- Provide a SOAP interface in parallel with the GOCDBPI

At present, given the departure of the main GOCDB developer(already replaced – see issue4) and a peak in the operation and maintenance load during the next few months due to the introduction of GOCDB4 leads to a risk of squeezing out the development effort during this period.

2.2.6.3. EGI Helpdesk (GGUS)

Two GGUS releases were performed during the quarter (https://gus.fzk.de/pages/owl.php), they were released respectively at the end of September and at the end of October including:

- the integration of new NGIs and new VOs into the system
- the renaming and restructuring of various support units (reorganize support units to fit the EGI model, adapt or remove legacy support units from EGEE)
- introduction of new 3rd level support units (including IGE)
- minor bugs fixing
- new EGI logos and a different distribution if the web interface elements on the screen

The xGUS system was demonstrated at the EGITF.

2.2.6.4. Accounting Repository

The APEL tests have been successfully migrated from the SAM system to Nagios. The implementation of a summary records consumer with a clear defined message format is almost finished, and will be rolled out to production shortly. An update with bug fixes for the glite-APEL service has been certified and released into production. Work on the integration of the APEL system with the message broker network as the ActiveMQ based APEL server has been consolidated, and reached a production level to accept and process records through the newly released glite-APEL client. Work on the design of a distributable Regional Accounting Server has started.

2.2.6.5. Accounting Portal

No releases during PQ2. The hiring process at CESGA has been launched but it is being delayed due to administrative matters. It is expected that these problems will delay the planned release dates.

2.2.6.6. Service Availability Monitor

Two updates were released in the quarter, a minor one (update-04) at the beginning of September and a bigger one at the end of October (formally containing two updates, update-05 and update-06). Update-04's major achievements included MRS Schema updates, the first version of MyEGI and ACE bundled (but not activated) in the release, improvements in debug and signal handling in probes, APEL test integration (ApelTests), and robustness improvements in the msg-to-handler. Update-05 and Update-06's major achievements include the merge of databases to single database instance, use of the ATP for Topology including features for VOfeeds, and the first release of MyEGI which will be supported in parallel with myEGEE for a while. For more information on these SAM updates, release notes are available at: https://tomtools.cern.ch/confluence/display/SAMDOC/Release+Notes

Besides the development done to release these important updates, effort was spent in PQ2 helping middleware providers develop probes for their software to start their integration into the framework. At the time of writing ARC, UNICORE and GLOBUS are developing probes for SAM with the JRA1 support. There were also some preliminary contacts with the EDGI project in order to start the activity also for desktop grid monitoring. This work is tracked through RT ticket in the JRA1queue:

https://rt.egi.eu/rt/Ticket/Display.html?id=201

https://rt.egi.eu/rt/Ticket/Display.html?id=306

https://rt.egi.eu/rt/Ticket/Display.html?id=390

https://rt.egi.eu/rt/Ticket/Display.html?id=461

During PQ2 the development was started, to be completed with a release in November, of a new probe to check Certification Authority validity that does not need to be updated on every CA update. This automatic probe will coexist with the old one until it will be shown that no workflow will be broken (i.e. in availability numbers calculation).

Discussion with the SA1 activity on how to aggregate for monitoring purposes physical sites and services into virtual sites started during this quarter, the SAM ATP component is impacted by this aggregating approach, so investigation on how to face this request was performed during PQ2.

The ATP component was also proposed as a common topology provider also for the other tools, the development implications of this will be investigated during the next months.

2.2.6.7. Metrics Portal

No release was made during PQ2 while waiting for input and requirements from the project on how to evolve. The next OTAG meeting should help to clarify this. Currently there is a lack of personnel for development, the hiring process at CESGA has been launched but it is being delayed due to administrative matters.

2.2.6.8. Message Broker network configuration

During this period, the main effort was on the implementation of the requirements of the APEL team for message brokers. This required the inclusion of the authorisation plugin at the message brokers which resulted in the denial of all broker-to-broker communications. Further investigation showed that although the brokers were authenticating with each other, the username for connections was "null" and any authorisation rule (even allow for everything) failed. A bug report has been filed at the bug tracking tool (JIRA) and started communications on this with CERN TOM developers (who are proactively covering this role until we have a EMI release of the broker software.

2.3. Issues and Mitigation

2.3.1. Issue 1: Effectiveness of Staged Rollout

There are some gLite components for which the Staged-Rollout needs not only simple functionality tests, but also integration tests with other components. This has become apparent with the release of the first VOMS server in the gLite 3.2 series that impacts all other components. In addition, the behaviour of some components under high load production environments, will have to be done more clearly in the early adoption phase, and reported there.

Mitigation: the gLite team and TSA1.3 coordinator have agreed to let any given component in the staged rollout as much time as it is necessary, for any given EA to do proper testing. It's acknowledged that there are components that will need more time and testing than others.

2.3.2. Issue 2: ARC Staged Rollout

There is still missing EA for ARC sites. This is starting to have impact in the interoperability at the level of the monitoring tools used in the Availability/Reliability calculations.

Mitigation: this is has been acknowledge both by the ARC sites, by JRA1 and the coordinator for the deployment of operational tools in production. A GGUS ticket had been opened to follow this issue. . A list of ARC sites willing to cooperate is now under definition.

2.3.3. Issue 3: End of Staged Rollout of gLite 3.1 components

Though it is expected at least one more update for gLite 3.1 components where the end of support ends in a few months, there might be no EA volunteer for those components, since the sites doing those components have already migrated their services to gLite 3.2. On the other hand, sites that have those versions, are in general small sites with low resources, that may not be able to perform the staged rollout tests.

Mitigation: we do not foresee any solution for this issue. It might be decided to let some of these components be released into production without proper or minimal staged-rollout testing.

2.3.4. Issue 4: Messaging for accounting

The migration of APEL clients based on messaging has shown little progress during QR2, as just 20% of the sites have migrated to the new client. Migration is needed to decommission R-GMA support in the central accounting database.

Mitigation: the deadline for upgrade has been scheduled at the end of January 2011. Individual NGIs that haven't started the migration process will be contacted individually.

2.3.5. Issue 5: Hiring at CESGA

There is a change in the contracting law at Spain so hiring has been delayed.

2.3.6. Issue 6: Coordination of network support

There is a need to further engage the NGI community and NRENs around the issue of network support. These will be addressed by further dissemination among the NGIs about the task activities and by directly contacting the NRENs at the management level, and by also contacting GEANT and DANTE.

Mitigation: A joint task force with NGI and NREN representatives was created to work out a network support model to be discussed with all NGIs.

2.3.7. Issue 7: Best Practices, documentation, procedures

The set of legacy operational documentation, procedures and best practices needs to be reviewed, updated, and made easily accessible through the EGI wiki. Little progress has been made during QR2.

Mitigation: Various task forces have been kicked off during PQ3. The wiki structure that will host the material is currently under revision and a proposal will be submitted in PQ3.

2.3.8. Issue 8: Integration of ARC resources into the monitoring infrastructure

ARC resources are not properly integrated into the Nagios-based monitoring infrastructure, as they still rely on old SAM. This problem has affected the availability of several sites:

https://gus.fzk.de/ws/ticket_info.php?ticket=61953

https://gus.fzk.de/ws/ticket_info.php?ticket=62074

In addition to this, installed capacity per NGI is incorrectly reported for the NDGF T1 site into the information discovery system (gLite BDII), being it a virtual site encompassing four different countries. This has an impact on the gathering of project metrics.

Mitigation: The developers of ARC Nagios probes and the operations team of NGI_NDGF have been consulted to resolve the issue. Fully integration of ARC probes in the Nagios release is scheduled in PQ3. Requirements about installed capacity publication will be passed to the EMI project. The use of GLUE 2.0 will be investigated to improving the reporting.

2.3.9. Issue 9: Migration to gLite 3.2

A end-of-support calendar for gLite 3.1 components has been discussed and agreed with the software provider. The end-of-support for several SL4 components requires sites to be able to migrate to gLite 3.2 during PQ3 and PQ4, this requiring the procurement of new hardware. Because of this requirement the upgrade is expected to be slow in several new NGIs (Cyprus and Lithuania reported problems), and it expected to affect small sites.

Mitigation: The end of security support for WN and UI have been extended to the end of April 2011. Unfortunately this is a partial mitigation.

2.3.10. Issue 10: End of operations of SEE ROC

There is a delay in the process of NGIs operated in the framework of the South East ROC to become operationally independent. SEE ROC is a legacy operations centre from EGEE times and end of operations are scheduled at the end of December 2010 and SEE ROC encompasses 10 NGIs that either are still in the process of being validated or haven't started the process yet.

Mitigation: All NGI operations managers have been individually contacted by COO and the Project Director during PQ3 to request feedback and to solicit the start of their migration.

2.3.11. Issue 11: Automating the reporting of EAT

Information flow when reporting on critical middleware issues needs to improve. After reporting of the issue in GGUS and discussion at the Operations meetings, information needs to be provided to update the community on the Estimated Availability Time of the fix.

Mitigation: SA1 and SA2 will work in collaboration with the third-party software providers to understand if the process can be automated. In the meantime, information needs to be made available manually.

2.3.12. Issue 12: Sustainability of nascent NGIs

Several new NGIs are expected to start operations in PQ3. However the sustainability of these Grid initiatives may suffer from delays. Examples are the Georgia Grid Initiative and ALBGRID (Albania).

Mitigation: The project will closely monitor the progress of these NGIs in becoming independent. Association of the production sites to an existing NGI will be investigated in case of delays in the process.

2.4. PLANS FOR THE NEXT PERIOD

2.4.1. Infrastructure

2.4.1.1. Security

The EGI CSIRT and EGI SVG are working on a new operational security procedure – Critical Vulnerability Handling. EGI SVG will clarify how to deal with vulnerabilities which have been announced publicly, particularly those in software used in EGI but not provided through EGI (i.e. UMD). EGI SVG will complete its wiki.

EGI CSIRT is piloting a ticket system for security incident response – RTIR with the aim of simplifying the workflow. The security monitoring team of EGI CSIRT is getting in touch with the EGI operation dashboard development team to find a way to integrate the results of security monitoring into the operation dashboard in a controlled manner. EGI CSIRT plans to run Security Service Challenge 4 within the Spanish NGI, probably in January 2011; tests on other NGIs will follow.

Both teams will continue handling any security issue reported and ensuring the EGI security processes work smoothly.

2.4.1.2. Service Deployment

PQ3 will see the technical implementation of the new Staged Rollout workflow completed. The workflow is already being used by the Nagios component and the next CA release, expected by the end of November or early December, will also follow this workflow. A new report template for early adopters to complete at each stage of the rollout test is now being drafted. All staged rollout reports will then be collected and uploaded to the EGI Document server. It is expected that a few other Technology Providers be introduced to the new workflow, and start using it.

Plans are continuing on how best to integrate different types of resources, namely UNICORE and Globus resources, desktop grids, Cloud services and new resources into accounting. The collaboration with DEISA and PRACE will continue.

2.4.1.3. Help Desk

PQ3 will see the finalisation of the middleware related workflow for the EGI Helpdesk and a review made of the application and VO specific workflows. Work on the addition of NGIs to the system and on xGUS will also continue. The new EGI Helpdesk fail-over concept will also go in to production during PQ3.

2.4.1.4. Support Teams

In order to maintain communication between ROD and COD teams a monthly newsletter will be published in PQ3. This preference emerged from the Grid Oversight session at the EGITF as teams did not want to travel for a periodic face to face one day meeting.

In PQ3 the networking support task force will coordinate the writing of a proposal which will cover the implementation of a basic workflow for NS (Networking Support) within the EGI Helpdesk, the identification of useful tools and the definition of the general workflows to be adopted for the functional areas spanned by network support. These will be identified by means of a questionnaire

sent to the NGIs suggesting some key areas for cooperation and ranking the NGIs' requirement for NS.

The old ENOC web portal with network tools for troubleshooting and monitoring hosted by IN2P3 (https://ccenoc.in2p3.fr) will be switched off at the beginning of November. All tools have been notified to switch to the new instance at GARR (http://net.egi.eu).

2.4.1.5. Grid Management

Work will continue on revising the OLAs and defining the required availability and reliability levels for the operational tools. The GOC wiki content will be moved to the EGI wiki once the structure of the EGI wiki has been established. Documents relating to the operations manual/procedures, the site certification and best practices will be completed.

The deployment and validation of the remaining regional and NGI Nagioses will be tracked. Deployment plans for the remaining NGI nagios installations in PQ3 are:

- 7 NGIs from SouthEastEurope: Albania, Azerbaijan, Bosnia and Herzegovina, Georgia, Macedonia, Moldova and Montenegro
- UK and Ireland

The development of probes for the monitoring of the operational tools and integration into ops-monitor Nagios instance will continue. The implementation of the failover configuration of centralized tools will continue after the implementation of dynamic DNS on the egi.eu domain.

2.4.2. Tools

New Operations Portal functionality that will be released in PQ3 which will include the migration of the downtime notification to Symfony, enhancement of the Lavoisier API and the many links relating to operational information will be collected together. The next release will include regional functionality (including improved synchronization) and centralised functionality (dashboard improvements, migration to the egi.eu domain and improvements to the VO admin interfaces).

The accounting portal will see a new release in PQ3 with functionality for the regional accounting portal including improved installation and GOCDB-V4 support. The central accounting portal will feature the first release to the NGI View. The hiring process at CESGA has been launched but it is being delayed due to administrative matters. It is expected that these problems will delay the planned release dates.

During PQ3 the Accounting repository will complete the roll-out of glite-APEL to all sites and close the R-GMA service, integrate accounting records with the EGI messaging system and network of brokers, delivery of example clients for integration by Region Cs, e.g. OSG, DGAS, SGAS. , redesign study of the server architecture, and ingestion of summary records by the central repository. This will allow existing RegionCs to publish by ActiveMQ and stop direct database insertion. It will also any new Region Cs to start publishing.

In PQ3 the GOCDB team will work reactively to solve issues found in production and to integrate and improve the regional GOCDB and the harmonisation between GOCDB and other operational tools.

The EGI Helpdesk in PQ3 will automate the VOMS-GGUS synchronization, continue the implementation of the middleware workflow between EGI and EMI, enhance the report generator to provide response time per SU, improve the service availability by an improved failover system for the web interface (active/active instead of active/passive), remove obsolete support units and review and update documentation as required.

Providing staff can be employed the metrics portal will be extended to support the new project, NGI and VRC metrics defined by the project.

The SAM components will continue to be released every 3-4 weeks and over PQ3 improvements will be provided in the user interface (based on user feedback), introduction of a more pluggable framework based on the model-view-controller paradigm, use of an Object Relational Mapper for database abstraction to allow new features to be added more easily (such as gridmap-style views) and new views for NGI operations (including gridmap-style views).

PQ3 will see the current configuration maintained and effort focused on the resolution of the authorisation plugin issue. If software limitations do not allow the usage of the authorisation plugin, message level encryption will be proposed to the applications that require privacy (i.e. APEL).

(See ANNEX A2 for the Operation's Country reporting overview)

3. USER SUPPORT

3.1. SUMMARY

Over PQ2 the User Community Support Team (UCST) built upon the services and applications established during PQ1 by refining the range of live services that are delivered through the comprehensive and expanding user community area on the website. These services included the Applications Database, the Training Events and Materials databases all of which have coalesced into the user-centric evolution of the EGI support function. This user-centric approach is predicated on tightly involving user communities in the planning and coordination processes of EGI. To this end a template Memorandum of Understanding (MoU) has been circulated to potential Virtual Research Communities (VRCs) in order to initiate discussions. WPs NA3 and SA3 have worked closely to ensure that the more mature Heavy User Communities such as WLCG and the Life Sciences as well as the fast-growing emerging communities sign the MoU. This initiative has been followed up through attendance at various research community-oriented meetings such as the 2010 Networking Event for European Research Infrastructures (NEERI2010). This meeting focussed on the fast emerging eHumanities community through being co-located with meetings for the DARIAH and CLARIN ESFRI projects.

The well attended EGITF was the main focus for the UCST user community during PQ2. At this event NA3 and SA3 both ran a range of sessions that involved users from across the domains as well as developers and services providers. The third month of PQ2 involved the two work packages working towards the formal establishment of VRCs for many of the discipline areas in order to initiate the User Community Board (UCB) meetings early in the next quarter. An initial round of requirements gathering was structured around the wealth of reports, surveys and other documents that were available from our immediate project partners in EGI. SA3 has delivered concrete results in supporting the different communities involved in the work package but more work needs to be done to build synergies between the communities. For example there is evidence that some deployment and operations techniques widely used in the HEP community could address problems seen by others, such as Life Science. SA3 will address these issues in PQ3.

3.2. MAIN ACHIEVEMENTS

The NA3 activity organised the first F2F meeting for the (sub-)task leaders and providers of technical services at the EGITF. During the forum the UCST also organised three sessions to discuss VRC accreditations, one session to introduce the EGI.eu and NGI User Support Teams, and one session to introduce the Technical Services for Users. The new releases of the AppDB and Operations Portal reached their final testing phase, with the UCST heavily involved in these tests. The new versions are expected to be available for NGIs and for users early in PQ3. The mandates of USAG and UCB have been finalised, sent for PMB approval. First USAG and UCB meetings are scheduled for early in PQ3. The user requirement and feedback gathering processes of EGI has been discussed and finalised with the Operations and Technology units in EGI.eu, and with the TCB. The requirement gathering normalisation process has been started, the first endorsed set of requirements will be communicated to the TCB after the UCB meeting.

During PQ2, SA3 held 3 sessions during the EGITF. Two of these were devoted to status reports from the various technical tasks and sub-tasks in the work-package whereas the 3rd focussed on gathering requirements from the different disciplines supported by the work-package but going beyond the project itself to include other activities (specifically the EnviroGRIDS and ULICE/Partner projects). As a result of this session it became clear that the requirements from the different projects overlap

significantly and that it would be beneficial to produce a matrix summarising these and their priority. A target for completing the first round of such a synthesis is the EGI User Forum in April 2011. In terms of shared services and tools (TSA3.2) the main achievements during this quarter are given below.

3.2.1. User Community Support Team

The User Support Process [R8] and serves as a handbook that defines how the various user-related processes must be performed at the national and at the European levels by the NGIs and the User Community Support Team respectively.

