EGI-InSPIRE

WORKPLAN FOR THE EGI USER FORUM 2011 HUC TRAINING AND DISSEMINATION

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Abstract

The EGI User Forum (EGI-UF) is the annual showcase event in the EGI-InSPIRE calendar focused specifically on the scientific results and technical outputs from the broad range of user communities that exploit the pan-European grid infrastructure. Two of the core objectives of the EGI-InSPIRE project are: (i) to support Heavy User Communities (HUCs), and (ii), to interface and expand access to new user communities, including new and potential heavy users of the infrastructure. The HUC Dissemination and Training event at EGI-UF 2011 is targeted towards meeting both of these objectives. This document describes the work-plan required in delivering training and dissemination event at EGI-UF 2011, year 1 of EGI-InSPIRE.



I. COPYRIGHT NOTICE

II. DELIVERY SLIP

	Name	Partner/Activity	Date
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III. DOCUMENT LOG

Issue	Date	Comment	Author/Partner
1	31/01/2011	First draft	John Walsh, David O'Callaghan, Brian Coghlan/TCD
2	01/02/2011	Second draft	Jamie Shiers et al.
3	11/03/2011	Final	Jamie Shiers 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/about/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

The organisation of the HUC Training and Dissemination events requires one project month per project year. The objective is to organise a set of HUC user based training events at the annual EGI User Forum and to author quality dissemination material that will advertise the events to current HUC communities and to the (potentially new) user communities. The effort shall be distributed across the project year with a set of predefined objectives, namely:

- Gathering HUC training availability and requirements,
- Authoring this task's milestone document,
- Coordinating the training events in conjunction with the EGI Training Working Group and the EGI-UF Programme committee,
- Authoring of training event dissemination material for EGI Newsletter - - Inspired,
- Authoring of training event user and HUC surveys,
- Coordinating of HUC training events at EGI-UF,
- Ensuring that HUC training event organisers have completed the aforementioned surveys,
- Analysing the feedback from said surveys.

These actions are in addition to the actual dissemination and publicity actions that will be taken by the EGI Training Working Group and the EGI-UF 2011 Programme committee and the actual HUC/DCI training events themselves.

TABLE OF CONTENTS

1 INTRODUCTION

The EGI User Forum (EGI-UF) is the annual showcase event in the EGI-InSPIRE calendar focused specifically on the scientific results and technical outputs from the broad range of user communities that exploit the pan-European grid infrastructure (EGI). Two of the core objectives of the EGI-InSPIRE project are: (i) to support Heavy User Communities (HUCs), and (ii), to interface and expand access to new user communities, including potential new heavy users of the infrastructure. Heavy User Communities (HUCs) are Virtual Research Communities (VRCs) that have been using EGEE and EGI routinely and thus have become more structured and advanced in terms of grid usage. The HUC Dissemination and Training event at EGI-UF 2011, which is part of the main programme, is targeted towards meeting both of these objectives.

This document describes the work-plan required to deliver this training and dissemination event at EGI-UF 2011 during Year 1 of EGI-InSPIRE. In particular, it describes the actions and timelines for this task, including its scope, structural dependencies, interactions with other EGI and non-EGI activities, planning, time dependencies, execution and post-event analysis review.

The organisation of the EGI-UF HUC training and dissemination event is allocated 1 project month over the course of the project year, see section 0 (Workplan).

Overall Contact: John Walsh [john.walsh@cs.tcd.ie]

2 SCOPE

The intended target audience includes: SA3 activity task and sub-task leaders for HUC/DCI engagement (including Earth Sciences, Fusion, HEP, Life Sciences, MPI, StratusLab), EGI-InSPIRE task and sub-task leaders in the related NA2 dissemination activity and NA3 User community support and training activities, as well as other cross-activity bodies and working groups, such as, the EGI User Forum Programme Committee and the EGI Training Working Group.

The structural dependencies of the milestone objectives are covered in section 3 and section 4, and the workplan objectives and time dependencies are covered in section 0.

3 HUC AND DCI ENGAGEMENT

The EGI-UF is normally held in the final quarter of the project year. In project year 1, the User Forum will take place in Vilnius, Lithuania (11–14 April) and is organised in conjunction with the European Middleware Initiative (EMI)[1] and Vilnius University. The first call for participation was made on November 15th 2010.

