



EGI-InSPIRE

TRAINING AND DISSEMINATION EVENT FOR ALL SHARED SERVICES AND THE OTHER TASKS WITHIN THE ACTIVITY

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Abstract

The EGI Community Forum (EGI-CF) 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-CF 2012 is targeted towards meeting both of these objectives. This document describes the work-plan required in delivering training and dissemination event at EGI-CF 2012, year 2 of EGI-InSPIRE.



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II. DELIVERY SLIP

	Name	Partner/Activity	Date
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III. DOCUMENT LOG

Issue	Date	Comment	Author/Partner
1	2-2-2012	First draft	John Walsh, David O’Callaghan, Brian Coghlan/TCD
2	23-2-2012	Final version after reviews	John Walsh

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 Community 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 NA2 and the EGI-CF Programme Committee,
- Authoring of training event dissemination material for EGI Newsletter,
- Authoring of training event user and HUC surveys,
- Coordinating of HUC training events at EGI-CF,
- 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 NA2 training and dissemination related activities and the EGI-CF 2012 Programme Committee and the actual HUC/DCI training events themselves.



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1 INTRODUCTION

The EGI Community Forum (EGI-CF) 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-CF 2012 is targeted towards meeting both of these objectives.

This document describes the work-plan required to deliver this training and dissemination event at EGI-CF 2012 during Year 2 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-CF HUC training and dissemination event is allocated 1 project month over the course of the project year, see section 5 (Workplan).

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



2 SCOPE

The intended target audience includes: The EGI-InSPIRE Project Management Board, SA3 activity task and sub-task leaders for HUC/DCI engagement, EGI-InSPIRE task and sub-task leaders in the related NA2¹ dissemination activity and User community support and training activities, as well as other cross-activity bodies and working groups, such as, the EGI Community Forum Programme Committee and the newly established EGI Virtual Teams.

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 5.

¹ Note that in November 2011, the former NA3 User Community Support task was integrated into the NA2 activity

3 HUC AND DCI ENGAGEMENT

The EGI-CF is held in the final quarter of the project year. In project year 2, the Community Forum will take place in Garching bei München (Garching near Munich), Germany (26–30 March) and is held in conjunction with the 2nd EMI Technical Conference and co-hosted with the 2nd Annual European Globus Community Forum. The local organiser is the Munich Network Management Team (MNM-Team), a consortium of four research groups from three Universities (LMU, TU and UniBW) and the LRZ supercomputing centre in the Munich region.

On November 14th the EGI Community Forum Programme Committee released its “call for participation”. Some of the major objectives of the Community Forum are to disseminate information about tools and services that increase and improve use of the infrastructure, and those that further enhance its middleware services to the user communities. These objectives have influenced and guided the author’s selection of potential training and dissemination events for EGI-CF 2012. In particular, the author has sought to establish a programme of events that would prioritise non-domain specific tools and services that could have significantly high (re)-use and exploitation potential by both HUCs and new user communities. The key role of portals and workflows in e-science has been greatly enhanced by the current developments in mobile tablet based computing, and is therefore highly desirable.

The author contacted many key grid and related DCI projects to obtain feedback and requirements, and availability to participate in a co-ordinated training event at the forthcoming EGI Community Forum. The author also stressed the advantages in holding a training event at the EGI-CF, namely (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. The calls received positive responses² from WS-PGRADE and SHIWA – projects aimed at greatly enhancing the user interaction with grid and other DCI infrastructures; The CERN Virtual Machine File System (CVMFS) team, whose product allows HUCs to deploy software as a file system; and from the Message Passing Interface (MPI)/Parallel Computing support team. Responses to the call were finalised in early December through submission of corresponding EGI-CF abstracts. Summaries of the training event abstracts are given below³. In addition, the highly successful StratusLab and Kepler training sessions will also be offered again during EGI-CF 2012.

3.1 Training Events

3.1.1 Parallel Computing Workshop

The Parallel Computing workshop shall concentrate on the current state of the art for successful parallel job submission on the EGI infrastructure. The topics covered will include:

- Description and submission of parallel jobs,
- Techniques for successful job submission, and pitfalls to avoid,

² Negative or non-committal responses are not discussed in this document.

³ The order of the events is based on the EGI-CF abstract id.



- Execution of MPI applications using gLite, ARC and Unicore middleware stacks,
- Support for other parallel application frameworks: OpenMP and hybrid MPI/OpenMP,
- Use of GPGPUs on the EGI's infrastructure.