The user feedback and recommendation gathering and processing process [R9] and includes the list of user recommendations and feedback that have been collected by the activity during PQ2. The UCST collected and currently processes requirements and feedback from various sources: HUCs, VOs, NGI User Support Teams. The data is currently processed, normalised and will be discussed by the USAG and UCB at the end of November. Up-to-date information about the process is available at https://wiki.egi.eu/wiki/Requirements_gathering_details. The team also made significant improvements to the User Support Section of www.egi.eu, and to the NA3 sections of the EGI Wiki.

3.2.2. User Support Services

The release candidate for the new major version of the AppDB (v1.0) has reached the external testing phase. Testing and evaluation is currently performed by the UCST, public release for NGIs is expected in PQ3. The major new feature of the tools is the write-mode based on the Single Sign On authentication mechanism used by EGI.eu.

The new release of the Operations Portal (developed by JRA1, operated by SA1) reached the external testing phase. UCST, as one of the heaviest user is involved in the testing of the VO registration and validation features. Public release for NGIs is expected in PQ3

UPV and LIP have made an evaluation and operational cost analysis of VO services (monitoring, accounting and testing tools) that are widely available for new communities. The findings are summarised in a report and will be used to define a core set of services that EGI offers for new communities to simplify and catalyse their infrastructure usage. A new Support Unit (titled VO services) have been setup in GGUS to answer questions related to VO support (VO registration and services for VOs).

All the three groups of TNA3.4 (UEDIN - training, IASA – AppDB, UPV/LIP – VO services) began to work on their 6-months projects that will result the next versions of the tools by the EGI User Forum. The first part of the work is defining the new features based on the requirements collected by the UCST and the tool developers.

3.2.3. NGI User Support Teams

The UCST continued with the identification of confirmed User Support Contacts within NGIs: The process started in July, and by the end of PQ2 most (~90%) of the NGIs have confirmed, main user support contacts. NGIs that still have not confirmed/delegated a user support contact are: Armenia, Bulgaria, Belarus, Germany, Lithuania, Netherlands. The Nordic countries are represented through the Danish contact. An email list has been created for the main user support NGI contacts (Ngi-ust-managers@mailman.egi.eu). (NGIs without dedicated user support contact are represented on this list by their NGI technical manager.)

3.2.4. Shared Services & Tools

3.2.4.1. Dashboards

In PQ2 substantial progress was made in the development and deployment of the new version of the Dashboard generic job monitoring application, which is shared by ATLAS and CMS VOs. A new version of the historical view that shows job processing monitoring parameters as a function of time has been developed and initially deployed for the CMS experiment: http://dashb-cms-jobsmry-test.cern.ch/dashboard/request.py/dailysummary. New functionality includes a resource utilization view, the possibility to select various levels of plot granularity (hourly, daily, weekly, monthly) and new job processing distributions. The new version has been presented at several CMS meetings and received positive feedback from the CMS user community.

Most of jobs of the ATLAS VO are processed by the PanDA (Production and Distributed Analysis) workload management system. A new collector that enabled import of the job monitoring data from PanDA into the Dashboard schema was developed and put in production.

A prototype of a new version of the generic job monitoring for multiple execution back-ends and a new task monitoring application have been deployed to the ATLAS validation server. The new version includes Interactive and Historical views: http://dashb-atlas-jobdev.cern.ch/dashboard/request.py/jobsummary and http://dashb-atlas-job-dev.cern.ch/dashboard/request.py/dailysummary.

Maintenance work included several bug fixes for various Dashboard applications.

Discussions on a “generic dashboard” instance have led to a proposal for a training session at the EGI User Forum in April 2011 explaining how a VO can start to use the Dashboard system.

3.2.4.2. Tools

Ganga is an easy job configuration, submission and management frontend with plugins for applications and a large number of computing backends. During PQ2 the core developments focused on features to improve usability and/or user support. Notable new features include

a web-based monitoring interface (WebGUI) to allow users to conveniently view the status of their submitted jobs and browse the local job repository,

an integrated Error Reporting Tool which uploads job state and descriptions to a remote server to enable user support teams to get detailed information about user errors, and finally

Usage Monitoring has been improved to gather information about all submitted jobs regardless of submission backend -- this is useful to understand the usage patterns outside of the known grid use-cases.

The Ganga WebGUI builds on a common web application framework developed for Task Monitoring Dashboard for ATLAS and CMS experiments. It allows the users to easily navigate between the job repository view and central dashboard services, sharing the same look-and-feel and thus improving usability and user experience. The common web application framework allows support for monitoring applications to be streamlined, including LHC Dashboards, lightweight Ganga/DIANE job monitoring service for other communities and Ganga WebGUI.

A Ganga Developers’ Workshop was held in September in Munich. The goal of this annual meeting was to discuss recent and future developments, identify areas of priority support, streamline the code base, improve general organization of the project and release process and finally strengthen integration of the geographically distributed team of developers and partners. SA3 had a key role in setting up the programme and leading the discussions on long term sustainability plans and outreach in Heavy User Communities. Refactoring of ATLAS and LHCb specific features into the common code base (Core) has been identified as an upcoming task to further promote code integration and effort sharing between user communities. The workshop resulted in a detailed list of tasks and deliverables

for the next work period (entered in savannah project portal: http://savannah.cern.ch/projects/ganga). Informal working documents are also available at: https://twiki.cern.ch/twiki/bin/view/ArdaGrid/GangaPlanning2010.

Activity in the experiment-plugins has focussed on continued stability improvements and minor maintenance. Notable work in ATLAS was to add support for multi-site jobs on the PanDA backend.

DIANE is a lightweight scheduler exploiting the pilot-job concept to improve the reliability and efficiency of task execution. Task and job monitoring has been improved to allow flexible publishing of application-specific information through the lightweight Ganga/DIANE job monitoring service. The suitable extensions have been contributed by the GEANT4 team and are currently under testing for the next GEANT4 production scheduled for end of 2010. The monitoring extensions also allow other user communities to easily reuse this development and take advantage of the new web application framework developed for ATLAS and CMS experiments.

HammerCloud, previously known as Ganga Robot, is a tool for running a user-defined list of actions within the context of a Ganga session, where the actions are defined by implementations of an action interface. During PQ2 work has focused on the deployment of the CMS and LHCb plugins. The development of the CMS code had been completed previously in the summer, but the service was deployed in a limited instance on a machine shared with multiple VOs. The CMS instance of the service is now running on a dedicated VO-box. For LHCb, the prototype has been evolving and is now ready to be deployed and tested at a larger scale with real users. In addition, a Tier1 site has been validated using it and HammerCloud will be adopted as the tool in a more formal site (re)commissioning process within the experiment.

During PQ3, the CMS instance will be stabilized and the focus will be on taking over site testing responsibilities in CMS Computing operations from the existing JobRobot service. For LHCb, the service will be deployed to a dedicated VO-box and then user testing will begin.

3.2.4.3. Services

GRelC: Monitoring and control functionalities of a network of GRelC services will be provided through a set of new web pages in the GRelC Portal. The pages will prove both global and local views of the status of the system and exploiting the dashboard approach (charts, reports, tables, diagrams).

Three main tasks have been performed in PQ2:

- a management and monitoring client (named Dash-G Client) has been developed. It acts as an information provider to retrieve and store metrics related to the network of GRelC services. Provided statistics include network-related metrics and service availability statuses (RTT, availability/service down, network errors, host unreachable). The client may be configured through a configuration file to define the frequency of the measurements. Information about hosts and services is directly retrieved from the system catalog developed in PQ1. Several tests have been carried out to evaluate the robustness and performance of this application. In the future (v2.0), the same client will be able to retrieve information about the list of grid-databases managed by each GRelC service instance;
- a preliminary design of the management and monitoring web interface has been carried out, taking into account the hierarchical structure project-host-service discussed in PQ1. In addition a complete analysis of the functional and non-functional requirements has been carried out. The following non-functional requirements have been considered crucial for the proposed web application: portability, look & feel, interoperability and transparency. The most important functional requirements include: project, host and service views, and the

GRelC registry. The design will continue in PQ3. Several software packages providing charts capabilities have been tested to identify the ones suitable for this activity;

- the training environment has been tested and updated. The updates include web pages (Wiki), training hosts, available database resources, GRelC portal and Command Line Interface.

3.2.4.4. Workflow & Schedulers

Kepler and Gridway: During PQ2, the activity has been focused on establishing collaboration with interested user groups. Presentations during the EGITF triggered interest from the community in the capabilities of workflow scheduling technologies. Questions and topics arose in an informal manner. It was felt that the EGITF represents a great opportunity to bring together all the collaborators interested in grid technology and looking for different options to solve the challenges they have to face.

Some efforts focused on the coordination of further developments have been made. The task of supporting GridWay from Kepler is being designed and organised. Furthermore, during the last Open Grid Forum in Brussels, a presentation on the use of Kepler was given.

SOMA2 is a web-based workflow tool used for computational drug design and general molecular modelling. During PQ2 the work has focused on finalizing grid compatibility of SOMA2 gateway. A working technical concept has been prepared for submitting jobs to grid via SOMA2 and Nordugrid Arc middleware. A new release of the SOMA2 gateway, including features for the grid compatibility and some minor enhancements has been prepared. Some minor changes and update of technical documentation needs to be completed to be able to release the new version. In addition, evaluation of suitable scientific applications to be attached as part of the grid-enabled SOMA2 service has started.

3.2.4.5. MPI

MS602 [R10] describes the activity of the MPI subtask during EGI-InSPIRE. At the EGITF, the MPI subtask members convened an MPI session, which was open to all interested parties – i.e. the users, VOs and site administrators. The meeting was well attended, with over 35 people present. The focus of the meeting was to relate the goals and objectives of the MPI subtask, and to introduce the support for MPI under all three middlewares. In addition, a presentation covering the measured improvements for MPI support, as measured by the Computational Chemistry VO, confirmed improvements in MPI job success rates over the previous year.

New versions of OpenMPI (version 1.5.0 and version 1.4.3) were released. These offer many improvements and features over the current version used in production at most gLite based sites. New RPMs were compiled using the ETICS framework, but have not yet been made public.

3.2.5. Domain Specific Support

3.2.5.1. High Energy Physics

3.2.5.1.1. Introduction

PQ2 falls between two important conferences for the HEP community: ICHEP in Paris in July, where first physics results from the LHC were presented having been processed on the grid in record time and CHEP in Taipei in October, focusing on the computing infrastructure. The main theme of the latter conference was also the successful usage of the grid to process and analyse data, even though a number of problems still persist. These include longer then desirable delays in resolving some

major problems affecting Tier0 or Tier1 WLCG sites as well as a large number of GGUS tickets – the vast majority – that are categorized as “other”. The majority of problems that lead to prolonged service interruptions are data or database related and changes in the deployment models – e.g. in the area of detector conditions – are expected for both ATLAS and later LHCb, related to the “persistency framework” activity.

3.2.5.1.2. ATLAS Distributed Data Management

ATLAS is the largest of the LHC experiments and relies fully on the use of grid computing for offline processing and analysis. This processing is done using the well-known tier model using resources across heterogeneous interoperable grids worldwide. The ATLAS Distributed Data Management (DDM) project responsible for the replication, access and bookkeeping of ATLAS data across more than 100 distributed grid sites.

In terms of support to ATLAS DDM, the work in PQ2 has been mainly focused on the optimization the DDM Site Services, which is the set of agents responsible for the ATLAS data placement using the underlying WLCG middleware.

Some of the main new features and functionalities are:

- Automatic restart of services in DDM Site Services VO-boxes in case of host problems;
- Optimization of the FTS usage:
- the FTS (File Transfer System) transfer durations are now available in the DDM Dashboard. These statistics are openly available through a simple API.
- the gathered FTS statistics and the queue length are used in Site Services in order to select the channel with the smallest transfer delay.
- The measurements will also be used in order to decide between multi-hop and direct STAR channel transfers. The capability of multi-hopping is also a new feature in this release.
- The “Sonar” tool has been implemented to measure the time performance of file transfers through any sites combination.
- The FTS channel performances will be monitored using a new FTS monitoring web application (for example: http://bourricot.cern.ch/dq2/ftsmon/example_view/CERN-PROD_DATATAPE/BNL-OSG2_DATADISK/30/10/4). This monitoring application, using django and matplotlib, has been prototyped and is now being further developed under our direction by Andrii Thykonov, an ATLAS collaborator from the Jozef Stefan Institute in Ljubljana.
- It is possible to specify the priority of different activities. File transfers will be partitioned into FTS jobs by priorities, creating "priority lanes" for files that have to be replicated more urgently.
- DDM Site Services is now able to handle in a semi-automatic way the deletion of files from the dataset definition while the dataset is being subscribed.
- Site exclusion in DDM Site Services has been refined, avoiding the submission of FTS jobs that were already in the submission queue to/from excluded sites before the site was excluded.
- File callbacks can be triggered on demand. This way analysis tools know which particular files have been successfully copied or staged and, in case a particular file gets stuck, the analysis tool can still release jobs for the rest and complain about the missing file with a bit less pressure.

The release includes several smaller bug fixes.

- In parallel support has been provided to the ATLAS DDM operations team in the following areas:
- DDM Site Services
- DDM Accounting (in particular generation of plots for ATLAS computing management presentations)
- Centralized site exclusion
- Automatic site cleaning

The results of the work were presented in the EGITF as a poster on the on-going optimization of the FTS usage and as a presentation about the general lines of work in ATLAS DDM. Additionally, a combined presentation about the DDM Popularity framework and its application to automatic site cleaning was presented at CHEP 2010 [R11].

3.2.5.1.3. LHCb Data management system

The DIRAC (Distributed Infrastructure with Remote Agent Control) project is a complete Grid solution for a community of users such as the LHCb Collaboration. DIRAC forms a layer between a particular community and various compute resources to allow optimized, transparent and reliable usage. Data management is one of the main services for the LHCb experiment provided by the DIRAC framework.

The work for support of DIRAC Data management system (DMS) in PQ2 has just started with the following tasks:

- Improvement of the run DB monitor, a web interface which shows the status of the ongoing and past runs, with all the relative information about the fill, number of events, state of the detector, and other relevant information.
- Improvement in the system that keeps information about the status of the distributed storage elements in the Grid, in order to have a more up to date information for the jobs currently running in the system.

3.2.5.1.4. Persistency framework

During PQ2 work focused on performance tests for CORAL and on functional improvements to CORAL and POOL respectively. The performance for CORAL data retrieval has been tested for three different technologies: direct data retrieval from Oracle and through the CoralServer/CoralServerProxy and FroNTier/Squid middle-tier/caching layers. To study a realistic load in a production environment, performance has been measured for a standalone application emulating the data retrieval patterns in the High Level Trigger (HLT) system of the ATLAS experiment. While the timing results obtained from the HLT tests are being analyzed by splitting them into their individual subcomponents, a test framework has also been developed to compare the performance of the three technologies in retrieving simpler data chunks of different types and sizes. The possible influence of data compression at various points in the chain is being studied by using both uncompressible random data and more compressible data chunks.

In parallel to these CORAL-based tests, a commercial in-memory database (Oracle TimesTen) is being evaluated. Some first tests using simple custom data and native Oracle tools have successfully shown a speedup in data retrieval using a TimesTen caching layer. The integration of this technology with CORAL to retrieve the data of the LHC experiments, however, revealed some issues that have not been solved yet.

The applicability of the “locality principle” concept to data caches for the LHC experiment has been analyzed, as well as the usage of solid state disks (SSD). This is part of a PhD research.

The main issue dealt with for CORAL during this quarter has been the CORAL handling of network and database glitches. This is a high priority issue for all experiments, which have reported several problems of this kind accompanied by specific Oracle errors such as ORA-03113 or ORA-24327. The problem has been systematically studied in several steps: analysis of the Oracle errors; implementation of ad hoc python tests that are able to reproduce these errors by using ssh tunnels to simulate a network glitch; study of a patching strategy by producing UML documentation to get a precise overview of the packages involved; implementation of the proposed solution; creation of detailed documentation to explain the new implementation and all the historical steps and remarks which led to this precise choice. The implemented patches, not yet committed to the CORAL code base, will improve the CORAL stability in case of database or network glitches, thanks to the possibility of automatically recreating the physical connections and logical user sessions in the database. The python-based tests developed to reproduce the issue have also been added to the test suite executed during the nightly tests.

For POOL, the work started during the previous quarter on the problems observed during the automatic nightly build tests has been successfully completed. Several bugs have been identified and fixed. In particular, the configuration of POOL builds using the CMT tool has been changed to address the use of inappropriate namespaces in the code and the assignment of misleading static library names. In addition, the conflicts resulting from the simultaneous access to the same database objects (by different tests running in parallel on different platforms) have been addressed by implementing a locking mechanism to regulate the database access.

3.2.5.1.5. CMS

During PQ2 the CMS Remote Analysis Builder (CRAB) development focused on two main tasks:

- Improving user support by integrating an Error Reporting Tool (originally designed for Ganga). The tool is used to upload job state and logging info files to an analysis operations server. This has been done to allow Analysis Support teams to get detailed information about user errors reducing the support effort;
- Improving the interaction with Grid Middleware by reviewing the schema of the local database designed to keep track of job information for logging purposes. A major reorganization of tables and fields has been done in order to reduce the load at scale. Also the API structure, used to interact with the actual plugins that interface to the real scheduler, has been reviewed. The aim of this development is to define set of API calls that are easy to maintain.

3.2.5.2. Life Science

The Life Science community pushes forward the emergence of an international VRC implemented through a large-scale pan-European Virtual Organization (rather than relying on national-scale structures and VOs) to foster international collaborations and facilitate grid adoption. This operational model requires defining:

- setup of a LS VRC wiki [R12] to collect and publish practical and technical information related to the community. The LS VRC is currently representing 4 VOs (biomed, enmr, lsgrid, and vlemed). It receives support from 6 NGIs (Dutch, French, German, Italian, Spanish and Swiss NGIs) and one ESFRI project (LifeWatch – discussions are on-going with the ELIXIR ESFRI). A monthly phone conference is being organized to address the managerial and technical work involved with representatives from each of these NGIs, VOs and ESFRIs. Minutes of the meetings are available from the wiki.

- funding models to ensure sustainability are being investigated by the HealthGrid association, founded in 2003 to promote and facilitate the use of grid technologies in Life Sciences. Technical work on VO administration tools has started with the design of a VO users and application database and associated tools to monitor and manage the population of VRC members exploiting the grid infrastructure;
- setup of a Technical Team of members from the biomed VO [R13] to assist the LS user communities. The function of the team is to address Problems reported by the community, usually through the GGUS front-line support system. The support is performed using duty shifts. The technical team also anticipates problems by actively probing the most critical services for the proper VO operation. Procedures have been defined to react to regular maintenance events such as SE decommissioning operations.