On October 6th, the author issued a pre-"call for participation" e-mail internally to the SA3 project members. This e-mail sought to obtain feedback and requirements from the HUCs as to their ability and availability to participate in a co-ordinated training event at the forthcoming EGI User Forum. It also stressed the advantages in holding a training event at the EGI-UF – (i) it being a major showcase event involving a large number of grid users from both their own community and from other user communities, and (ii) a means to disseminate and demonstrate current technological tools used by that community, with the potential for adoption/re-use by other user communities.

This call received positive responses from the Earth Sciences, Fusion, High Energy Physics, and Life Sciences communities, as well as from the Message Passing Interface (MPI)/Parallel Computing support team. In addition, it also received interest from the external FP7 DCI funded StratusLab[2] project. Responses to the call were finalised in early December and these responses from the user communities and their requirements are summarised below. Once the EGI-UF 2011 "Call for Abstracts" was announced in November, the participating HUCs were then asked to submit a EGI-UF workshop abstract.

3.1 HUC feedback and responses

3.1.1 Earth Sciences

The Earth Sciences community has offered training to cover "Earth Science data processing tools and Applications for the Black Sea Catchment Basin". It will also focus on the achievements of the EnviroGRIDS[3] project. No further details are available at this time.

Contact: Horst Schwichtenberg, SCAI, Germany [horst.schwictenberg@scai.fraunhofer.de]

3.1.2 Fusion

The Fusion community will offer a hands-on tutorial on the Kepler[4] Workflow engine. Kepler is a free and open source scientific workflow application. It is designed to help scientists and developers create, execute, and share models and analyses across a broad range of scientific and engineering disciplines. Kepler includes components (actors) that provide support for different grid middleware

[1] http://www.eu-emi.eu/
[2] http://stratuslab.eu/
[3] http://www.envirogrids.net/
[4] https://kepler-project.org/

stacks, e.g. gLite[5] and UNICORE[6]. This tutorial will cover basic Kepler usage.

The minimal duration for the tutorial is 4 hours, but preferably and ideally 1 day.

Contact: Marcin Plociennik, PSNC, Poland [marcinp@man.poznan.pl]

3.1.3 High Energy Physics

The HEP community will offer two tutorials:

- How to enable monitoring of the infrastructure from the point of view of a given VO,
- Ganga User Tutorial [**R2**]

The first tutorial is focused towards enabling a virtual organisation to efficiently monitor the state of the distributed infrastructure from its perspective. The training will describe the existing systems that provide this functionality. Namely, the new implementation of Site Availability Monitor (SAM) [**R3**] based on Nagios, Dashboard Site Usability user interface, Dashboard Site Status Board and SiteView application [**R1**]. The participants will learn how to design VO-specific SAM tests, how to provide a description of the topology of the infrastructure used by a particular VO, how Site Status Board can be populated and used to show the status of the infrastructure and various VO computing activities. This demo/tutorial duration is 30 to 60 minutes.

The second tutorial consists of presentations and hand-on sessions. It will allow the participants to understand basic concepts of grid job management: configuration, submission, monitoring of jobs and retrieval of results with Ganga – an easy-to-use frontend for the configuration, execution, and management of computational tasks in a variety of distributed environments including Grid, Batch and Local resources. Participants will learn how to make use of basic mechanisms such as file sandboxes, datasets and job splitting to best address their application needs. They will also learn how locally available resources may be used for running small-scale tasks and how to subsequently easily transition to using Grid resources for large-scale tasks. The hands-on sessions will also cover monitoring: participants will learn how to keep track of their jobs through several web-based interfaces, including the Dashboard services. The hands on exercises are provided online[7].

This tutorial will last 4 hours in total.

Contact: Jamie Shiers, CERN, Switzerland [Jamie.Shiers@cern.ch]; Maria Girone, CERN, Switzerland [Maria.Girone@cern.ch]

[5] http://www.glite.org

[6] http://www.unicore.eu/

[7] https://twiki.cern.ch/twiki/bin/view/ArdaGrid/EGEETutorialPackage

3.1.4 Life Sciences

The Life Sciences (LS) community will offer a half-day or one full-day tutorial. The target audience shall be the LS community itself, with the material taken from its domain. However, the tools presented have much wider application and can be of interest to other users and communities. The material may cover:

- vBrowser[8] desktop environment
- MOTEUR[9] workflow manager for data analysis procedure design
- Web-based experiments dashboard
- SHIWA[10] platform for multi-workflow systems integration and interoperability.

The attendees shall use their own laptops and will need access to external servers. A reliable and reasonably fast ethernet connection, preferably wired, is also required.