Duration: 90 minutes.

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

3.1.2 WS-PGRADE

WS-PGRADE/gUSE is an open-source, web-based workflow management tool that enables users to exploit several grid systems, multiple grid technologies, and to access other DCI infrastructures, through a feature-rich and easy-to-use interface.

The WS-PGRADE/gUSE training event is divided into two distinct 90 minute sessions:

- User and Application development training,
- WS-PGRADE/gUSE portal development.

The end user focused session shall cover:

- WS-PGRADE workflow concepts,
- Parameter study features and support in workflows,
- The WS-PGRADE portlets,
- Access other DCI infrastructures,
- Scientific application areas using WS-PGRADE.

The second tutorial is at a more advanced level, and is primarily aimed at scientific communities, NGIs or portal developers who would like to create customised WS-PGRADE based science gateway applications for their users. This tutorial will introduce the attendees to the Application Specific Module (ASM), a flexible API layer for creating customized science gateways.

Duration: 180 minutes (2 x 90 minutes)

Contact: Zoltán Farkas, SZTAKI, Hungary [zfarkas@sztaki.hu]

3.1.3 CVMFS – a http based distributed file system

The CERN Virtual Machine File System (CVMFS), developed at CERN, is caching, http based, read-only file system optimised for delivering experiment software to (virtual) machines. Its primary features are:

- Caching (high performance), read-only, and scalable,
- Standards based technologies - HTTP, FUSE, ...
 - Uses FUSE module to mount a virtual file system,
- File system image security (SHA1 check via HTTPS),
- File based deduplication,



- It deprecates the need for “push” based software installation at each site.

This session should be of interest to user communities interested in exploring the use of CVMFS as an efficient means for enabling greater flexibility in user community software management on the Grid. In particular, the server-side configuration topic should be of interest to site administrators and user communities

Duration: 45 minutes.

Contact: Steve Traylen, CERN, Switzerland [Steve.Traylen@cern.ch];

3.1.4 Sharing and re-using workflows: the SHIWA platform

The SHIWA project (SHaring Interoperable Workflows for Large-Scale Scientific Simulations on Available DCIs) aims at handling a wide variety of scientific workflows in a platform neutral way.

Workflows, at an abstract level, describe the set of linked tasks or processes that yield an outcome. Scientific workflow management systems are particularly adept at handling a series of complex tasks using large datasets in numerous data formats. The workflow is described once, but used many times with different input parameters.

There are many workflow systems. However, communities that have developed workflows may be susceptible to vendor "lock-in" - they cannot use the workflow in other workflow management systems, and may also be tied into particular computing infrastructures.

The SHIWA project helps facilitate portable workflows by:

- Allowing workflows described in one format to be translated into other formats,
- Allowing the workflows to run on several DCIs.

In addition, SHIWA provides a searchable workflow repository, thus allowing e-scientists to reuse them in their own workflow applications.

Duration:

Contact: Peter Kacsuk, S ZTAKI, Hungary [kacsuk@sztaki.hu]

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-CF 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.



4 EGI-INSPIRE ACTIONS AND INTERACTIONS

Facilitating the EGI-CF 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-CF 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 WP6⁴ Activity Leader [Jamie.Shiers@cern.ch]

4.2 EGI-CF Programme Committee

The EGI-CF Programme Committee is the body responsible for the advertising, management, programme selection, and scheduling of the Community Forum event. The programme selection process covers the selection of all oral presentations, posters, demonstrations and workshops. The EGI-CF Programme Committee will have responsibility for the final 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 Community Forum, and to ensure that the requirements of those HUC offering training can be met.

Contact: EGI-CF 2012 Programme Committee [pc-cf12@mailman.egi.eu]

4.3 NA2 Dissemination

In order to publicise the EGI-CF 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-CF 2012 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 Dissemination activity.

Contact: Sara Coelho, EGI Communications Officer [Sara.Coelho@egi.eu]

⁴ https://wiki.egi.eu/wiki/WP6:_Services_for_the_Heavy_User_Community



4.4 User and Community Support Teams

Organisers of EGI-related training events are asked to register their courses in the Training Calendar⁵. In addition, training event organisers will be expected to submit a completed “EGI Training Events Reporting Form”⁶ 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)⁷ 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 Community 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, 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-CF 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-CF Training and Dissemination event subtask leader [John.Walsh@cs.tcd.ie]

⁵ <http://training.egi.eu/addEvent.cfm>

⁶ <https://documents.egi.eu/public/ShowDocument?docid=280>

⁷ 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 1 and Figure 1.