The technical team monitoring tool is currently based on a lightweight Hudson integration server. Migration towards a Nagios server maintained by the operations has started.

The LS VRC is also currently designing a user management database which will facilitate liaising with hundreds of users registered in the LS VRC Virtual Organizations. The database will interface to VOMS servers as well as the EGI application database, to avoid replicating existing information. It will complement the VOMS and application database with extra-information on the users and their affiliations. It will be used to manage the user community and to produce sub-themes mailing lists (per-NGI, per-project, per-scientific domain) to liaise with the end users.

The GRelC service instance devoted to the LS community support has been migrated towards a VM based environment. Preparation of a questionnaire for a census of the available data sources has been started. It aims at capturing the users' needs, the existing resources in EGI, the adopted data models, the current DBMS, etc. It will help in defining LS use cases. The questionnaire will be finalized and will be sent to the HUC members during PQ3.

3.2.5.3. Astronomy and Astrophysics

The A&A activity focused on management tasks and on preparatory studies. Topics identified and highlighted in PQ1 are now the focus for next year: Visualization Tools, Parallel processing on the Grid and CUDA, access to databases and integration with the Virtual Observatory.

An internal work-plan was prepared to identify in detail the sub-tasks and the involved resources. This document has been presented to the EGI-InSPIRE project board.

Some preliminary activities on the A&A subtasks have been done. In particular:

- An evaluation plan was defined to verify the state of the art of Database support and possible integration with Astronomical archives and catalogues (stored in databases) and with the Virtual Observatory.
- A preliminary study was performed of VisIVO as well as a preliminary integration plan to verify Grid tools and services already available to visualize data distributed on the Grid.

Collaboration in the framework of the MPI working group has started to collect A&A community requirements. A possibility to use CUDA for some A&A applications was evaluated as well as the current status CUDA support in Grid.

3.2.5.4. Earth Sciences

To ease the management of the software provided by SPACI in the context of the Climate-G testbed, a Virtual-Machine (VM) based environment has been set up. A new VM for the GRelC service (to manage the metadata information) is now up and running as well as a new VM for the Climate-G portal.

The dashboard page of the Climate-G Portal has been improved. The update includes the "compare variable (advanced)" option. Summary data is now also provided.

New requirements and scenarios will be gathered and defined together with the Earth Sciences representatives involved into the EGI-InSPIRE project during PQ3.

Finally, the VOMS service for the Climate-G VO has been successfully tested during PQ2.

3.3. ISSUES AND MITIGATION

QR1 identified several issues in the User Community (SA3) that are on their way to being resolved. The HEP related positions in SA3 have been filled and the final INFN positions will start in early 2011. All of the milestones and first deliverable scheduled for PQ1/PQ2 have been submitted and in most cases revised according to the reviewers' comments. An attempt was made during the EGITF to improve the collaboration between the different partners. However, the very low level of staffing in many areas continues to make this difficult.

3.3.1. Issue 1: Lack of funding for Life Sciences VRC

The Life Science VRC pushes forward its organizational process on a best effort basis, due to the lack of dedicated funding within the community. The precise roles and duty of the community and its mode of interaction with EGI are not completely clarified at this time. A workshop being scheduled in PQ3 to help progress this issue.

3.3.2. Issue 2: WLCG Operations

WLCG operations reviewed at CHEP revealed two areas of concern:

- Long delays in resolving some critical service issues: As shown in Figure 1 the storage and database areas are clearly the most critical and work is on-going to either adapt the usage model – e.g. of ATLAS conditions data access, reducing the requirement on database services – and/or to improve the resilience of the underlying services.
- The vast majority of GGUS tickets being in the category "other": The categories will be revised and the procedure changed to "assign category on solved" rather than the current situation where the user is able to select a category when the ticket is opened.

3.3.3. Issue 3: MPI Integration with Torque/Maui

For the MPI subtask the support status for Torque/Maui is unclear. The current gLite-MPI_utils package is still highly coupled with Torque. The support chain needs to be understood better so that gLite MPI sites are not left behind when new versions of Torque are released into production. In addition a number of technical issues and feedback were received from Jiri Wiesner (Masarryk University) on a range of issues that they have seen in their community. These will be addressed in PQ3.

3.3.4. Issue 4: Shared Software Areas

An issue that has caused a significant number of operational problems to the LHC experiments and LHCb in particular is instabilities with the shared software area, which can cause job failing. An alternative approach to AFS or NFS based solutions is one based on the CERN Virtual Machine file system (CernVM-FS). On-going work on testing this protocol to distribute VO specific application to WLCG sites has been performed, including the application of this technology to LHCb and ATLAS VOs use cases. This includes on-going collaboration with CernVM-FS developers to tune the service and debug it.

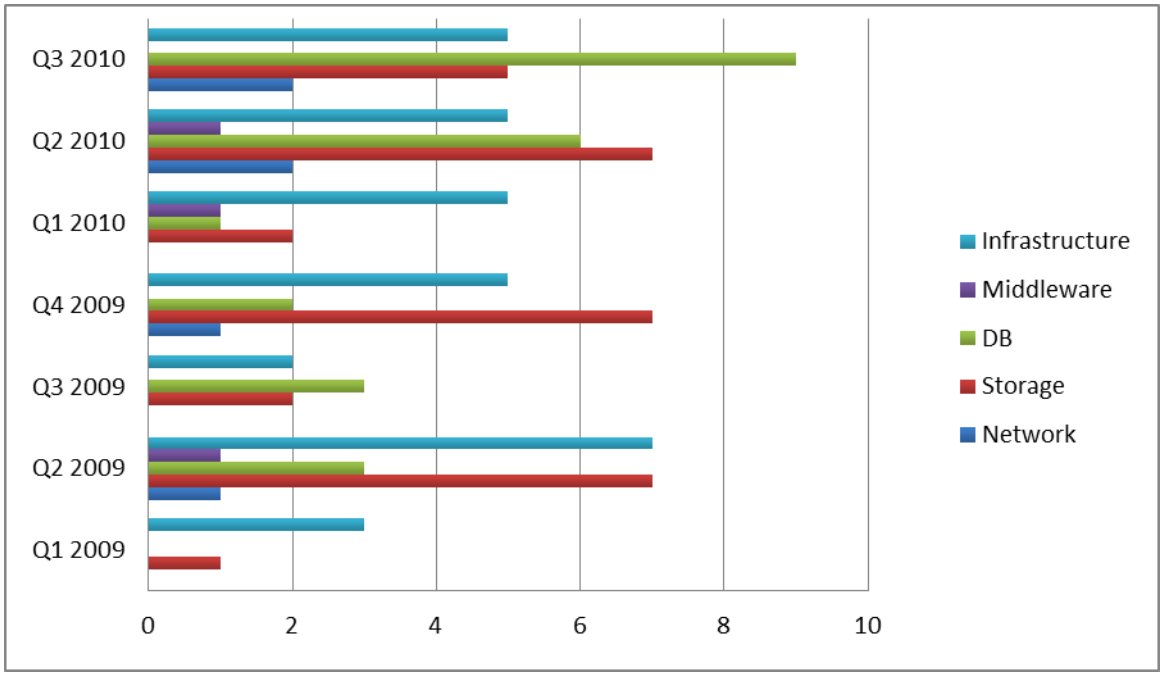

Figure 1 - Significant Service Incidents by Area

3.3.5. Issue 5: Life Sciences Operations

In the Life Science VRC, the VOMS server and the LFC are VO-wide single point of failures that caused biomed VO-scale downtime due these services unavailability from time to time. Technical discussions are on-going on the best backup solution that can be proposed (e.g. using DNS aliasing to re-route request to a new server when a downtime is scheduled on the production one or duplicate the service and synchronize its database).

3.4. PLANS FOR THE NEXT PERIOD

NA3 will run two important events in PQ3: the first USAG teleconference and the first face-to-face UCB meeting. These are expected to give a push to signing MoUs with VRCs, and endorsing the first set of user requirements. The events require preparation from the UCST on the requirements and feedback that have been collected in the first six months of the project. These requirements also trigger various internal activities for the project, e.g. update to the work plans of technical services; consolidation of VOs; etc. The tool development plans for TNA3.4 services for the next the next 6 month must be produced, endorsed and responsible partners need to begin the implementation. NA3 will improve its processes and its visibility to users and NGIs by further improving the content and structure of the public webpages, the NA3 Wiki, and initiate a series of user community workshops.

For HEP the PQ3 sees the first Heavy Ion run in the LHC, which will be accompanied by very high data taking rates primarily for the ALICE experiment. The data-taking period is less than one month but will be followed by data export and reprocessing – in other words continuous grid-based production. In response to repeated problems with database services seen at a number of Tier1 sites, ATLAS are in the process of discussing a less database-centric model for Tier1 services. It is likely that the detector conditions databases will be deployed at a small number of sites – as opposed to all ATLAS Tier1s up until now – and that caching technology based on FroNTier / Squid will be used instead (as

is the case with CMS). Should these changes be agreed, it is likely that LHCb would also change their deployment strategy, possibly also using caching technology or else database extracts in SQLite files (their detector conditions change less frequently than those of ATLAS and CMS).

Other areas that continue to be studied include the use of virtualisation, where a working group on scheduling has recently been setup (the preferred model of the experiments is to schedule at the level of a whole node so that disk and memory caching can be optimized between jobs), further usage of pilot jobs and ongoing work in the data management area.

For Life Science HUC the work on the Hydra service provision (TSA3.2.3) will start during the next quarter. The life science user database (TSA3.4) should also be set up. The design of the web application for the monitoring and control functionalities connected with the network of GRelC services will be completed during PQ3. The implementation will start in PQ3 focusing on preliminary server-side software components (Java classes). A questionnaire targeted on the “data sources: needs and requirements” will be finalized and will be sent to the HUC people during PQ3.

In MPI subtask, as per MS602, the focus will be on its core objectives of improved user documentation, outreach and dissemination, provision of an MPI support unit, work on the MPI cookbook and MPI workbenches for the Computational Chemistry and Fusion Communities.

TCD intends to deploy a gLite based sub-clusters using the new gLite-CLUSTER node type. These clusters will include a GPU based cluster, and a PS3 Cell/broadband based processor cluster. Preparation for an MPI training event at EGI User Forum 2010 will start. This should address the scope and duration of the training event.

4. SOFTWARE PROVISIONING

4.1. SUMMARY

In PQ2, the Software Provisioning activity focused on two main areas: Finalisation of the Software rollout process, and raising the issue reporting through DMSU. The Software Rollout process is currently being implemented by integrating EGI tools such as RT, and the number of issues reported through the DMSU is rising. Collaboration with other groups within EGI-InSPIRE have started, that aim to close the various loopholes of communication, and the establishment and integration if inter-activity processes has begun.

4.2. MAIN ACHIEVEMENTS

4.2.1. Quality Criteria

The main focus in the last quarter was to sustain Quality Criteria. All existing criteria, and all newly developed criteria are now classified according to the current edition of the UMD Roadmap [R14]. Two main categories have emerged from that effort, feeding into the virtuous cycle of evolving the EGI production infrastructure. Quality Criteria for capabilities that are still waiting for EGI Community input in order to be clearly defined, and capabilities, for which an interface (or set of interfaces) has been determined.

Quality Criteria now bear a version and are dated, facilitating clear communication with the Technology Providers that in turn can rely on evolving Grid Middleware according to clearly communicated quality requirements. The result will be an improved communication and collaboration with Technology Providers that helps ensuring a constant supply of quality software to the EGI Production infrastructure.

4.2.2. Criteria Verification

A clear procedure [R15] to assess the quality of delivered software has been defined. Discussions with involved parties, for example TSA1.3 (Service Deployment), and initial tests of the process have led to gradual change of the process itself to better suit the needs of involved parties. Together with other tasks in SA2 an integrated system to support the Release Rollout workflow was designed. The details of how to track, measure and streamline the process of criteria verification has been reviewed and integrated with the overall workflow of releasing software onto the EGI Production Infrastructure. It has also been tested with several manual exercises following the defined workflow, and actions have been taken to monitor the performance of the criteria verification effort.

4.2.3. Deployed Middleware Support Unit

The focus of work in the Deployed Middleware Support Unit has been on implementing the defined workflow [R16]. To that end, discussions with the GGUS team have been conducted resulting in a larger reorganization of the EGI Helpdesk support units and on forcing the workflow through authorization in GGUS. The changes to EGi Helpdesk will, however, not take full effect before PQ3. Further, discussions with the EMI project on best practices for support have been conducted.

The number of tickets touched by DMSU has grown an order of magnitude since PQ1. This is mainly due to a Time-To-Fix campaign conducted in October aiming at cleaning up all existing open issues and getting an estimate on TTF for each one of them. Further, tickets on software issues are starting to flow in the direction of DMSU. However, there is still a tendency that issues are handled directly between users and middleware providers, using channels not covered by the EGI metrics.

4.2.4. Support Infrastructure

The focus in PQ2 was to demonstrate the Software Release Workflow, and implement it using existing EGI tools, such as RT and the EGI Software Repository. Important supportive phases in the workflow were identified as targets for automation with the potential to streamline and scale the overall process that spans several tasks and activities.

Intensive work has been spent on defining the contents of a release, its structure, and the implications on the layout and setup of the EGI Software Repository. Together with pioneer Technology Providers within EGI-InSPIRE, JRA1 as provider for Operational Tools, and EuGRIDPMA for providing baseline trust anchors for the EGI Production Infrastructure, several manual executions of the Software Provisioning Workflow have been conducted. The results identified several issues in the design and layout of the Software Rollout Workflow causing an adaptation of the process and the associated tool integration.

4.3. Issues and Mitigation

4.3.1. Issue 1: Staffing

The staffing issue has been resolved almost completely. Due to new legislation in effect in Galicia in Spain, staffing for CSIC (i.e. JRU FTCSG) has been stalled for some time. However, the issue is expected to be solved in PQ3.

4.3.2. Issue 2: Number of tickets being allocated to the DMSU

Several efforts have been undertaken to facilitate uptake in ticket allocation to the DMSU. A “Time To Fix” campaign provided clearance on existing issues recorded in GGUS, and awareness of Technology Providers and users of the DMSU processes and availability. Full effect of these measures is expected to be seen in PQ3.

4.3.3. Issue 3: No uniform criteria definition

The process and topics of criteria definition has undergone several changes during the project start up, resulting in Quality Criteria that are identified, but not documented in a uniform way. During PQ2, which will continue in PQ3, the Quality Criteria organisation and presentation will undergo review and take ill-defined Quality Criteria to the agreed level of definition and documentation.

4.3.4. Issue 4: Lack of versioning for Quality Criteria

Though Quality Criteria were identified, described and defined, the ongoing change of quality of the Quality Criteria documentation and definition led to the notion of well-defined versions of quality criteria. Introducing dated versions of Quality Criteria facilitates clear communication and sustainable quality efforts from the Technology Providers. This issue will continue in PQ3, and be part of the QC definition process for the remainder of the project.

4.3.5. Issue 5: UMD Capabilities not yet defined

The UMD Roadmap refers to a number of capabilities that are of interest to the community, but lack clear requirements that would drive the Quality Criteria production for the pertinent capability. The prioritisation of these capabilities by the determination of detailed use cases from which quality criteria can be derived is needed.

4.3.6. Issue 6: Lack of information about the QC verification activity

Although the Software Rollout Process has been communicated on various occasions, the details and, more importantly the implications of the Quality Criteria Verification process are considered to be not well understood. To mitigate this risk the process needs to be more presented and communicated to the Technology Providers, both existing and future providers, in more detail.

4.4. Plans for the Next Period

The overall quality and completeness of the Quality Criteria will be the focus of the next quarter. Outreach to the User Communities, either directly or indirectly through the Requirements Collection Process, will be undertaken to fill up and solidify the foundation of the Quality Criteria definition process.

In preparation for the first full releases of existing Technology Providers the release workflow will be continuously under review and optimisation with the help of internal technology providers. Much like the organisation of experts in TSA2.5, teams of verification engineers that are experts in certain middleware components will be formed, and assigned to verification of releases as they are delivered to EGI.

Awareness and knowledge about the Software Provisioning Process will be raised on various meetings and events, particularly targeting NGIs and Technology Providers. Outreach and process integration with other groups and communities within EGI-InSPIRE will be continued, particularly in closing the loop between detecting issues, assignation to technology providers, and the feedback on release and test plans.

CSIC will finish reviewing the recruitment process and job descriptions at hand. CSIC expects to open the approved new recruitment process early in PQ3. A new staff member is expected to take up duty in late PQ3. LIP has successfully recruited new staff which is appointed to the Task TSA2.3 since mid-October.

5. EXTERNAL RELATIONS

5.1. SUMMARY

The main focus during PQ2 was the EGI Technical Forum (EGITF) held In Amsterdam between 14-17th September 2010. The event attracted over 430 attendees from across the EGI community included many European projects and their international collaborators. The event provided an important opportunity to consolidate the startup phase of the EGI-InSPIRE project. Alongside the EGITF the dissemination team attended the ICT 2010 in Brussels, the eChallenges event in Warsaw and the OGF30/Grid2010 in Brussels.

The policy team established the Terms of Reference for the various EGI policy groups and this work has been reflected on the website. All the funded DCI projects have been engaged in producing a collaborative roadmap that describes the expected interactions between the different projects and the potential results of these collaborations to the technical landscape and the production infrastructure.

5.2. MAIN ACHIEVEMENTS

5.2.1. Dissemination

5.2.1.1. EGI.eu Dissemination Activities

During PQ2, TNA2.2 has established communication with the NGI contacts at a face-to-face NGI dissemination meeting at EGITF, attended by around 20 people. The session aimed to establish ways to work together effectively and to share ideas for promoting EGI-InSPIRE in the different regions. The meeting introduced the NA2.2 wiki pages as a key mechanism for facilitating this process, and the content of this area will be developed during the course of the year.

The new branding for the project, including the logos, colour palette, fonts and newly-designed website were launched at the EGITF. This branding has now been rolled out to most dissemination materials, including the wiki site and other project websites and online services such as the DocDB. The project presentation template, document templates and newsletter have also been evolved to reflect the new branding. A number of new publications were produced in preparation for attendance at a number of events during the quarter, including posters on EGI-InSPIRE and User Community Support, a poster and postcards advertising the EGI User Forum in Vilnius, a general brochure on EGI and pop up banners. In addition, Director's Letters were issued in a new template in August, September and October, and the second issue of *Inspired*, the project newsletter, was prepared for release in November. A number of articles and announcements were also published in International Science Grid This Week, which was issued to 6800 subscribers, including interviews with Steve Brewer, CCO http://www.isgtw.org/?pid=1002645 and Tiziana Ferrari, COO, http://www.isgtw.org/?pid=1002692, an event announcement for the Technical Forum and an EGI Video of the Week.