Contact: Johan Montagnat, CNRS, France [johan@i3s.unice.fr]

3.1.5 Message Passing Interface (MPI)/Parallel Computing

The MPI tutorial is an introductory hands-on session covering how to handle MPI job submission using the MPI-START[11] framework on the EGI infrastructure. This session will last about two hours in duration. The tutorial is aimed at all HUC and grid users interested in MPI job submission.

Contact: Enol Fernández del Castillo, IFCA, Spain [enolfc@ifca.unican.es]

3.1.6 StratusLab

StratusLab develops and provides an open source cloud distribution based on OpenNebula that allows data centres to expose their computing resources as an "Infrastructure as a Service" (IaaS) type cloud. Administrators can run their services over the cloud to improve availability, scalability, and maintainability of their grid and non-grid services. Virtual organisations and users can use the cloud to develop custom computing environments and domain-specific services.

Participants will learn about cloud technologies in general and will understand the distinction between Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) infrastructures. They will understand how infrastructures based on the StratusLab distribution can be integrated with the European Grid Infrastructure and how the cloud services complement grid services. Practical exercises will teach the participants how to launch virtual machines, customize

[8] http://www.nikhef.nl/~ptdeboer/vbrowser/

[9] http://modalis.i3s.unice.fr/softwares/moteur/start

[10] http://liferay.lpds.sztaki.hu:8080/web/shiwa/home

[11] http://grid.ifca.es/wiki/Middleware/MpiStart/UserDocumentation

their computing environment, share those customized environments with others, manage virtual disks, and define complete services. The tutorial will be approximately 1.5 hours in duration.

Contact: Cal Loomis (StratusLab co-ordinater), IN2P3, France [loomis@lal.in2p3.fr]

3.2 Training Requirements

It is expected that the form of training events shall take a "hands-on" interactive approach, rather than a demonstration style approach. This would require the EGI-UF host to supply typical, but basic teaching facilities, such as projector, whiteboard, desks, full network access, and sufficient power supply for all-day use of laptops. The HUCs offering training were asked to provide a list of requirements. The HUC feedback is tabulated in Table 1 below.

Tutorial Topic	**HUC/DCI**	**Duration**	**Tutorial Type**	**Trainer Requirements**
Earth Sciences data processing tools and applications	Earth Sciences	To be decided	Presentation/Hands-on	External Access. User brings own laptop. Projector.
Kepler Workflow Engine	Fusion	4 hours or 1 day	Presentation/Hands-on	External Access. Fast connectivity. Wired access preferred. User brings own laptop. Projector.
VO orientated grid infrastructure monitoring	HEP	30–60 minutes	Demo/Hands-on	External Access. User brings own laptop. Projector.
Ganga User Tutorial	HEP	4 hours	Presentation/Hands-on	External Access. User brings own laptop. Projector.
Life Sciences tools and applications	Life Sciences	4 hours or 1 day	Presentation/Hands-on	External Access. User brings own laptop. Projector.
MPI Job Submission	MPI/Fusion	2 hours	Presentation/Hands-on	External Access. User brings own laptop. Projector.
StratusLab	StratusLab DCI	1.5 hours	Presentation/Hands-on	External Access. User brings own laptop. Projector.

Table 1, HUC Training Requirements

4 EGI-INSPIRE ACTIONS AND INTERACTIONS

Facilitating the EGI-UF Training event requires interaction, feedback and input to and from several EGI-InSPIRE activities and associated cross-activity bodies. These structural interactions between this activity and other project activities are described below:

4.1 SA3 Activity Coordination.

The organisation of the EGI-UF HUC training and dissemination event falls under the auspices of the EGI-InSPIRE SA3 activity. Work on this task shall be reported directly to the SA3 Task Leader through an EGI-InSPIRE task wiki page, the project quarterly reports, and the production of related deliverable and milestone documents.

Contact: Jamie Shiers, SA3 WP6[12] Activity Leader [Jamie.Shiers@cern.ch]

4.2 EGI-UF Programme Committee

The EGI-UF Programme Committee is the body responsible for the advertising, management, programme selection, and scheduling of the User Forum event. The programme selection process covers the selection of all oral presentations, posters, demonstrations and workshops.

The EGI-UF Programme Committee will, in particular, have responsibility for the selection and scheduling of the proposed training workshops.

The objective of the Training and Dissemination event task is to ensure a full programme of HUC related training events at the User Forum, and to ensure that the requirements of those HUC offering training can be met.