Objective	Timeline	Duration (hours)
O1 – HUC training availability and requirements gathering	M13-M17	47.03
O2 – HUC Training and Dissemination workplan	M17-M19	20.90
O3 - EGI-CF PC participation	M19-M23	24.39
O4 - Authoring of training event dissemination material	M21-M22	8.71
O5 - Authoring of HUC training event user/HUC surveys	M22-M23	8.71
O6 - Co-ordination of training event at EGI-CF	M23	5.23
O7 - Follow-up on Training Event reporting forms submission	M24	5.23
O8 - Analysis of Training Event organisers and user surveys	M24	5.23
Total		125.41

Table 1, Training and Dissemination Objectives Work Breakdown

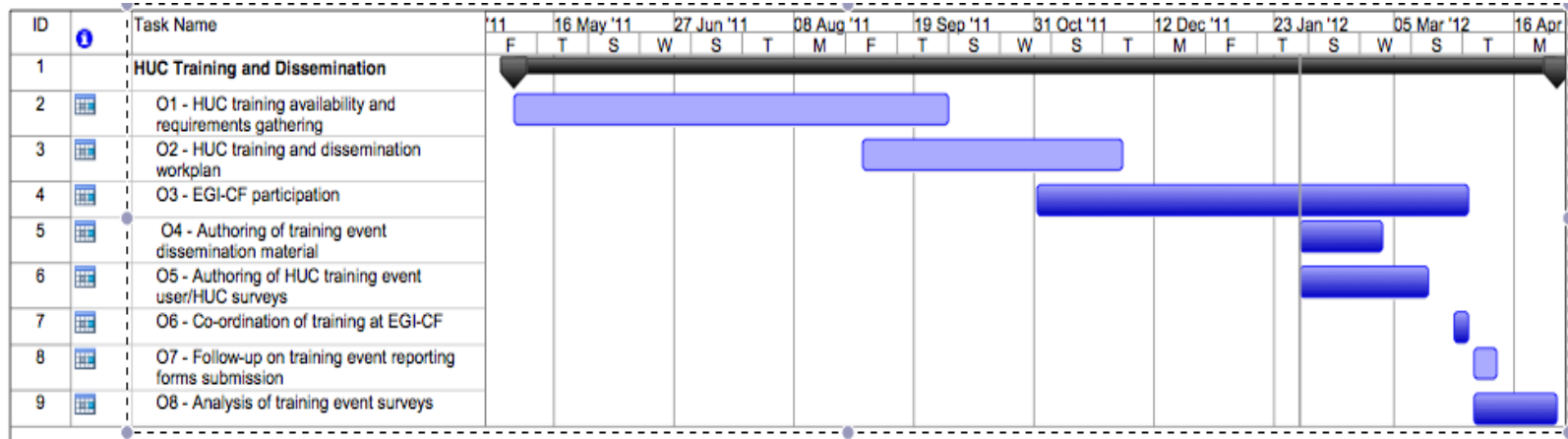


Figure 1, Work Breakdown



O1 – Training availability and requirements gathering

The focus of this objective is to interact with the HUCs and other communities to gauge potential interest in offering training events of great interest to the HUCs (and indeed to the wider community) at the EGI Community Forum. This objective is executed in the first six months to allow trainers to have sufficient time to propose a training event, submit an EGI-CF abstract, and prepare event material.

Approximate effort: 47 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. However, both restructuring in EGI-InSPIRE project and changes to the aims scope and scope of the Community Forum has affected the planned delivery date. The author recommends that the equivalent PY3 milestone should have a later delivery date - for instance, there is a logical structural dependency on the formation of the programme committee.

Approximate effort: 20 hours

O3 – EGI-CF PC and EGI-TWG participation

Participation in the EGI-CF 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 Community 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 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 NA2 is required.



Approximate effort: 8.5 hours

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

This objective requires interaction with the event trainers to ensure that the facilities provided at the Community Forum are in line with the trainer’s expectations. This work is executed on-site at the Community 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 NA2 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

This objective shall analyse both the event trainers and users surveys from the Community 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.

Approximate effort: 5.5 hours

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.

EGI-CF	EGI Community Forum
EMI	European Middleware Initiative
FP7	EU Seventh Research Framework Programme
HEP	High Energy Physics
EGI-CF PC	EGI Community Forum Programme Committee
NA2	EGI-InSPIRE Network Activity (External Relations)