In PM4, TNA2.2 carried out a review of the website (https://documents.egi.eu/document/179). This milestone identified areas of the website that required further development and previewed the new templates and layouts. During the quarter, content was developed for a number of areas of the website, including the EGITF web pages, the press area, the user support area and the governance areas. TNA2.2 worked with other work packages to identify contacts that can help to keep the technical areas of the website updated. In the second quarter, the website received more than 3600 unique visitors, an increase of 85% on the first quarter. The bulk of these visited during the EGITF

event, generating over 8000 visits, 35% of which were new visits and a total of nearly 35,000 page views.

5.2.1.2. Events

During PQ2, the dissemination team attended a number of events, including ICT 2010 in Brussels, 27-29 September, attended by 6000 delegates. EGI shared a joint booth in the Exhibition focusing on e-Infrastructures and climate change, alongside EUIndiaGrid, EUMedGridSupport and e-ScienceTalk, as well as other projects. EGI hosted a number of demos at the booth and also distributed a CD containing brochures and leaflets and ran a prize draw to win an EGI branded weather station, as well as participating in the GÉANT booth trail. EGI hosted a booth at OGF30/GRID2010 in Brussels, 25-28 October, distributing brochures, T-shirts, pens and USB keys. Also in October, 27-29, EGI travelled to eChallenges, a well-attended policy event, running a stand in the Exhibition area in collaboration with e-ScienceTalk. The team distributed EGI brochures and GridBriefings and made contact with FP7 projects in Poland and Africa. The team also gave a presentation about EGI in the e-Infrastructures parallel session, which generated a number of enquiries at the booth. Plans for the EGI booth at SC10 in New Orleans in November and a booth and masterclass at SciTech 2010, Brussels, also in November, have also been developed during the quarter.

Two dissemination sessions were run during EGITF, one targeted specifically at NGIs as described above, and a general session on reaching out to the media, which will included a presentation from Martin Ince of the *Times Higher Educational Supplement*. Two press releases were issued - a media invitation to a press conference sent a week before the event, and a press release issued on Wednesday 15, plus a press pack containing images and support materials. “EGI Inspire brings together European e-Infrastructure community” [R17] was issued to 3,870 journalists through the AlphaGalileo press service and was also published on the Cordis news wire, the EGI website and sent to the media contacts list and the dissemination mailing list. A press release announcing the funding for EGI-InSPIRE was also issued by the EC Press Office [R18] on 15th and together this led to 27 press cuttings during the quarter, including articles in *HPCwire*, *iSGTW*, *ZDNet*, *Yahoo News*, *ITnews* in Australia, *Science Business* and *Environment & Energy Management*.

The local Dutch media were targeted in partnership with BiGGrid, the event hosts, and a press conference invitation was issued. Local journalists were unable to attend on the date of the press conference, but interviews were held with *Web Wereld* and *Tweakers.net* separately. The dissemination team also promoted the Flickr and Twitter feeds at the event, setting up an event hashtag to enable delegates to share their photos and blogs with the rest of the community. Around 50 Twitter posts were generated and 70 photos were uploaded to Twitter. An iPhone app was available to download, featuring a full programme, the option to select favourite sessions and a link to the social media channels. This was downloaded by 39 people before the event and 54 during it. TNA2.2 worked with the GridCast team from e-ScienceTalk to run an event blog, and contributed bloggers from the dissemination team, leading to 26 posts on the blog and 6 videos on YouTube. EGI also ran a booth at the event, distributing materials and showing the new BELIEF video about EGI. [R19]

5.2.1.3. NGI Dissemination Activity

The NGI dissemination teams this quarter concentrated their efforts on promoting and attending the EGITF. For example, ten people attended from the Asia Pacific region from the University of Melbourne, KISTI (Korea) and ASGC (Taiwan). EArena in Russia participated in organising a seminar dedicated to M.G.Mescheryakov's 100th anniversary in Dubna and prepared the Proceedings of the 4th International Conference “Distributed computing and Grid-technologies in science and

education- GRID2010" including 67 scientific articles. A series of articles about the GRID2010 conference were published in five issues of the weekly newspaper "DUBNA: Science, Cooperation, Progress", titled "Everything, or nearly so all about Grid: in Dubna, in Russia, in the world". A poster about the JINR grid infrastructure was also prepared for the largest Russian exhibition on IT, Softool'2010. IPB for Serbian NGI AEGIS have presented grid to visitors to their centre and have also worked on a dedicated website http://www1.aegis.rs/, IMCS UL has updated the Latvian Grid webpage http://grid.lumii.lv/ including a news item about the EGI Technical Forum: http://grid.lumii.lv/resource/show/89. TCD has also been updating its websites at http://grid.ie/ and Grid-Ireland was credited in two scientific talks at the Royal Irish Academy conference "The Transient Universe: from exoplanets to hypernovae" (http://url.ie/81a3). LIP has set up a website at http://www.lip.pt/computing/projects/EGI and a technical website at INGRID http://wiki.ncg.ingrid.pt. Similarly, ILSAS has created a website at http://www.slovakgrid.sk, and has been preparing for the 6th International Workshop on Grid Computing for Complex Problems GCCP2010 in November, including creation of a media invitation at http://www.slovakgrid.sk/media/GCCP2010_PozvankaMedia.pdf

5.2.2. Policy

EGI.eu:

- Internal policy groups: Terms of References (ToRs) for the following groups have been finalized and sent to approval to the PMB: TCB, OMB, OTAG, OAT, UCB, USAG, SPG, SVG, SCG; and the EAC (External Advisory Committee).
- MoUs: templates for VRC, technology provider and infrastructure provider have been finalized; concerning the technology providers, full drafts with detailed joint working plan have been discussed and agreed with the management of EMI and IGE projects, to be signed at the beginning of PQ3; concerning VRCs, the templates have been presented to WLCG (on behalf of the HEP community) and the EU-funded DECIDE project (http://www.eu-decide.eu/); concerning the integration of other infrastructures in EGI, discussion has been started with a number of regional initiatives (Canada, Latin America, Africa, Asia).
- Policy area of the website: the policy area of the website was finalized and published in the EGI.eu website; it is divided in two main areas: the first area is dedicated to the description of the activities of the internal policy groups; the second area is dedicated to the external collaborations activities.
- DCI collaborative roadmap: a document describing a collaborative roadmap vision together with other five EU-funded projects related to DCI was written and agreed; the document describes the interactions between the six funded EU projects in order provide users with a federated virtualised resources to increase flexibility and meet their changing needs
- Standards Roadmap: a standards roadmap was defined providing an analysis on the importance of standards for interoperability and a summary of the relevant standards classified by maturity for Grids; a preliminary list of priorities has been depicted, which will be evolved in the future based on community requirements
- Policy Development Process (PDP): in order to provide a clear, transparent and standard process for approving policies and procedures within EGI, a PDP was defined describing in details the differences between policy and procedures and their approval process

STFC: continued to lead the EGI Security Policy Group (SPG). Work during this quarter consisted mainly of finalising the SPG Terms of Reference and completing MS209 [R20], which specified the procedures used by SPG to consult the EGI stakeholders and to arrive at policies ready for approval

by the EGI management bodies. The members of SPG and the wider community were consulted during an SPG session at the EGITF. A draft work plan for SPG during the next year was discussed and agreed during the EGITF. The major component of this work being a complete revision of the top-level Security Policy document. David Kelsey was invited to a joint DEISA/PRACE security workshop in October to present the work of SPG. This achieved statements of intent from members of both DEISA and PRACE to collaborate with SPG in the future production of security policies, with the aim of producing interoperable policies. Kelsey also attended the EUGridPMA meeting in September and the TAGPMA meeting in October. At the former a session on developing the new standards for Authorisation was led by Kelsey. At a one-day Symposium as part of the latter, Kelsey gave a talk on the history of the old Joint (EGEE/WLCG) Security Policy Group and the EGI SPG and its plans to try to encourage participation by Grids in the USA in SPG deliberations.

UISAV: Participated in the e-IRG workshop

TCD: At the EGITF, David Kelsey confirmed David O'Callaghan (from TCD and the Irish NGI) as Irish NGI representative to the Security Policy Group. TCD attended the 20th EU Grid PMA meeting to represent the Grid-Ireland CA and the Irish NGI user community. This included discussion of policy for operation of authorization services (such as VOMS) and authentication profiles for CAs.

FOM: To provide insight for the EGI.eu Council into the global reach of the trust fabric and the participants involved, a report [R20] was drafted describing this trust fabric. It shows 86 roots of trust accredited to the IGTF and recognised by EGI, whose responsible organisations are based on 53 countries or economic regions. Both the EUGridPMA and its sister authority TAGPMA convened in plenary meetings in this Quarter. In these meetings updates to the authentication profiles were endorsed that consolidate support the federated authorities now being rolled out in Europe. Technical interoperability and support for new software was presented by Groep. Groep was also re-elected as Chair of the EUGridPMA. The role and function of authentication and authentication middleware in EGI were presented by Group in a meeting of the NREN-GRIDS workshop in conjunction with the EGITF.

CNRS: CNRS has been mostly involved in structuring the French NGI (France Grilles). The official launch of the “Groupement d’interêt scientifique” France Grilles, legal entity of the French NGI, on September 24th 2010 in Paris was the opportunity to present EGI.eu and EGI to a large audience of policy makers and grid actors. A subsequent workshop held in Lyon in October focussed on the operations of the French NGI and was the opportunity to discuss numerous policies in such fields as security, monitoring and user support together with EGI.eu representatives. Within the French NGI, working groups have been set up as a result of the workshop which will contribute to the EGI-InSPIRE tasks.

5.3. EVENTS

The major event during PQ3 was the EGI Technical Forum in Amsterdam. The meeting comprised a mixture of technical keynotes, technical sessions, social events and collaborative opportunities between the projects in the EGI ecosystem. The event attracted over 430 attendees from around the community. A survey requesting feedback on the EGITF was also sent to delegates through the Zoomerang survey tool. Around 110 responses were received. The conference website was reported to be very or quite useful by 87% of respondents. Around 70% found the EGI organising team helpful (22% did not interact with the team). During the event, 86% found the onsite conference staff helpful. Around 90% used the online programme, and 71% the short version of the printed programme. Around 22% reported using the iPhone application, with 28% using Twitter, 10% Flickr, 25% YouTube, 8% the GLOBAL webcast of the plenaries and 28% read the GridCast blog.

Planning activity for the EGI User Forum in Vilnius in Lithuania between April 11-15th started with the establishment of a local organising committee and a programme committee. The programme committee issued a call for participation that has been distributed across the EGI and European Distributed Computing Infrastructure community.

The selection of a venue for the EGI Technical Forum in 2011 has been initiated.

5.4. ISSUES AND MITIGATION

5.4.1. Issue 1: Partners have not provided Policy contact points

The number of partners that have not yet nominated contacts for their policy activities was reduced during QR2. Nevertheless, the following have not yet nominated the contact person: 1) funded partners: UPT, UCY, SIGMA, ARNES, UCPH and E-ARENA; 2) unfunded: ASGC, ASTI, ITB and NUS. The committed effort, especially for the funded partners is small compared to the duration of the project. We plan to mitigate this issue during PQ3.

5.4.2. Issue 2: Partners have not provided Dissemination contact points

A number of partners have not yet nominated contacts for their dissemination activities. These include funded partners UPT, SIGMA and UCPH, plus unfunded partners ASTI, ITB, NUS and UPM. Of those partners that have not yet nominated contacts, a number have also not yet reported staff effort in PPT during the first quarter: UPT, SIGMA, UCPH

5.5. PLANS FOR THE NEXT PERIOD

In PQ3, the main dissemination focus will be the preparations for the EGI User Forum in Vilnius, 11-15 April. This will include participation in the Programme and Organising Committees, as well as working on an outreach plan for the meeting and advertising the event itself through our media channels. Content will also be developed for the conference website at http://uf2011.egi.eu/. EGI will also be sending booths to SC10 in New Orleans, attended by around 10,000 delegates and the SciTech event in Brussels in November.

The second issue of the EGI *Inspired* newsletter will be issued in November to the all members list, and articles are in preparation for *iSGTW* and *International Innovation* magazine. A graphic designer and writer will join the Dissemination team in Amsterdam at the end of PQ3, which will enable the EGI branding to be developed further. A series of case studies based on grid applications are also in development.

NA2.2 will continue to work closely with the e-ScienceTalk project, contributing to the GridCast blog from events such as the CHAIN project kick off meeting in Rome, the NGS Innovation Forum in the UK and the Euro Africa e-Infrastructures meeting in Helsinki. During the quarter, NA2.2 will also explore establishing an MoU with the project.

For PQ3, the dissemination team plans to continue the effort to promote EGI in high-level distributed computing events. The team will also strive to improve the website's content, especially in technology, user support and operations areas.

In PQ3, the policy activity will focus on the following goals: finalise and sign the MoUs with EMI and IGE, and start of the planned activity; finalize and sign the MoU with DECIDE; progress on the negotiation of MoUs with other partners such those related to the regional initiatives and VRCs; analyze the ERIC framework with regards to its application to EGI.eu and circulate a report within the EGI Council; prepare a report on EU strategic policies and long-term visions considering Innovation Union, Digital Agenda and reports from expert groups, position EGI.eu in this context (to be circulate

in the EGI Council; and prepare a report on how the EGI infrastructure can leverage virtualization technologies and experience from commercial cloud providers.

SPG will hold a face-to-face meeting to create editorial teams to start work on the first two EGI security policy document revisions. Firstly the top-level Grid Security Policy document needs major revision. This document needs to be re-written for the EGI era. There are many overlaps with the existing sub-documents which need to be removed and the new document needs to be made more general to be useful to other Distributed Computing Infrastructures (DCI) (DEISA, PRACE, Clouds etc.).

The second document in need of revision is the Security Incident Response Policy. The aim here is to develop new policy standards to build trust between collaborating infrastructures such that information on security incidents can be safely shared between the infrastructures. Some discussions have already taken place with a number of other Grids, namely Open Science Grid, DEISA/PRACE and WLCG, in this area. A new editorial team of SPG needs to be appointed to work on this in collaboration with others. It seems sensible that the collaborative aspects of this work with other infrastructures could be carried out under the auspices of the Infrastructure Policy Group (IPG) to ensure that we obtain buy-in from the major production DCIs, but that is yet to be discussed and agreed.

6. CONSORTIUM MANAGEMENT

6.1. SUMMARY

PQ2 saw the signing of the Grant and Agreements and the finalisation of the initial payments of the lead beneficiaries within the project consortium. The difficulty many of the project partners had in responding to queries from the coordinator in order to finalise their PPT entries contributed significantly to their delays.

6.2. MAIN ACHIEVEMENTS

6.2.1. Project Management

The signing of the Grant Agreement and the actions following from it dominated the activities within the project office. The GA was signed in early September and presented to the coordinator during the EGITF. This document was distributed to the consortium for signing by individual partners which was reaching completion at the end of PQ2.

The first full meeting of the Collaboration Board took place at the EGITF along with meetings of the Project Administration Committee and the Project Management Board. The Activity Management Board which supervises the general running of the project

Establishing the financial processes within the consortium was the other main focus during PQ2. Bank account details were collected from the lead beneficiaries within the consortium and discussions continued with the EC to finalise the documentation necessary to support the distribution of the pre-financing and payments for the activity undertaken within the partners during PQ1. This process was complicated by the implementation of the 'trusted bank account' model which requires signatories on financial transactions form both the coordinator and the EC.

6.2.2. Milestones and Deliverables

Id	Activity No	Deliverable / Milestone title	Nature (***)	Lead partner	Original Delivery date(*)1	Revised delivery date(*)	Status (**)
D1.2	WP1	Gender Action Plan https://documents.egi.eu/document/171	R	EGI	4	7	PMB approved
D2.3	WP2	EGI-InSPIRE Paper https://documents.egi.eu/document/201	R	EGI	4		
D2.4	WP2	Roadmap for Interactions with Other DCI Projects https://documents.egi.eu/document/207	R	EGI	5	5	PMB approved
D2.5	WP2	Standards Roadmap https://documents.egi.eu/document/206	R	EGI	5	7	PMB approved

Id	Activity No	Deliverable / Milestone title	Nature (***)	Lead partner	Original Delivery date(*)1	Revised delivery date(*)	Status (**)
D4.1	WP4	EGI Operations Architecture https://documents.egi.eu/document/218	R	EGI	5		
D6.1	WP6	Capabilities Offered by the HUCs to Other Communities https://documents.egi.eu/document/154	R	CERN	4	7	PMB approved
MS106	WP1	Quarterly Report 2 https://documents.egi.eu/document/248	R	EGI	6	8	PMB approved
MS207	WP2	Review of the Website Content https://documents.egi.eu/document/179	R	EGI	4	7	PMB approved
MS208	WP2	The EGI becomes a member of EUGridPMA https://documents.egi.eu/document/38	R	26	4	4	PMB approved
MS209	WP2	Security Policies within EGI https://documents.egi.eu/document/210	R	34	5	7	PMB approved
MS210	WP2	EGI Technical Forum		EGI	6	6	PMB approved
MS211	WP2	EGI Newsletter https://documents.egi.eu/document/271	R	EGI	6	6	PMB approved
MS305	WP3	User Feedback and Recommendations https://documents.egi.eu/document/211	R	EGI	6	8	PMB approved
MS406	WP4	Deployment Plan for the Distribution of Operational Tools to the NGIs/EIROs https://documents.egi.eu/document/128	R	12	4	7	PMB approved
MS407	WP4	Integrating Resources into the EGI Production Infrastructure https://documents.egi.eu/document/111	R	38	4	8	PMB approved

Id	Activity No	Deliverable / Milestone title	Nature (***)	Lead partner	Original Delivery date(*)1	Revised delivery date(*)	Status (**)
MS408	WP4	EGI Operational Procedures https://documents.egi.eu/document/209	R	26	6	8	PMB approved
MS505	WP5	Service Level Agreement with a Software Provider https://documents.egi.eu/document/212	R	29	4	7	PMB approved
MS602	WP6	HUC Software Roadmap https://documents.egi.eu/document/230	R	21	4	8	PMB approved
MS603	WP6	Services for High Energy Physics https://documents.egi.eu/document/147	R	35	4	7	PMB approved
MS604	WP6	Services for the Life Science Community https://documents.egi.eu/document/236	R	14	4	8	PMB approved

*) Dates are expressed in project month (1 to 48).