Contact: EGI-UF 2011 Programme Committee [pc-uf11@mailman.egi.eu]

4.3 NA2 Dissemination

In order to publicise the EGI-UF HUC training events, the workplan shall include dedicated effort towards the authorship of an EGI Newsletter article. The authorship of this article is dependent on the timely production of the EGI-UF 2011 programme of events. The focus of the article shall be to advertise the specific training offered, the intended target audience of the training, plus any other relevant information. This shall be carried out in co-operation with EGI-InSPIRE TNA2.2 Dissemination activity.

[12] https://wiki.egi.eu/wiki/WP6:_Services_for_the_Heavy_User_Community

Contact: Catherine Gater, EGI TNA2.2 Dissemination Activity Leader [Catherine.Gater@egi.eu]

4.4 NA3 User and Community Support Teams

Organisers of EGI-related training events are asked to register their courses in the Training Calendar[13]. In addition, training event organisers will be expected to submit a completed "EGI Training Events Reporting Form"[14] after their event. Statistical data from these forms shall be used to produce metrics for the project quarterly reports. Other parts of the completed form provide useful information for future courses. The files are available at https://documents.egi.eu/document/281.

Contact: Steve Brewer, EGI Chief Customer Officer [steve.brewer@egi.eu], Gergely Sipos EGI Senior User Community Support Officer [gergely.sipos@egi.eu]

4.5 EGI Training Working Group

The purpose of the EGI Training Working Group (EGI-TWG)[15] is to capture and clarify training requirements across the EGI community. By EGI community we mean the community of actual and potential users of Distributed Computing Infrastructure (DCI) across Europe.

The first major goal for the Working Group is to support the Programme Committee for the EGI User Forum, driving forward the organisation of training events as a result of the emerging strategy.

The EGI Training Working Groups is composed of members across the EGI activities, including NA2, NA3, SA1, SA3, as well as the representatives from the EMI and StratusLab FP7 project dissemination teams.

Contact: Steve Brewer, EGI Chief Customer Officer [steve.brewer@egi.eu], Gergely Sipos EGI Senior User Community Support Officer [gergely.sipos@egi.eu]

4.6 User Survey, Trainer Survey and Feedback

As part of a continuous self-evaluation, it is expected that the EGI-UF participants survey should include a section for those people who participated in the HUC training events. The survey questions should be the same for all events. A "comments and suggestions" option should be available for participants to provide further feedback for items found not to be covered in the survey. In addition, feedback should be obtained from the trainers to ensure that the event was run in line with their requirements and expectations.

Contact: John Walsh, EGI-UF Training and Dissemination event subtask leader [John.Walsh@cs.tcd.ie]

[13] http://training.egi.eu/addEvent.cfm

[14] https://documents.egi.eu/public/ShowDocument?docid=280

[15] https://wiki.egi.eu/wiki/Training_Working_Group

5 WORKPLAN

The lead partner for this activity is contracted to provide one project month per year. In the case of TCD, this translates to 125 project hours per month. The 125 hours are distributed evenly over the course of the year.

The workplan breakdown covers a description the set of proposed objectives, and the time span that the work covers in project year one. The workload is split evenly over the full year, as illustrated in Table 2 and Figure 1.

Objective	Timeline	Duration (hours)
O1 – HUC training availability and requirements gathering	M1-M5	52.26
O2 – HUC Training and Dissemination workplan	M6-M7	20.90
O3 - EGI-UF PC and EGI-TWG participation	M7-M11	24.39
O4 - Authoring of training event dissemination material	M9-M10	8.71
O5 - Authoring of HUC training event user/HUC surveys	M10-M11	8.71
O6 - Co-ordination of training event at EGI-UF	M12	5.23
O7 - Follow-up on Training Event reporting forms submission	M12	5.23
O8 - Analysis of Training Event organisers and user surveys (year 2)	M13	PY 2
	Total	**125.41**

Table 2, Training and Dissemination Objectives Work Breakdown

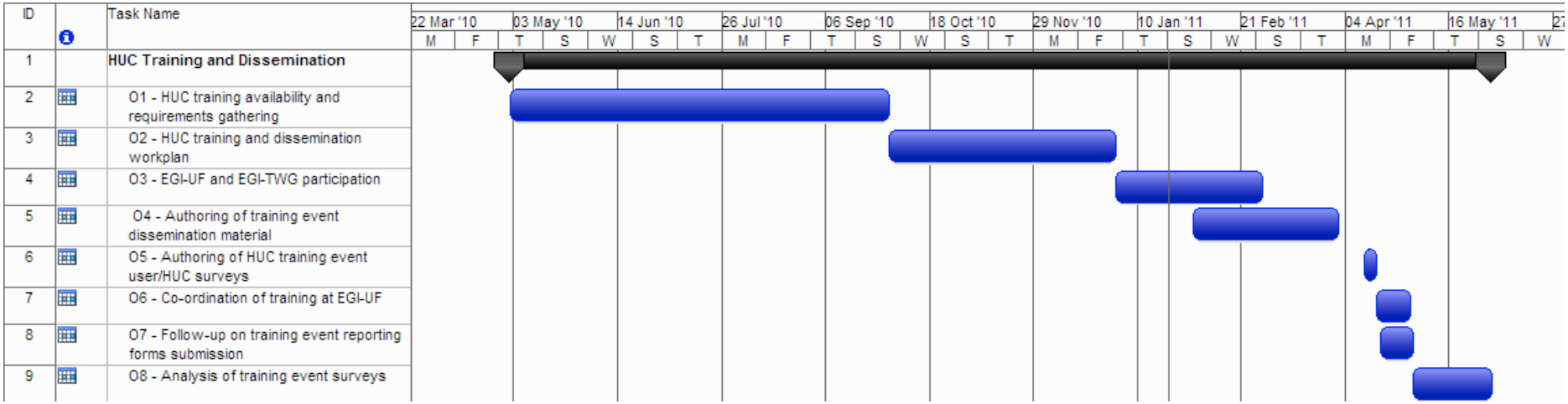

Figure 1, Work Breakdown

O1 - HUC training availability and requirements gathering

The focus of this objective is to interact with the HUCs and gauge potential interest from the HUCs in offering training events at the EGI User Forum. This objective is executed in the first six months to allow HUC trainers to have sufficient time to propose a training event, submit an EGI-UF abstract, and prepare event material.

Approximate effort: 52 hours

O2 – HUC training and dissemination workplan

The authoring of the milestone document detailing the workplan for this activity is due at the end of project month 7.

Approximate effort: 20 hours

O3 – EGI-UF PC and EGI-TWG participation

Participation in the EGI-TWG will ensure that the events offered will follow the recommendations and best practices.

Approximate effort: 24 hours

O4 – Authoring of training event dissemination material

This objective is focused on the authorship of an article for the EGI newsletter. The authorship of the article is time dependent on the final date for Abstract submission and the finalizing of the User Forum programme. This objective will require input and feedback from the HUCs and shall be disseminated through the NA2 dissemination activity.

Approximate effort: 8.5 hours

O5 – Authoring of HUC training event user/HUC surveys

The purpose of the HUC training event user and trainers survey will be to gauge feedback from both the trainers and participants of the training events. It will seek to obtain whether the expectations of both the users and trainers were met. Input and expertise from the EGI-TWG is required.

Approximate effort: 8.5 hours

O6 – Co-ordination of HUC training events at EGI-UF

This objective requires interaction with the event trainers to ensure that the facilities provided at the User Forum are in line with the trainer's expectations. This work is executed on-site at the User Forum.

Approximate effort: 5.5 hours

O7 – Follow-up on Training Event reporting form submissions

This objective will ensure that event trainers' have submitted materials as stipulated by EGI-TWG. Further information can be found in section 4.4 and section 4.5.

Approximate effort: 5.5 hours

O8 – Analysis of Training events organisers and User Surveys (year 2)

This objective shall analyse both the event trainers and users surveys from the User forum. In particular, it will look for strengths, weaknesses, opportunities and threats (SWOT). It forms a constituent part of the self-evaluation in the handling and running of the HUC training events. This is carried out in co-operation with NA3.

5.1 Time Dependencies

Each of the tasks in the work breakdown (except O6 and O7, which are executed almost simultaneously) in the work breakdown of Figure 1 exhibit a simple dependency on completion of the prior tasks.

6 REFERENCES

R1	Experiment Dashboard for Monitoring of the LHC Distributed Computing Systems; J. Andreeva et al, Computing in High Energy and Nuclear Physics (CHEP'10), Taipei, Taiwan (2010)
R2	Ganga: a tool for computational-task management and easy access to Grid resources; Computer Physics Communications, Volume 180, Issue 11, (2009)
R3	Evolution of SAM in an enhanced model for monitoring WLCG services; Collados D et al, Computing in High Energy and Nuclear Physics (CHEP09), Prague, Czech Republic (2009)