(**) Status = Not started – In preparation – Pending internal review – PMB approved

(***) Nature = R = Report P = Prototype D = Demonstrator O = Other, Deliverable id: for Milestone attached to a deliverable

6.2.3. Consumption of Effort

The effort contributed by the partners within the consortium is recorded in the Project Tracking Tool (PPT), and a summary provided below. PPT is used by partners to record and report their consumed effort on a monthly basis. The report lists the effort by each partner within each work package, and includes the worked PM and the committed PM figures. A comparison between these two figures is also included as a percentage of achieved PM. Project period 1 shows the cumulative total for period 1, the right hand table shows the PQ1 figures. A definition of terms is included below:

Committed PM: Person months planned in the Annex I for the full project duration. The comparison is based on the linear plan of the full person months, i.e. over 16 quarters. After every reporting period, any deviations to the plan will be adjusted in the second year plan. So that person months and budget will be balanced in the subsequent period

Worked Person Month funded: these are the resources engaged by the partner for the realisation of their tasks; the person month are computed using the yearly labour hours applicable in the partner's country. These resources are recorded in PPT as fully funded. The funding being shared between the three stakeholders: the European Commission, the National Grid Initiative, i.e. the partners and its national source of funding and EGI.eu.

Overview of effort committed across the project

Type	Work Package	Worked PM Funded	Committed PM	Achieved PM % (PQ2)	Achieved PM % (PQ1)
MGT	WP1	15,1	20,6	73%	33%
COORD	WP2	37,0	44,2	84%	54%
COORD	WP3	51,3	60,0	85%	54%
SUPPORT	WP4	285,1	291,8	98%	84%
SUPPORT	WP5	22,5	31,4	72%	40%
SUPPORT	WP6	38,9	61,0	64%	59%
RTD	WP7	11,8	14,5	81%	108%
	Total	461,7	523.5	88%	71%

Effort levels across the activities continue to increase. Significant issues with the following partners are due to be resolved in PQ3:

- EGI.eu: A recruitment process will be completed early in PQ3 with staff in position by the end of PQ3.
- IBERGrid: The employment of additional staff in SA2 and JRA1 has been held up during PQ2 due to changes in the Spanish law having to be understood by the partners.
- INFN will have staff employed in SA3 appointed during PQ3.

Many partners have still not identified staff working on NGI International and related tasks in dissemination, user support and policy. Notably:

- Policy: UPT, UCY, SIGMA, ARNES, UCPH and E-ARENA
- Dissemination: UPT, SIGMA and UCPH
- User Support: NCF, VR-SNIC

The following partners have reported low or zero effort in PQ1 and PQ2. Of particular concern are EMBL and the Russian (E-Arena, SNIP MSU, JNIR, RRCKI, ITEP & PNPI) Norwegian (SIGMA, UIO & URA) Romanian (UPB, UVDT, UITC & INCAS) and Greek (GRNET,, AUTH, CTI, FORTH, ICCS, UI & UP) JRUs. Other partners that have not been active include: UPT, IIAP NAS RA, BADW, LUH, GRENA, INAF, SPACI, SARA, UWAR, POLITECHNIKA WROCLAWSKA, ARNES, JSI, IMCS-UL, Nordunet,

The detailed breakdown of effort contributed to each work package by each partner is provided in the following tables for PQ2 along with PQ1 in brackets. Each work package (for reporting purposes) is split into the different types of effort used within EGI-InSPIRE (which has different re-imbursement rates) and is therefore reported separately.

The different types are:

- M: Project Management as defined by the EC.
- E: EGI Global Task related effort.
- G: General tasks within the project.
- N: NGI International Task related effort.

WP1-E - WP1 (NA1) - NA1 Management (EGI)				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	6,2	8,9	70% (0%)	
Total:	6,2	8,9	70% (0%)	

WP1-M - WP1 (NA1) - NA1 Management				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	8,5	11,2	76% (60%)	
Total:	8,9	11,7	76%(60%)	

WP2-E - WP2 (NA2) - NA2 External Relations (EGI)				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	15,3	19,3	79% (25%)	
26A-FOM	0,9	0,3	298% (36%)	
34A-STFC	1,5	1,2	127% (56%)	
Total:	17,7	20,8	85% (28%)	

WP2-N - WP2 (NA2) - NA2 External Relations				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
2-UPT	0	0,8	0% 0%)	
5A-IPP-BAS	0,2	0,5	37% (17%)	
7C-SWITCH	0,0	0,4	9% (0%)	
8-UCY	0,3	0,5	56% (70%)	
9-CESNET	0,5	0,5	91% (33%)	

10B-KIT-G	1,1	0,9	123% (115%)	
10E-BADW	0	0,2	0% (0%)	
12A-CSIC	2,7	1,4	186% (114%)	
12D-UPVLC	0,5	0,8	67% (128%)	
13-CSC	0,0	1,1	1% (209%)	
14A-CNRS	1,2	1,0	119% (55%)	
14C-HealthGrid	0,2	0,3	49% (218%)	
18B-BME	0,5	0,1	429% (80%)	
18C-MTA SZTAKI	0	0,1	0% (0%)	
19-TCD	0,4	0,4	100% (100%)	
20-IUCC	0,0	0,3	15% (86%)	
21A-INFN	0,8	1,3	66% (85%)	
22-VU	1,5	1,3	113% (154%)	
26A-FOM	0	0,2	0%(0%)	
26B-SARA	0,2	0,3	71% (3%)	
27A-SIGMA	0.07	0,4	17.5% (0%)	
28A-CYFRONET	1,4	1,0	135% (150%)	
29-LIP	1,0	0,8	139% (0%)	
30-IPB	0,8	0,8	104% (104%)	
31-ARNES	1,0	1,1	91% (0%)	
31B-JSI	0,6	0,6	96% (0%)	
32-UI SAV	0,4	0,5	71% (79%)	
33-TUBITAK ULAKBIM	1,0	1,0	103% (103%)	
34A-STFC	2,9	1,6	175% (94%)	
36-UCPH	0	0,8	0% (0%)	
38A-KTH	0	0,5	0% (0%)	
39-IMCS-UL	0,2	1,4	17% (0%)	
40A-E-ARENA	0	0,9	0% (222%)	

Total:	19,3	23,4	82% (79%)	

WP3-E - WP3 (NA3) - NA3 User Community (EGI)				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	9,3	12,6	74% (32%)	
12A-CSIC	0,2	0,8	21% (0%)	
16A-GRNET	0	2,1	0% (0%)	
16E-IASA	5,4	0,8	661% (306%)	
29-LIP	0,8	0,8	108% (0%)	
34B-UE	2,0	1,4	138% (173%)	
Total:	17,6	18,4	95% (49%)	

WP3-N - WP3 (NA3) - NA3 User Community				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
2-UPT	0	1,9	0% (0%)	
3-IIAP NAS RA	0	0,4	0% (0%)	
5A-IPP-BAS	0,3	0,5	55% (86%)	
7A-ETH ZURICH	0,1	0,3	38% (66%)	
7B-UZH	0,3	0,5	67% (1%)	
8-UCY	0,9	0,5	186% (161%)	
9-CESNET	1,9	1,8	110% (125%)	
10B-KIT-G	3,3	2,6	125% (78%)	
10C-DESY	0,6	0,6	115% (109%)	
10D-JUELICH	0	0,2	0% (0%)	
10G-FRAUNHOFER	0	0,8	0%(0%)	
12A-CSIC	0,6	0,2	341% (0%)	

12D-UPVLC	1,5	1,5	102% (36%)	
13-CSC	0	1,5	0% (0%)	
14A-CNRS	2,4	1,7	142% (0%)	
14B-CEA	0	0,7	0% (0%)	
14C-HealthGrid	4,1	1,0	410% (219%)	
15-GRENA	0,1	0,4	33% (33%)	
18A-MTA KFKI	0,7	0,6	118% (104%)	
18B-BME	1,1	0,6	197% (81%)	
18C-MTA SZTAKI	2,1	0,9	244% (91%)	
19-TCD	0,9	0,9	97% (97%)	
20-IUCC	0,9	0,8	108% (173%)	
21A-INFN	1,6	2,5	64% (100%)	
22-VU	0	0,9	0% (0%)	
23-RENAM	0,8	0,6	135% (108%)	
26A-FOM	0	0,3	0% (0%)	
26B-SARA	0,1	0,3	23% (0%)	
27A-SIGMA	0.07	0,8	9% (0%)	
27B-UIO	0	0,4	0% (0%)	
27C-URA	0	0,4	0% (0%)	
28A-CYFRONET	0,3	0,3	113% (177%)	
28B-UWAR	0	1,1	0% (0%)	
28C-ICBP	0,5	0,9	52% (48%)	
29-LIP	1,4	1,8	82% (0%)	
30-IPB	1,1	1,0	105% (105%)	
31-ARNES	0,7	0,7	104% (0%)	
31B-JSI	0,5	0,5	103% (0%)	
32-UI SAV	2,3	2,4	96% (90%)	
33-TUBITAK ULAKBIM	2,0	2,3	89% (102%)	

34A-STFC	0,6	1,0	62% (44%)	
34C-UG	0	0,3	0% (0%)	
34D-IMPERIAL	0	0,3	0% (0%)	
34E-MANCHESTER	0	0,3	0% (0%)	
36-UCPH	0	1,3	0% (0%)	
38A-KTH	0	0,6	0% (0%)	
40A-E-ARENA	0	0,4	0% (0%)	
Total:	33,7	41,6	81% (56%)	

WP4-E - WP4 (SA1) - SA1 Operations (EGI)				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	2,3	2,3	100% (82%)	
10B-KIT-G	3,2	4,4	73% (122%)	
12A-CSIC	1,5	1,1	139% (38%)	
12B-FCTSG	1,5	0,8	202% (17%)	
13-CSC	1,4	1,4	100% (72%)	
14A-CNRS	0,7	0,8	96% (86%)	
16A-GRNET	0	4,4	0% (0%)	
17-SRCE	1,2	0,7	172% (87%)	
21A-INFN	1,5	2,3	67% (76%)	
21B-GARR	1,9	0,8	259% (107%)	
26A-FOM	3,3	0,8	434% (76%)	
26B-SARA	2,1	1,4	148% (178%)	
28A-CYFRONET	1,4	1,4	95% (109%)	
29-LIP	1,1	1,1	101% (0%)	
34A-STFC	6,1	4,4	137% (113%)	
35-CERN	5,2	3,7	142% (62%)	
38A-KTH	1,7	1,4	119% (119%)	
Total:	36,1	32,9	109% (82%)	

WP4-N - WP4 (SA1) - SA1 Operations

Partner	Q2		
	Worked PM Funded	Committed PM	Achieved PM % (PQ1)
2-UPT	0	1,8	0% (0%)
3-IIAP NAS RA	0	1,2	0% (69%)
5A-IPP-BAS	2,2	6,8	33% (37%)
5B-IOCWCP-BA	0	0	#DIV/0
5C-GPhI	0,4	0,5	83% (0%)
6-UIIP NASB	3,8	1,7	220% (155%)
7A-ETH ZURICH	1,4	2,1	65% (51%)
7B-UZH	0,3	1,1	27% (11%)
7C-SWITCH	2,3	2,0	117% (47%)
8-UCY	1,8	3,0	59% (76%)
9-CESNET	7,3	7,8	94% (88%)
10B-KIT-G	9,3	8,2	113% (116%)
10C-DESY	2,0	1,6	123% (120%)
10D-JUELICH	1,6	1,6	99% (55%)
10E-BADW	1,0	2,8	34% (0%)
10G-FRAUNHOFER	2,4	1,3	192% (78%)
10H-LUH	0,2	1,6	14% (0%)
11-UOBL ETF	2,6	4,5	57% (0%)
12A-CSIC	2,6	2,6	99% (113%)
12B-FCTSG	4,5	4,3	103% (129%)
12C-CIEMAT	2,1	2,4	88% (0%)
12D-UPVLC	1,3	1,8	73% (34%)
12E-IFAE	3,3	2,9	114% (114%)
12F-RED.ES	6,2	3,3	192% (0%)
12G-UNIZAR-I3A	8,4	3,3	258% (277%)
12H-UAB	4,0	2,5	160% (0%)
13-CSC	6,1	4,0	152% (54%)

14A-CNRS	27,4	15,6	176% (204%)	
14B-CEA	6,4	4,0	160 (102%)%	
15-GRENA	0,4	1,2	35% (35%)	
16A-GRNET	1,4	7,4	18% (48%)	
16B-AUTH	0	0,8	0% (0%)	
16C-CTI	0	0,8	0% (0%)	
16D-FORTH	0	0,8	0% (0%)	
16E-IASA	1,6	0	#DIV/0	
16G-UI	0	0,5	0% (0%)	
16H-UP	0	0,6	0% (0%)	
17-SRCE	5,0	4,5	112% (112%)	
18A-MTA KFKI	4,2	3,9	107% (107%)	
18B-BME	1,3	1,7	80% (42%)	
18C-MTA SZTAKI	4,6	1,3	341% (125%)	
19-TCD	6,5	5,7	114% (134%)	
20-IUCC	0,6	1,6	41% (87%)	
21A-INFN	16,3	22,7	72% (116%)	
21B-GARR	0	0,8	0% (0%)	
22-VU	1,2	1,4	91% (73%)	
23-RENAM	0,9	1,1	85% (74%)	
24-UOM	2,7	4,4	60% (13%)	
25-UKIM	6,2	4,4	140% (82%)	
26A-FOM	5,5	2,0	276% (78%)	
26B-SARA	1,6	7,8	21% (29%)	
27A-SIGMA	1.4	1,8	60% (0%)	
27B-UIO	0	1,8	0% (0%)	
27C-URA	0	1,4	0% (0%)	
28A-CYFRONET	10,4	6,8	153% (171%)	

28B-UWAR	0	0,5	0% (0%)	
28C-ICBP	1,2	1,1	108% (21%)	
28D-POLITECHNIKA WROCLAWSKA	0	1,2	0% (0%)	
29-LIP	7,8	6,5	120% (0%)	
30-IPB	7,3	7,2	102% (103%)	
31-ARNES	2,9	2,7	108% (0%)	
31B-JSI	3,7	3,2	115% (0%)	
32-UI SAV	4,0	5,8	69% (81%)	
33-TUBITAK ULAKBIM	7,2	8,0	90% (188%)	
34A-STFC	7,4	6,3	117% (184%)	
34C-UG	6,6	3,6	181% (188%)	
34D-IMPERIAL	6,1	3,6	169% (184%)	
34E-MANCHESTER	4,7	3,6	130% (132%)	
36-UCPH	0,9	5,1	18% (22%)	
38A-KTH	0,1	0,4	20% (20%)	
38B-LIU	1,4	1,9	75% (134%)	
38C-UMEA	2,6	2,8	90% (92%)	
39-IMCS-UL	1,7	3,1	56% (26%)	
40B-SINP MSU	0	1,3	0% (0%)	
40C-JINR	0	0,8	0% (0%)	
40D-RRCKI	0	0,8	0% (0%)	
40F-ITEP	0	0,8	0% (0%)	
40G-PNPI	0	0,8	0% (0%)	
51A-ICI	1,2	2,0	58% (63%)	
51C-UPB	0	0,8	0% (0%)	
51D-UVDT	0	0,6	0% (0%)	
51E-UTC	0,3	0,6	55% (0%)	
51H-INCAS	0	0,2	0% (0%)	

51J-UB	0,7	0,1	527%(0%)	
Total:	249,0	258,9	96% (84%)	

WP5-E - WP5 (SA2) - SA2 Provisioning Soft. Infrastr. (EGI)				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
1-EGI.EU	2,5	2,3	113% (19%)	
9-CESNET	6,5	6,7	97% (82%)	
10D-JUELICH	1,2	1,5	82% (15%)	
12A-CSIC	4,0	3,3	122% (46%)	
12B-FCTSG	0,1	1,1	13% (0%)	
16A-GRNET	1,1	3,5	33% (0%)	
16B-AUTH	0	0,8	0% (0%)	
16E-IASA	3,0	0,8	367% (309%)	
16F-ICCS	0	0,8	0% (0%)	
21A-INFN	1,8	2,9	60% (81%)	
29-LIP	0,9	4,4	20% (0%)	
36-UCPH	0	1,5	0% (0%)	
38B-LIU	1,4	1,5	90% (0%)	
41-NORDUNET	0	0,4	0% (0%)	
Total:	22,5	31,4	72% (40%)	

WP6-G - WP6 (SA3) - SA3 Sces for Heavy User Comm.				
	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
10G-FRAUNHOFER	0,4	2,3	18% (0%)	
12A-CSIC	1,9	2,3	84% (103%)	
12C-CIEMAT	2,3	1,5	154% (0%)	
13-CSC	1,7	1,5	110% (196%)	
14A-CNRS	1,2	4,5	26% (16%)	
14B-CEA	0	0,7	0% (0%)	
14C-HealthGrid	0	1,8	0% (94%)	
19-TCD	1,7	1,8	100% (100%)	
21A-INFN	0	5,0	0% (0%)	
21C-INAF	0	2,5	0% (0%)	
21D-UNIPG	1,1	0,8	144% (366%)	
21E-SPACI	0,9	2,3	39% (58%)	
28C-ICBP	0,1	0,5	11% (0%)	
31B-JSI	0,2	0,3	77% (0%)	
32-UI SAV	0,7	1,5	46% (52%)	
35-CERN	26,8	28,4	94% (77%)	
37-EMBL	0	3,7	0% (0%)	
Total:	38,9	61,0	64% (59%)	

WP7-E - WP7 (JRA1) - JRA1 Operational Tools (EGI)

	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
10B-KIT-G	1,8	2,9	61% (105%)	
12B-FCTSG	0,4	0,8	55% (188%)	
14A-CNRS	0,7	0,8	90% (85%)	
16A-GRNET	0	0,8	0% (0%)	
17-SRCE	0,2	0,8	30% (30%)	
21A-INFN	1,4	1,5	93% (190%)	
34A-STFC	1,4	1,5	93% (101%)	
35-CERN	0	0,8	0% (0%)	
Total:	5,9	9,7	61%	

WP7-G - WP7 (JRA1) - JRA1 Operational Tools

	Q2			
Partner	Worked PM Funded	Committed PM	Achieved PM % (PQ1)	
12B-FCTSG	0,3	0,3	118% (0%)	
14A-CNRS	3,3	3,6	94% (93%)	
17-SRCE	0,9	0,3	357% (357%)	
34A-STFC	0,3	0,3	101% (41%)	
35-CERN	1,1	0,5	219% (286%)	
Total:	5,9	4,8	122%	

6.2.4. Overall Financial Status

Below is a report of the financial status of the project, based on the effort figures reported via PPT, as listed in the previous section. A definition of the terms is listed below:

Cost average: based on the cost provided by the partners during the preparation of the budget; it includes the average of the gross salary, a lump sum to cover the travel costs and the overhead costs.

Eligible costs estimate: these are computed using the person months declared and the cost average of every partner; these costs will be reviewed in the annual report when the partners will be requested to prepare their cost statements based on the real costs registered in their account books.

Estimated funding: It is calculated from the eligible costs estimate on which has been applied the percentage rate of the funding applicable within the task grouping activity defined in the Annex I. Three groups have been identified:

- the NGI International tasks are being funded 33% by the Commission and 67% by the project partner
- the General tasks are funded 40% by the Commission and 60% by the project partner
- the EGI Global tasks are funded 25% by the Commission, 25% by EGI.eu foundation and 50% by the project partner.

As a distinct activity resulting from the daily project management, the management tasks are 100% refunded by the Commission. The funding to each partner from the European Commission is detailed in a separate confidential document.

	Q2				
Partner	Worked PM Funded	Committed PM	Achieved PM	Eligible Cost Estimate	Estimated Funding
1-EGI.EU	44,0	56,4	78%	390.975	233.362
2-UPT	0	4,5	0%	0	0
3-IIAP NAS RA	0	1,6	0%	0	0
5A-IPP-BAS	2,7	7,8	35%	16.444	5.427
5B-IOCWCP-BA	0	0	#DIV/0	0	0
5C-GPhI	0,4	0,5	83%	2.519	831
6-UIIP NASB	3,8	1,7	220%	14.482	4.779
7A-ETH ZURICH	1,5	2,4	62%	12.631	4.168
7B-UZH	0,6	1,6	39%	4.451	1.469
7C-SWITCH	2,3	2,4	98%	32.648	10.774
8-UCY	3,0	4,0	74%	25.604	8.449
9-CESNET	16,2	16,8	97%	120.677	48.053

Partner	Worked PM Funded	Committed PM	Achieved PM	Eligible Cost Estimate	Estimated Funding
10B-KIT-G	18,6	19,0	98%	165.862	62.310
10C-DESY	2,7	2,2	121%	23.576	7.780
10D-JUELICH	2,8	3,3	86%	25.211	10.184
10E-BADW	1,0	3,0	32%	8.453	2.790
10G-FRAUNHOFER	2,8	4,3	66%	24.956	8.492
10H-LUH	0,2	1,6	14%	2.073	684
11-UOBL ETF	2,6	4,5	57%	10.491	3.462
12A-CSIC	13,4	11,6	116%	105.150	43.278
12B-FCTSG	6,8	7,2	96%	53.482	20.555
12C-CIEMAT	4,4	3,9	113%	34.302	12.581
12D-UPVLC	3,3	4,0	83%	25.900	8.547
12E-IFAE	3,3	2,9	114%	25.521	8.422
12F-RED.ES	6,2	3,3	192%	48.791	16.101
12G-UNIZAR-I3A	8,4	3,3	258%	65.554	21.633
12H-UAB	4,0	2,5	160%	31.276	10.321
13-CSC	9,2	9,5	97%	95.253	35.157
14A-CNRS	36,9	27,8	133%	319.036	110.062
14B-CEA	6,4	5,4	119%	55.260	18.236
14C-HealthGrid	4,3	3,1	139%	36.768	12.134
15-GRENA	0,5	1,6	34%	1.318	435
16A-GRNET	2,5	18,2	14%	19.399	7.905
16B-AUTH	0	1,6	0%	0	0
16C-CTI	0	0,8	0%	0	0
16D-FORTH	0	0,8	0%	0	0
16E-IASA	10,0	1,6	614%	77.191	36.463
16F-ICCS	0	0,8	0%	0	0
16G-UI	0	0,5	0%	0	0
16H-UP	0	0,6	0%	0	0
17-SRCE	7,3	6,2	118%	36.309	13.480
18A-MTA KFKI	4,9	4,5	109%	19.040	6.283
18B-BME	3,0	2,3	127%	16.363	5.400
18C-MTA SZTAKI	6,7	2,3	287%	40.788	13.460

19-TCD	9,5	8,7	109%	92.058	31.565
20-IUCC	1,6	2,6	60%	20.190	6.663

Partner	Worked PM Funded	Committed PM	Achieved PM	Eligible Cost Estimate	Estimated Funding
21A-INFN	23,4	38,2	61%	172.283	62.671
21B-GARR	1,9	1,5	129%	14.297	7.149
21C-INAF	0	2,5	0%	0	0
21D-UNIPG	1,1	0,8	144%	7.956	3.182
21E-SPACI	0,9	2,3	39%	6.494	2.597
22-VU	2,7	3,6	75%	22.680	7.484
23-RENAM	1,7	1,7	102%	5.057	1.669
24-UOM	2,7	4,4	60%	6.401	2.112
25-UKIM	6,2	4,4	140%	24.800	8.184
26A-FOM	9,7	3,5	278%	99.456	40.106
26B-SARA	4,0	9,8	41%	40.942	17.204
27A-SIGMA	1.2	3,0	40%	11.864	3.915
27B-UIO	0	2,2	0%	0	0
27C-URA	0	1,9	0%	0	0
28A-CYFRONET	13,3	9,5	141%	114.263	39.690
28B-UWAR	0	1,6	0%	0	0
28C-ICBP	1,7	2,5	69%	14.709	4.888
28D-POLITECHNIKA WROCLAWSKA	0	1,2	0%	0	0
29-LIP	13,1	15,2	86%	71.554	26.167
30-IPB	9,2	9,0	102%	49.971	16.490
31-ARNES	4,6	4,5	103%	27.829	9.184
31B-JSI	5,0	4,6	109%	29.756	9.900
32-UI SAV	7,3	10,2	72%	58.714	19.759
33-TUBITAK ULAKBIM	10,2	11,2	91%	71.657	23.647
34A-STFC	20,1	16,3	123%	206.173	83.886
34B-UE	2,0	1,4	138%	20.308	10.154
34C-UG	6,6	3,9	169%	67.382	22.236
34D-IMPERIAL	6,1	3,9	158%	62.852	20.741
34E-MANCHESTER	4,7	3,9	122%	48.400	15.972
35-CERN	33,6	33,9	99%	483.376	204.352

36-UCPH	0,9	8,6	11%	10.094	3.331
37-EMBL	0	3,7	0%	0	0
38A-KTH	1,8	2,9	62%	20.338	10.025
	Q2				
Partner	Worked PM Funded	Committed PM	Achieved PM	Eligible Cost Estimate	Estimated Funding
38B-LIU	2,8	3,4	82%	31.608	13.067
38C-UMEA	2,6	2,8	90%	29.320	9.676
39-IMCS-UL	2,0	4,5	44%	15.400	5.082
40A-E-ARENA	0	1,3	0%	0	0
40B-SINP MSU	0	1,3	0%	0	0
40C-JINR	0	0,8	0%	0	0
40D-RRCKI	0	0,8	0%	0	0
40F-ITEP	0	0,8	0%	0	0
40G-PNPI	0	0,8	0%	0	0
41-NORDUNET	0	0,4	0%	0	0
51A-ICI	1,2	2,0	58%	7.136	2.355
51C-UPB	0	0,8	0%	0	0
51D-UVDT	0	0,6	0%	0	0
51E-UTC	0,3	0,6	55%	1.884	622
51H-INCAS	0	0,2	0%	0	0
51J-UB	0,7	0,1	527%	4.009	1.323
Total:	461,7	523,5	88%	3.947.099	1.556.596*

* this total includes 237462€ which are being granted by the EGI.eu as direct contribution to the global tasks performed in the project

6.3. ISSUES AND MITIGATION

The staffing issues reported with EGI.eu in PQ1 have been essentially mitigated. New staff came into place in PQ2 and further recruitment was initiated for staff to come into place during PQ3. PQ2 identified the need for additional administrative support (particularly financial support) and plans are being put in place to deal with this issue.

6.3.1. Issue 1: Inactive partners

As detailed earlier the large number of inactive partners remains a concern. This is particularly focused in missing NGI International effort – the work undertaken by partners to integrate their resources into the European infrastructure. Staff working on the EGI Global tasks – services provided by one partner for the benefit of all – are mostly in place and active.

6.4. PLANS FOR THE NEXT PERIOD

Activity within the project office enters into routine operation of administering and supervising the activity in the project.

7. PROJECT METRICS

7.1. OVERALL METRICS

The following activity metrics are aligned against the project's objectives.

Project Objectives	Objective Summary	Metrics	Target Year 1[1]	PQ1	PQ2
PO1	Expansion of a nationally based production infrastructure	Number of production resources in EGI (M.SA1.Size.1)	300	341	337
		Number of job slots available in EGI (M.SA1.Size.2)-Integrated	300 000	277 193	296 588
		Number of job slots available in EGI (M.SA1.Size.2)-Project	200 000	184 844	197 777
		Reliability of core middleware services (M.SA1.Operation.5)	90%	93.3%	90.7%
PO2	Support of European researchers and international collaborators through VRCs	MoUs with VRCs (M.NA2.11)	5	0	0
		Number of papers from EGI Users (M.NA2.5)	50	25	25
		Number of jobs done a day (M.SA1.Usage.1)	500 000	834 746	871 073
PO3	Sustainable support for Heavy User Communities	Number of sites with MPI (M.SA1.Integration.2)	50	NA	73
		Number of users from HUC VOs (M.SA1.Size.7)	5000		
PO4	Addition of new User Communities	Number of desktop resource (M.SA1.Integration.3)	0	NA	0
		Number of users from non-HUC VOs[2] (From M.NA3.12)	500	3542 Computer Science and Mathematics (24); Multidisciplinary (1682); Other (1836)	3749 Computer Science and Mathematics (28); Multidisciplinary (1850); Other (1871)
		Public events organised (M.NA2.6)	1500	TBC	TBC
PO5	Transparent integration of other infrastructures	MoUs with resource providers (M.NA2.10)	3	0	0

[1] Year 1: April 2010 –April 2011

[2] Non-HUC VOs cover the following disciplines: Computer Science and Mathematics, Multidisciplinary, Other. The disciplines are defined in the Operations Portal

PO6	Integration of new technologies and resources	MoUs with Technology providers (M.NA2.9) Number of HPC resources (M.SA1.Integration.1) Number of virtualised resources (M.SA1.Integration.4)	2 1 0	0 NA NA	0 55 246.2

7.2. ACTIVITY METRICS

7.2.1. NA2

Metric	Number	Comments/Explanation of the metric
Press releases issued	1	Issued to local Dutch media and EGI media contacts
Number of media contacts following press releases	3	Web Wereld, iSGTW, Tweakers.net
Press cuttings relating to EGI, EGI.eu, EGI-InSPIRE or your NGI.	27	Of which 19 were about EC funding to EGI-InSPIRE
Interviews given to media organisations	3	iSGTW + WebWereld
Scientific papers	0	
Public events organised by NGI teams	1	One press conference organised
Events with EGI/NGI presence (stand, presentation, or literature)	4	
Number of project newsletters issued	1	Inspired Summer 2010
Number of unique visitors per month on your main project website(s)	3609	Unique visitors per month (up 85% from Q1)

7.2.2. NA3

Metric ID (Scope)	Metric	Public / Internal	PQ1	PQ2
M.NA3.1	Number of GGUS tickets CREATED (grouped by submitting community – where available)	P	2416	2729
M.NA3.2	Number of GGUS tickets CREATED & SOLVED per user Support Unit (NGIs & EGI.eu)	P	0	0[1]
M.NA3.3	Number of GGUS tickets CREATED by users and SOLVED by EGI.eu	P	0	0[2]
M.NA3.4	Time to resolve tickets:	P		

	Average time Median time		14.8 11.8	7.5 4.9
M.NA3.5	Uptime of User Support websites: Training Application Database VO Support Services	P	 99% 99% n.a.	 99% 99% n.a.[3]
M.NA3.6	Visitors to User Support websites: Training Application Database VO Support Services	P	 n.a. 4171 n.a.	 2832 185 n.a.
M.NA3.7	Number of VO Support Services: Evaluated Supported Offered as service	P	 7 1 0	 12 1 0
M.NA3.8	Number of Applications in the AppDB Applications Tools Personal profiles	P	 249 20 494	 249 20 494
M.NA3.9	Number of Trainers in the Trainers database	P	57	57
M.NA3.10	Number of Training Days delivered through NGI Training events	P	11	28
M.NA3.11	Number of: New/decommissioned VOs Low/Medium/High Activity VOs international VOs	P	 10/0 13/23/27 85	 10/1 19/20/28 89
M.NA3.12	Number of users (grouped by community and VO)	P	12,409: HEP 4799 Infrastructure 2438 LS 573 CC 429 AA 353 ES 269 Computer Science and Mathematics 24 Fusion 6 Multidisciplinar	13,209 HEP 5137 Infrastructure 2494 LS 571 CC 449 AA 308 ES 269 Computer Science and Mathematics 28 Fusion 9 Multidisciplinar

			y 1682 Others 1836	y 1850 Others 1871

1 User Support Team Unit was not available in GGUS during these periods.

2 User Community Support Team unit was not available in GGUS during these periods.

3 The team still in the evaluation phase of VO support tools and does not operate tools yet.

7.2.3. SA1

SA1 Task	Metric name	Metric description	PQ1	PQ2
TSA1.1	M.SA1.Size.1	Total number of production resource centres that are part of the EGI	341	337
TSA1.2	M.SA1.OperationalSecurity.1	Number of Site Security Challenge (SSC) made	0	13
	M.SA1.OperationalSecurity.2	Number of Sites passing one Service Challenge	0	100%
	M.SA1.OperationalSecurity.3	Number of suspended sites for security issues	0	0
TSA1.3	M.SA1.ServiceValidation.1	Total number of staged rollout components operated per NGI	27 (for 34 overall components)	30 (for 34 overall components)
	M.SA1.ServiceValidation.2	Number of staged rollout releases undertaken & rejected	0	3
TSA1.5	MSA1.Accounting.1	Number of sites adopting AMQ messaging for Usage Record publication	NA	62
TSA1.7	M.SA1.Support.7	COD Workload per month	May: 886 June: 188 July: 1742	Aug: 652 Sep: 591 Oct: 487
	M.SA1.Support.8	ROD Workload per month per region/NGI	May: 4535 June: 1532 July: 4277	Aug: 2622 Sep: 2733 Oct: 1944

SA1 Task	Metric name	Metric description	PQ1	PQ2
	M.SA1.Support.9	ROD Quality Metrics per month per region/NGI	May: 0.84 June: 0.81 July: 0.89	Aug: 0.86 Sep: 0.89 Oct: 0.9
TSA1.8	M.SA1.Operation.2	Number of sites suspended	No sites suspended by COD	6 (3 sites for July, 1 site for August and 2 sites for September)

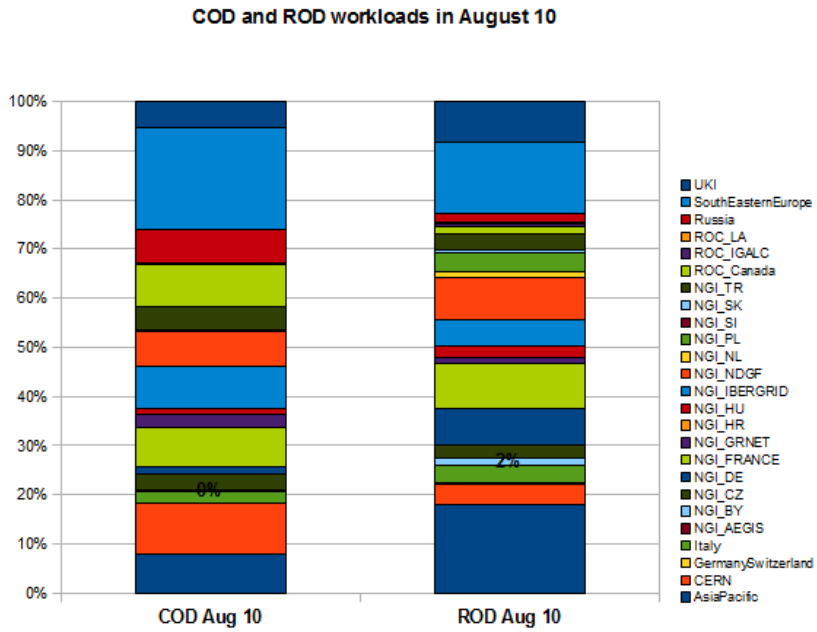

Figure 1: COD and ROD workload August 2010

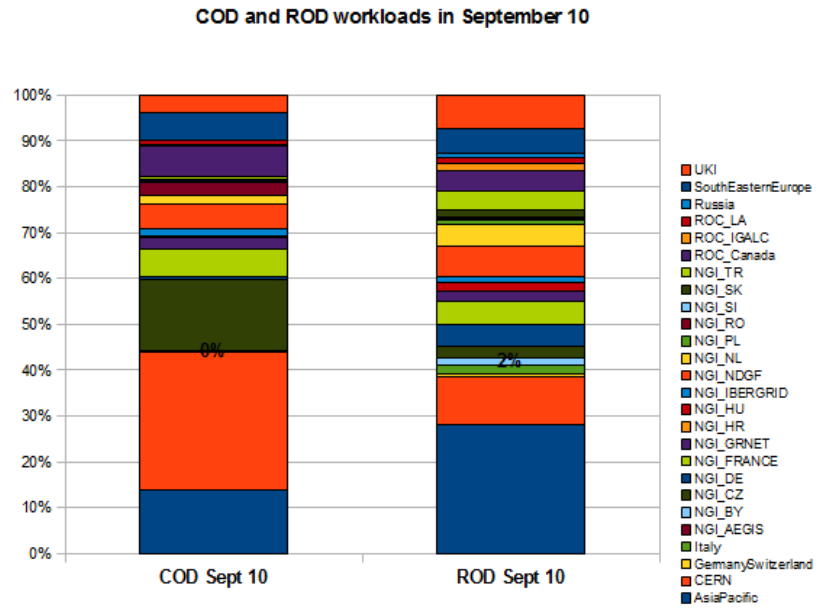

Figure 2: COD and ROD workload September 2010

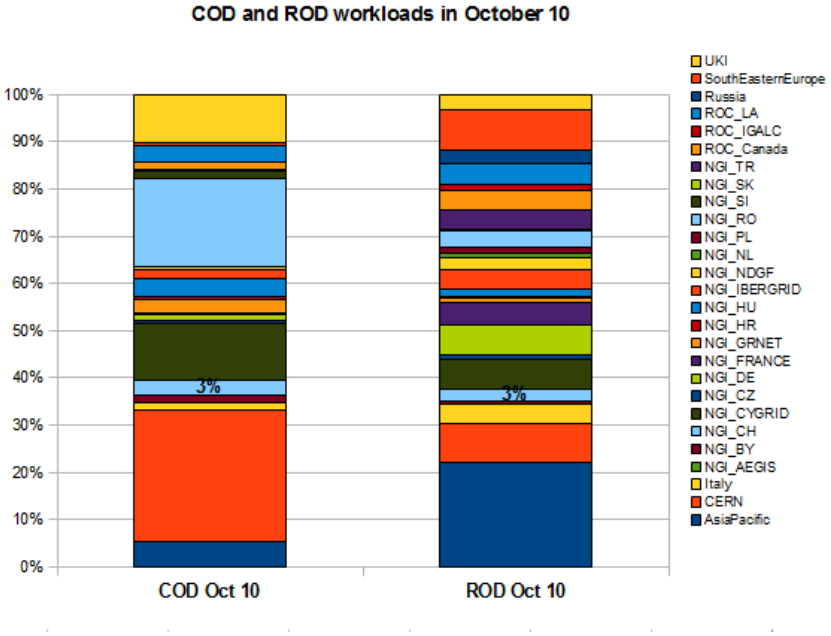

Figure 3: COD and ROD workload October 2010

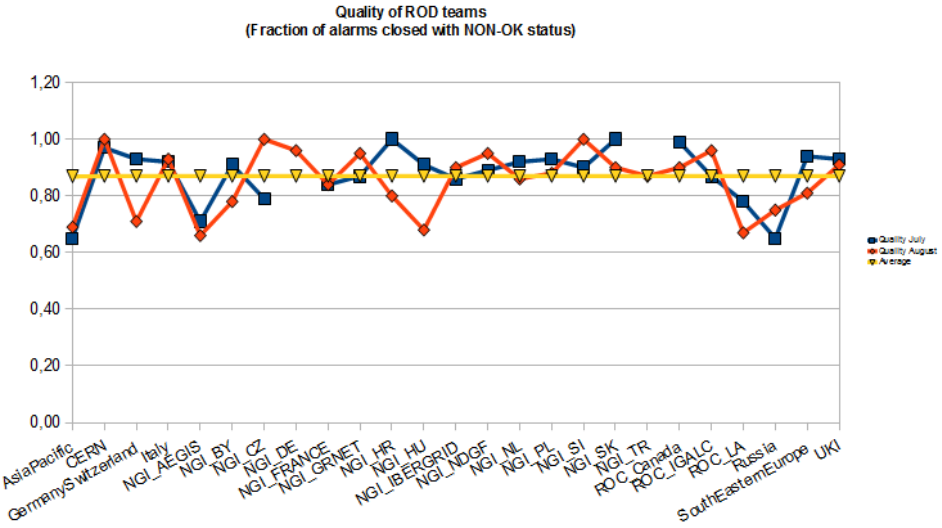

Figure 4: ROD team quality July and August 2010

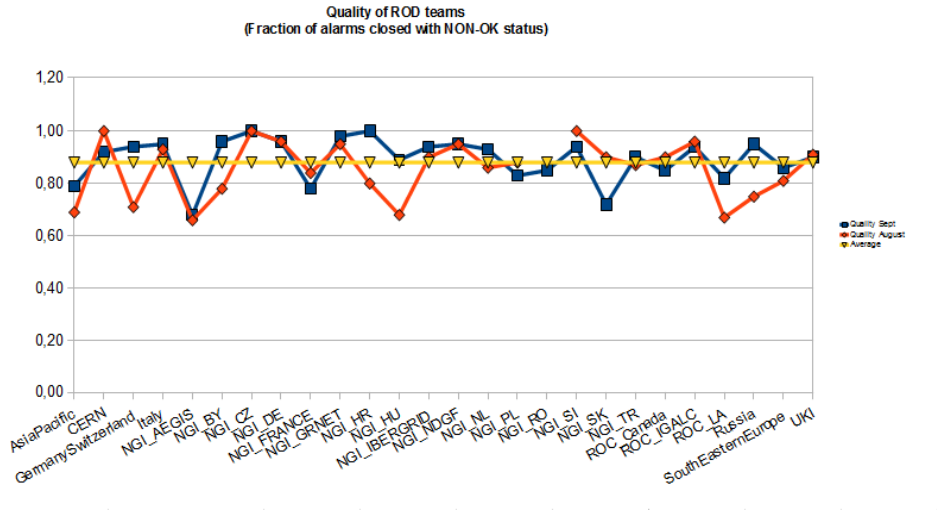

Figure 5: ROD team quality August and September 2010

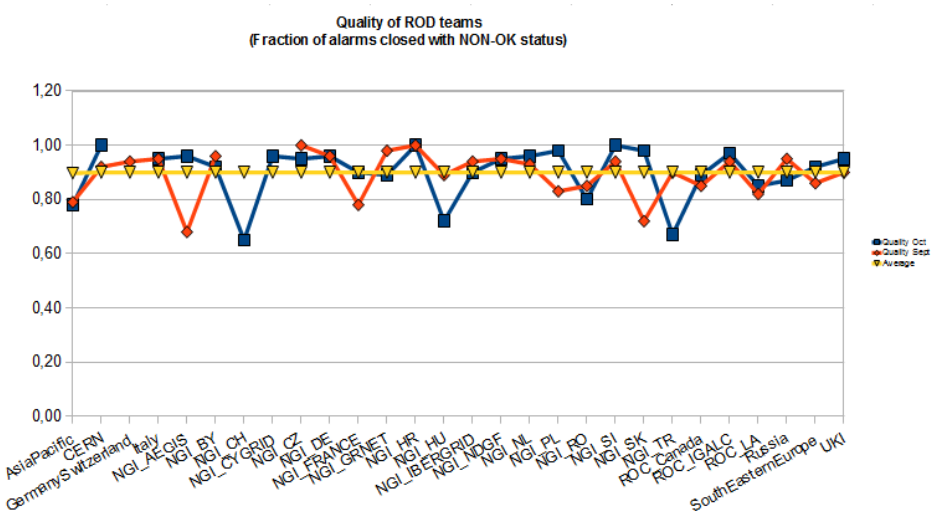

Figure 6: ROD team quality September and October 2010

7.2.4. SA2

Metric ID	Metric	PQ1	PQ2	Comments/Explanation
M.SA2.1	Number of software components recorded in the UMD Roadmap	0	0	SLAs not signet yet hence no formal commitment by TP for components. Informal commitments are available and will be integrated into the next UMD Roadmap release at the end of Q3.
M.SA2.2	Number of UMD Roadmap Capabilities defined through validation criteria	0	6	50% of the UMD capabilities that are not waiting for input from the community are defined.
M.SA2.3	Number of software incidents found in production that result in changes to quality criteria	0	1	One incident caused to add one new quality criterion checking for world writable files.
M.SA2.4	Number of new releases validated against defined criteria	0	1	
M.SA2.5	Mean time taken to validate a release	n/a	4 hrs	
M.SA2.6	Number of releases failing validation	n/a	0	

Metric ID	Metric	PQ1	PQ2	Comments/Explanation
M.SA2.7	Number of new releases contributed into the Software Repository from all types of software providers	0	1	
M.SA2.8	Number of unique visitors to the Software Repository	0	507	
M.SA2.9	Number of releases downloaded from the Software Repository	0	0	
M.SA2.10	Number of tickets assigned to DMSU	2	8	Need to collect
M.SA2.11	Mean time to resolve DMSU tickets	3 days	2 days	Need to collect

7.2.5. SA3

Metric ID	Metric	PQ1	PQ2	Comments
M.SA3.1	Number of VOs deploying their own dashboard instance/view	4	4	-
M.SA3.2	Number of users of deployed dashboard instances	Up to 8100	Up to 8700	Unique IP addresses
M.SA3.3	Number of unique users of GANGA	839	756	
M.SA3.4	Number of unique users of DIANE	17	14	
M.SA3.5	Number of sites using GANGA	87	81	
M.SA3.6	Number of sites using DIANE	12	9	# user domains
M.SA3.7	Number of users of GReIC	75	75	
M.SA3.8	Number of users of Hydra	0	0	Service not yet delivered
M.SA3.9	Number of users of SOMA2	30	33	Current SOMA2 service is "restricted" to CSC users
M.SA3.10	Number of users using Taverna to access EGI resources			
M.SA3.11	Number of users using RAS			
M.SA3.12	Number of users using MD			

Metric ID	Metric	PQ1	PQ2	Comments
M.SA3.13	Number of users using Gridway			
M.SA3.14	Number of MPI support tickets	0	0	
M.SA3.15	Mean time to resolve MPI support tickets	N/A	N/A	
M.SA3.16	Number of HEP VO support tickets	973	1015	Sum of ALICE, ATLAS, CMS and LHCb
M.SA3.17	Mean time to resolution of HEP VO support tickets	246:02	182:26	HHH:MM
M.SA3.18	Number of Life Science Users of provided services	8	13	# people in biomed technical team
M.SA3.19	Number of databases integrated and/or accessible from EGI resources.			
M.SA3.20	Number of unique users of VisIVO			
M.SA3.21	Number of data sets accessible from EGI resources			

7.2.6. JRA1

Metric ID	Metric	Comments / Explanation	*PQ2*
M.JRA1.1	Number of software release	*2nagios* *1gocdb* *1opsportal* *2ggus*	*6*
M.JRA1.2	Number of software issues reported with deployed operational tools	*4 ops portal/dashboard* *9 gocdb* *2 ggus* *2 accaunting portal* *0 metrics portal* *5 acc repository* *11 SAM (10 type bug affecting Update3x after Aug, 3rd + 1 for Update4 after Sept 8th)*	*33*

		All previous bugs are detected in production but not critical. *No blocking or critical bug found in production*	
M.JRA1.3	Mean time to release for critical issues reported in production	*No blocking or critical issue found on production deployed software in the quarter* *(1 critical bug for SAM but found during staged rollout on Update 4 Sept. 3rd)*	*0*
M.JRA1.4	Number of approved (by OTAG) enhancement requests	*OTAG work will start in PQ3 (16th November)*	*0*
M.JRA1.5	Mean time from approval to release for approved enhancement requests	*See M.JRA1.4 comment*	*NA*
M.JRA1.6	Number of operational tool instances deployed regionally	*15 NGI level NAGIOS* *10 ROC level NAGIOS* *(https://twiki.cern.ch/twiki/bin/view/EGEE/ExternalROCNagios)* *3 regional operational dashboard: NGI_CZ, NGI_IBERGRID, NGI_Greece*	*28*
M.JRA1.7	Number of different resources that can be accounted for in EGI	*TJRA1.4 will start in PY2*	*0NA*

8. ANNEX A1: DISSEMINATION AND USE

8.1. MAIN PROJECT AND ACTIVITY MEETINGS

Date	Location	Title	Participants	Outcome (Short report & Indico URL)
13/9/2010	Amsterdam	NA3 (sub-) task leaders' F2F Meeting	10	Workplans for TNA3.4 services. https://www.egi.eu/indico/conferenceDisplay.py?confId=121
14-17/09/10	Amsterdam	EGI Technical Forum 2010		http://www.egi.eu/EGITF2010
29/09/2010	Zurich, Switzerland	Swiss EGI.eu InSPIRE meeting		Clarification of questions concerning the start of NGI_CH
25-27 /10/2010	Brussels (Belgium)	OGF30		SA3: Remote instrumentation and workflows standardization activities http://www.ogf.org/gf/event_schedule/index.php?id=2126
26/10/10	CPPM-Marseille (France)	Geospatial components on gLite (G-OWS)		SA3: Tutorial to use OGC components Presentation of the CYCLOPS applications; fire(Italy), flash flood (France) Decision to implement the geospatial service for one application to start
27/10/10	CPPM-Marseille (France)	DIRAC		SA3: Tutorial to use DIRAC in ES Decision to organize a technical meeting in December or January to discuss the potentiality of DIRAC and how to add new services

8.2. CONFERENCES/WORKSHOPS ORGANISED

Date	Location	Title	Participants	Outcome (Short report & Indico URL)
06/08/2010	Institute of Physics Belgrade	AEGIS04-KG team visits IPB	10	SCL's Dusan Vudragovic and Vladimir Slavnic informed the guests from Kragujevac about EGEE to EGI transition and about plans for gLite-3.1 with gLite-3.2 middleware upgrade. http://www.scl.rs/index.php?id=638
26-28/08/2010	Cluj-Napoca, Romania	HiperGRID		http://www.iccp.ro/technical-program.html http://hipergrid.grid.pub.ro/
6-10/9/2010	Karlsruhe, Germany	GridKa School		http://gridka-school.scc.kit.edu/index.php

20-21/09/2010	Catania, Italy	International Workshop on Science Gateways (IWSG2010)	20	Scientists from different scientific domains with science gateways developers discussed problems and solutions in the area. New issues were identified, ideas were exchanged towards the adoption of science gateways in e-Science. http://agenda.ct.infn.it/conferenceDisplay.py?confId=347
23-26/09/2010	Timisoara, Romania	SYNASC 2010 (Distributed Computing track)		http://synasc10.info.uvt.ro
27-29/09/10	LMU, Munich	Ganga Developers Workshop	J.T.Moscicki D. Van der Ster	Main topics: recent and future developments, identification of areas of priority support, streamlining of the code base, improvement of general organization of the project and release process and strengthening of integration of the geographically distributed team of developers and partners. http://indico.cern.ch/conferenceTimeTable.py?confId=94195#20100927
30/09/10	University of Helwan, Egypt	Grid day	CNRS GCRAS NARSS & CMS Grid (LRR-France), EuMedGrid-EUN	Information for students and professors of the University. It is to make them aware of the internet and Grid & HPC compute resources available in Egypt, and of the European projects in which Egypt is involved in those domain. EGI was presented and also applications of interest for them CMS and ES on EGEE http://www.spaceweather-eg.org/sws/training.php
12 /10/10	LYON	Regional Monitoring	20	Forum on Good Practices http://indico.in2p3.fr/conferenceDisplay.py?confId=4131
11-13/10/2010	Cracow	Cracow Grid workshop	107	http://www.cyfronet.krakow.pl/cgw10/
13-14.10.2020	Lyon (France)	Atelier France Grilles - Operations		CNRS: http://indico.in2p3.fr/conferenceDisplay.py?confId=4130
15/10/2010	Prague, Czech Republic	Grid Computing Seminar 2010	71	The seminar was held as the regular annual Czech NGI event. More details are available online at http://metavo.metacentrum.cz/en/seminars/seminar3/index.html

25-29/10/2010	Tbilisi, Georgia	First ATLAS-South Caucasus Software / Computing Workshop & Tutorial	36	http://www.cern.ch/dmu-atlas/2010

8.3. OTHER CONFERENCES/WORKSHOPS ATTENDED

Date	Location	Title	Participants	Outcome (Short report & Document Server URL to presentations made)
13/8/2010	Geneva, Switzerland	DCI Collaborative Roadmap		https://documents.egi.eu/document/172
25-26/8/2010	Cumbria, UK	GridPP 25	6	http://www.gridpp.ac.uk/gridpp25/
30/8/2010	Napels, Italy	CoreGrid workshop		http://www2.besc.ac.uk/coregrid
2/9/2010	Copenhagen	NDGF CERN subcommitee		Discussion of technical, operational and political issues relevant to the Nordic WLCG effort and users.
9/9/2010	Paris	SAB meeting		
10/9/2010	EVO	StratusLab Demo		Demo of MPI code on grid sites installed using StratusLab ONE framework. http://indico.lal.in2p3.fr/conferenceDisplay.py?confId=1203 Attended remotely via EVO.
12-19/9/2010	Batumi, Georgia	Georgian Mathematical Union First International Conference		http://www.rmi.acnet.ge/~gmu/E_1_Annual.htm
13/9/2010	Karlsruhe, Germany	GridKa School	1	New AEGIS01-IPB-SCL/AEGIS07-IPB-ATLAS Grid site administrator participated in this years GridKa School. More information: http://www.scl.rs/index.php?id=650
13-16/9/2010	Cardiff, UK	UK All Hands Meeting	3	http://www.allhands.org.uk/
22/9/2010	Rome, Italy	DECIDE project launch, panel participation		http://www.eu-decide.eu/agenda.html

20-22/9/2010	Zagreb, HR	20th EU Grid PMA	~25 (The European CA managers and the various relying parties)	STFC: Good progress was made on various identity management policies and the standard accreditation and audit business of the PMA. Kelsey led the session on the development of a new Authorisation Profile to specify standards and best practice for attribute authorities, e.g. VOMS servers. FOM: Updates to and endorsement of selection authentication profiles consolidating short-lived and federated identity management support. Groep got re-elected as chair. Discussed both policy and technical items relating to the extension and consolidation of the trust fabric in the wake of new technical developments. http://www.eugridpma.org/meetings/2010-09/
23/9/2010	Kysak, Slovensko	CZ-SK Collider Workshop		
24/9/2010	Paris, France	Inauguration officielle du GIS France Grille		CNRS: Agenda : http://indico.in2p3.fr/conferenceDisplay.py?confId=4092 Pressbook : http://www.france-grilles.fr/IMG/pdf/DossierPresseFranceGrilles24sep.pdf
27-29/9/2010	Brussels, Belgium	ICT 2010	6,000	EGI_InSPIRE shared a booth with 11 FP7 funded projects, including EUAsiaGrid, EUMedGridSupport and e-ScienceTalk. The booth focused on using grids to investigate climate change and featured demos of the Mean Shift Smoothie tool. The team distributed a CD containing brochures and leaflets, GridBriefings and ran a prize draw to win a branded weather station, as well as participating in the DANTE trail. http://ec.europa.eu/information_society/events/ict/2010/index_en.htm
30/9/2010	Rome, Italy	NSF/EC meeting		https://documents.egi.eu/document/287

4-7/10/2010	Lubbock, Texas, USA	Symposium on Authentication Technologies for Education and Research and TAGPMA meeting	~25 The American CA managers and relying parties)	STFC: Good progress made on identity management policies and the standard business of TAGPMA. US communities now aware of the SPG work and people invited to contribute to our work. FOM: Presentation of EGI.eu and the relationship EGI.eu has with the IGTF. Presented also technical interoperability issues in the wake of new technology and new middleware. (http://indico.rnp.br/conferenceDisplay.py?confId=85)
5/10/2010	Geneva	ROC_LA workshop		http://www.roc-la.org/home/index.php?option=com_content&view=article&id=60&Itemid=66 https://documents.egi.eu/document/293
6/10/2010	Lyon	Computing and Astroparticle Physics		http://indico.in2p3.fr/conferenceDisplay.py?confId=3845 https://documents.egi.eu/document/288
5-7/10/2010	Vilnius Riga Tallin	Baltic NGI dissemination		
10/10/2010	Krakow, Poland	Krakow Grid Workshop		https://documents.egi.eu/document/289
11/10/2010-13/10/2010	Didcot, UK	10th Quattor Workshop	2	https://trac.lal.in2p3.fr/Quattor/wiki/Meetings/20101011. Attended remotely via EVO.
13-14/10/2010	Brussels, Belgium	e-IRG workshop	~40	http://www.e-irg.eu/e-irg-workshop-brussels-13-14-october.html
13-14/10/2010	Lyon (France)	Atelier France Grilles - Operations		http://indico.in2p3.fr/conferenceDisplay.py?confId=4130 https://documents.egi.eu/document/292
13/10/2010	Geneva	10th Annual Global LambdaGrid workshop		https://documents.egi.eu/document/290
14-15/10/2010	Helsinki, Finland	Joint DEISA/PRACE Security Workshop	~35 (the various HPC security experts from many different sites)	STFC: Kelsey presented the work of SPG and very constructive discussions were had as to how to collaborate in future. The intention is to build on previous successful collaboration and to include more security policies in the common set in future. (agenda and presentations private to members)

20/10/2010	Vienna	SDh/NEERI Conference		http://www.dariah.eu/index.php?option=com_content&view=article&id=142:sdh-neeri-conference-october-19-21-2010-vienna&catid=3:dariah&Itemid=197
18-22/10/2010	Taipei (Taiwan)	Computing in High Energy Physics	~500	http://indico2.twgrid.org/conferenceTimeTable.py?confId=3
21/10/2010	Brussels	ENVRI ESFRI Event		
25-28/10/2010	Brussels, Belgium	OGF30	~230	FOM: cloud and grid security standards review, and discussion on how to extend 'cloud' security to use interoperable trust fabrics such as the IGTF used by EGI. Review of auditing and technical standards related to the increased stability and trustworthiness of the authorities for use in EGI and elsewhere. http://www.ogf.org/gf/event_schedule/materials.php?event_id=17 https://documents.egi.eu/document/291
27-29/10/2010	Warsaw, Poland	e-Challenges 2010	250	EGI hosted a stand in Exhibition area. The team distributed a score of EGI brochures and GridBriefings to the dozens of visitors who stopped by the stand. CG gave a presentation on EGI in the e-Infrastructures parallel session http://www.echallenges.org/e2010/ https://documents.egi.eu/document/285

8.4. PUBLICATIONS

Publication title	Journal / Proceedings title	Journal references Volume number Issue Pages from - to	Authors 1. 2. 3. Et al?
A Grid Portal with Robot Certificates for Bioinformatics Phylogenetic Analyses	CONCURRENCY AND COMPUTATION: PRACTICE AND EXPERIENCE	IWPLS 2009 special issue. (in progress)	R. Barbera, G. Andronico, G. Donvito, A. Falzone, J. J. Keijser, G. La Rocca, L. Milanesi, G. P. Maggi and S. Vicario.
A "lightweight" Crypto Library for supporting a new Advanced Grid Authentication Process with Smart Card	Proceedings of the International Workshop on Science Gateways (IWSG2010)	(in progress)	R. Barbera, V. Ciaschini, A. Falzone and G. La Rocca
AEGIS Grid Infrastructure	EGITF2010 Book of Abstracts	4	1. A. Balaz 2. D. Vudragovic 3. V. Slavnic 4. A. Belic
Range and Sensitivities of 2-[(Carboxymethyl)sulfanyl]-4-oxo-4-arylbutanoic Acids Property Spaces. Part 2. Multidimensional Free Energy Landscapes	Abstract Book of 18th European Symposium on Quantitative Structure-Activity Relationships	278	1. B. J. Drakulic 2. A. Pedrretti 3. M. Zloh 4. V. Slavnic 5. I. O. Juranic 6. M. M. Dabovic
MD-GRID NGI: Current State and Perspectives of Grid Technologies Development in Moldova (MD-GRID NGI: современное состояние и перспективы развития Grid-технологий в Молдове)	Distributed Computing and Grid-Technologies in Science and Education. Proceedings of the Third International conference. Dubna, June 28-July 3, 2010, Dubna, JINR, 2010	Dubna, June 28-July 3, 2010, Dubna, JINR, 2010, pp. 173-174	G.V. Secrieru, P.P. Bogatencov, A.A. Altuhov, E.V. Vasincova
Efficient resubmission strategies to design robust grid production environments	Proceedings of the IEEE e-Science (e-Science)	Brisbane, Australia, 7-10 December 2010	Diane Lingrand, Johan Montagnat

Publication title	Journal / Proceedings title	Journal references Volume number Issue Pages from - to	Authors 1. 2. 3. Et al?
A roadmap for a dedicated Earth Science Grid platform	Earth Science Informatics	Vol 3, 3, 135-148, 2010 DOI: 10.1007/s12145-010-0045-4, 2010	Roberto Cossu, Monique Petitdidier, Julian Linford, Vincent Badoux Luigi Fusco, B. Gotab L. Hluchy, G. Lecca, F. Murgia, C. Plevier, P. Renard, H. Schwichtenberg, W. Som de Cerff, V. tran, G. Vetois
A Grid-Enabled Regional-Scale Ensemble Forecasting System in the Mediterranean Area	Journal of Grid computing EGEE-special issue	Vol 8, 2 181-197, 2010	Kostas Lagouvardos Evangelos Floros Vassiliki Kotroni
Grid computing for atmospheric composition studies in Bulgaria	Earth Science informatics	Vol 3, 4, 2010 DOI10.1007/s12145-010-0072-1 On-line but not yet Page numbers	Angelina Todorova, Dimiter Syrakov, Georgi Gadjhev, Georgi Georgiev and Kostadin G. Ganev, et al.
PL-Grid enhancement for NGI tools	CGW'10 Proceedings		M. Radecki W. Ziajka M.Pawlik T. Szymocha M. Szelc, L.Flis, M. Tomanek, T. Szepieniec

Publication title	Journal / Proceedings title	Journal references Volume number Issue Pages from - to	Authors 1. 2. 3. Et al?
Operations in PL-Grid	CGW'10 Proceedings		M.Radecki, T.Szepieniec, M. Krakowian T. Szymocha, M.Zdybek, D.Harezlak, J. Andrzejewski
Towards Service Level Management in PL-Grid	CGW'10 Proceedings		T.Szepieniec, M.Tomanek, M.Radecki, M. Bubak
Gathering Entropy from the Grid with GridHAVEGE	ICCP 2010 Proceedings IEEE 6th International Conference on Intelligent Computer Communication and Processing	ISBN: 978-1-4244-8229-0, Pages 459-463	Alin Suciu, Kinga Marton, Emil Cebuc, Vasile Dadarlat, Gheorghe Sebestyen
Grid Infrastructure Development as Support for e-Science Services	WSEAS TRANSACTIONS on COMPUTERS	ISSN: 1109-2750 Issue 10, Volume 9, October 2010 Pages 1181-1190	Gabriel Neagu, Alexandru Stanciu
An Adaptive Scheduling Approach in Distributed Systems	ICCP 2010 Proceedings IEEE 6th International Conference on Intelligent Computer Communication and Processing (HiPerGRID Session)	ISBN: 978-1-4244-8229-0, Pages 435-442	Alexandra Olteanu, Florin Pop, Ciprian Dobre, Valentin Cristea
Simulator for Fault Tolerance in Large Scale Distributed Systems	ICCP 2010 Proceedings IEEE 6th International Conference on Intelligent Computer Communication and Processing (HiPerGRID Session)	ISBN: 978-1-4244-8229-0, Pages 443-450	Adrian Boteanu, Ciprian Dobre, Florin Pop, Valentin Cristea

Publication title	Journal / Proceedings title	Journal references Volume number Issue Pages from - to	Authors 1. 2. 3. Et al?
Processing remote sensing images on a Grid-based platform	ICWI2010: IADIS Int. Conference WWW/Internet 2010, Timisoara, October 2010	Procs., B. White, P. Isaias, D. Andone (rds). pp. 397-399	S. Panica, M. Neagul, D. Petcu
From Grid computing towards Sky computing. Case study for Earth Observation	Krakow Grid Workshop, 10-13 October, Krakow, Poland.	Invited talk	D.Petcu
Contribution to "Putting the 'e' in education: eLearning and grid computing"	GridBriefings, August 2010	p. 15	D.Petcu
Grid-based platform for training in Earth Observation	Presentation at EGU 2010, May 2010, Viena	Geophysical Research Abstracts, Vol. 12	D. Petcu, D. Zaharie, S. Panica, M. Frincu, M. Neagu, D. Gorgan, and T. Stefanut
gProcess and ESIP Platforms for Satellite Imagery Processing over the Grid	Presentation at EGU 2010, May 2010, Viena	Geophysical Research Abstracts, Vol. 12	V.Bacu, D.Gorgan, D.Rodila, F.Pop, G.Neagu, and D.Petcu
Experiments on ESIP - Environment oriented Satellite Data Processing Platform	Earth Science Informatics, August 2010	DOI: 10.1007/s12145-010-0065-0	D. Gorgan, V. Bacu, D. Rodila, F. Pop, D. Petcu
On Implementation and Usage of WRF-ARW Model on the SEE-GRID-SCI Infrastructure	Proceedings of the Georgian Mathematical Union First International Conference	p. 48	T. Davitashvili, R. Kvatadze, N. Kutaladze, G. Mikuchadze

Publication title	Journal / Proceedings title	Journal references Volume number Issue Pages from - to	Authors 1. 2. 3. Et al?
Optimised access to user analysis data using the gLite DPM.	Journal of Physics: Conference Series	219 062066. 2010.	Sam Skipsey, Greig Cowan, Mike Kenyon, Stuart Purdie Graeme A Stewart.
ScotGrid: Providing an Effective Distributed Tier-2 in the LHC Era.	Journal of Physics: Conference Series	219 052014. 2010.	Sam Skipsey, Graeme A Stewart, David Ambrose-Griffith, Greig Cowan, Mike Kenyon, Orlando Richards, Phil Roffe.

8.5. MEDIA AND PRESS ACTIVITIES

#	Story title / link if applicable	Media outlet (online?, print?)	Type of clipping	Mention
1	People behind EGI: Steve Brewer steps in as the voice of the user http://www.isgtw.org/?pid=1002645	iSGTW (Online)	Profile, Interview	Steve Brewer
2	e-ScienceTalk Brings the Success Stories of European e-Infrastructures to the Fore http://www.hpcwire.com/industry/academia/e-ScienceTalk-Brings-the-Success-Stories-of-European-e-Infrastructures-to-the-Fore-102162134.html	HPCwire (Online)	News	Catherine Gater / e-ScienceTalk
3	People behind EGI: Tiziana Ferrari http://www.isgtw.org/?pid=1002692	iSGTW (Online)	Profile, Interview	Tiziana Ferrari
4	International computing infrastructures ready to tackle the big scientific issues facing us today http://supercomputingonline.com/latest/international-computing-infrastructures-ready-to-tackle-the-big-scientific-issues-facing-us-today	Supercomputingonline (Online)	News	EGI-InSPIRE
5	International computing infrastructures ready to tackle the big scientific issues facing us today http://www.lswn.it/en/conferences/2010/first_international_conference_of_the_european_grid_infrastructure	Le Scienze Web News (Online)	News	EGI-InSPIRE
6	Europe launches 200,000 computer research grid http://www.zdnet.co.uk/news/infrastructure/2010/09/14/europe-launches-200000-computer-research-grid-40090095/	ZDNet (Online)	News	EGI-InSPIRE
7	EU researchers get boost as grid infrastructure project goes live http://www.computing.co.uk/computing/news/2269747/eu-launches-grid-infrastructure	computing.co.uk (Online)	News	EGI-InSPIRE
8	EU researchers get boost as grid infrastructure project goes live http://uk.news.yahoo.com/16/20100914/ttc-eu-researchers-get-boost-as-grid-inf-6315470.html	yahoo news (Online)	News	EGI-InSPIRE
9	EU creates a 200,000 system grid for researchers http://www.downloadsquad.com/2010/09/14/eu-creates-a-200-000-system-grid-for-researchers/	Download Squad (Online)	News	EGI-InSPIRE
10	EU tips $35m into huge desktop grid http://www.itnews.com.au/News/232150,eu-tips-35m-into-huge-desktop-grid.aspx	ITnews (Online)	News	EGI-InSPIRE

#	Story title / link if applicable	Media outlet (online?, print?)	Type of clipping	Mention
11	EGI-InSPIRE project brings together European e-Infrastructure community http://www.innovations-report.com/html/reports/event_news/egi_inspire_project_brings_european_e_infrastructure_161693.html	Innovations report (Online)	News	EGI-InSPIRE
12	EU Grid Project Unlocks Processing Power Of 200,000 Desktop Computers For European Researchers http://www.egovmonitor.com/node/38469	eGov monitor (Online)	News	EGI-InSPIRE
13	EU grid project is the largest collaborative production grid infrastructure for e-Science ever created http://euroalert.net/en/news.aspx?idn=10532	euroalert.net (Online)	News	EGI-InSPIRE
14	EC funds grid computing project http://www.thinq.co.uk/2010/9/15/ec-funds-grid-computing-project/	THINQ.co.uk (Online)	News	EGI-InSPIRE
15	European Grid Infrastructure Project Launched http://www.hpcwire.com/offthewire/European-Grid-Infrastructure-Project-Launched-102966344.html	HPCwire (Online)	News	EGI-InSPIRE
16	EGI-InSPIRE project brings together European e-Infrastructure community http://supercomputingonline.com/latest/egi-inspire-project-brings-together-european-e-infrastructure-community	Supercomputingonline (Online)	News	EGI-InSPIRE
17	Commission launches new computer grid infrastructure http://bulletin.sciencebusiness.net/ebulletins/showissue.php3?page=/548/6419/19705&rec=0	Science Business (Online)	News	EGI-InSPIRE
18	Work on pan-European grid infrastructure moves to next level http://www.wtmnews.gr/policy-07/3401-Work-on-pan-European-grid-infrastructure-moves-to-next-level.html	WTM News (Online)	News	EGI-InSPIRE
19	EU Grid Project Unlocks Processing Power of 200,000 Desktop Computers for Researchers http://enviroireland.com/?tag=european-grid-infrastructure	Environment & Energy Management (Online)	News	EGI-InSPIRE
20	European Union project to boost computing power http://www.nextgov.com/nextgov/ng_20100916_7477.php?oref=rss	Nextgov (Online)	News	EGI-InSPIRE

#	Story title / link if applicable	Media outlet (online?, print?)	Type of clipping	Mention
21	Work on pan-European grid infrastructure moves to next level http://www.balkans.com/open-news.php?uniquenumber=71114	Balkans.com (Online)	News	EGI-InSPIRE
22	Project profile: PL-Grid http://www.isgtw.org/?pid=1002642	iSGTW (Online)	Profile	NGI (Poland)
23	Kroes pompt miljoenen in bonafide botnet http://webwereld.nl/nieuws/67173/kroes-pompt-miljoenen-in-bonafide-botnet.html	Web Wereld (Online)	News	EGI-InSPIRE
24	EGI Technical Forum – Michel DRESCHER http://www.cloudcomputinginfrastructure.net/grid-computing-infrastructure/egi-technical-forum-michel-drescher	Cloud Computing Infrastructure (Online)	Video interview, profile	Michel Drescher
25	Announcement - GISELA launched http://www.isgtw.org/?pid=1002755	iSGTW (Online)	News	EGI.eu
26	Interview - Kostas Glinos peers into his crystal ball http://www.isgtw.org/?pid=1002751	iSGTW (Online)	Interview	EGI / EGI-InSPIRE
27	Nenad Filipovic's Coronary Calculus http://spectrum.ieee.org/geek-life/profiles/nenad-filipovics-coronary-calculus	IEEESpectrum (Online)	Feature	NGI (SEE-Grid)

9. REFERENCES

R 1	MS 402 Deploying software into the EGI production infrastructure https://documents.egi.eu/document/53
R 2	Operations Manuals and Best Practices https://wiki.egi.eu/wiki/Operations:OD#Approved_procedures_and_manuals
R 3	MS 405 Operational Security Procedures https://documents.egi.eu/document/47
R 4	MS 402 Deploying Software into the EGI Production infrastructure https://documents.egi.eu/document/53
R 5	MS 407 Integrating Resources into the EGI Production Infrastructure https://documents.egi.eu/document/111
R 6	OLA workshop at EGI Technical Forum https://www.egi.eu/indico/sessionDisplay.py?sessionId=119&confId=48#20100915
R 7	Operational tools Roadmap session at EGI Technical Forum https://www.egi.eu/indico/sessionDisplay.pysessionId=20&confId=48#20100916
R 8	D3.1 User Community Support Process https://documents.egi.eu/document/106
R 9	MS 305 User Feedback and Recommendations https://documents.egi.eu/document/211
R 11	DDM Popularity framework and its application to automatic site cleaning http://117.103.105.177/MaKaC/contributionDisplay.py?contribId=290&sessionId=78&confId=3
R10	MS 602 HUC Software Roadmap https://documents.egi.eu/document/230
R 12	LS VRC wiki. http://wiki.healthgrid.org/LSVRC:Index
R 13	Biomed technical team http://wiki.healthgrid.org/Biomed-Shifts:Index
R 14	D5.1 UMD Roadmap https://documents.egi.eu/document/100
R 15	MS 503 Software Provisioning Process https://documents.egi.eu/document/68
R 16	MS 502 DMSU Operations Procedures https://documents.egi.eu/document/69
R 17	http://www.egi.eu/export/sites/egi/about/press/EGI2010_PressRelease_15September_final.pdf
R 18	http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1119&format=HTML&aged=0&language=EN&guiLanguage=en
R 19	http://www.youtube.com/watch?v=5XO2CCnHIzU
R 20	MS 209 Security Policies within EGI https://documents.egi.eu/document/210