

EGEE

NA3 EXECUTION PLAN FOR THE 1ST YEAR

Document identifier:	EGEE-NA3-TEC-xxxxxx-ExecutionPlan-1Y-v1.0.doc
Date:	09/04/2004
Activity:	NA3: User Training and Induction
Document status:	DRAFT
Author:	John Murison, NeSC (john@nesc.ac.uk)
Document link	-

Abstract: This document describes the execution plan for NA3 (User Training and Induction) for the first year of the EGEE project.

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1 INTRODUCTION

1.1 PURPOSE

This document describes the execution plan for the NA3 User Training and Induction activity for the first year. In some cases figures and plans are projected into the second year of the project, but these are estimates only, subject to revision in the light of experience.

1.2 APPLICATION AREA

The execution plan refines NA3 activities defined in the technical annex.

1.3 REFERENCES

[This subsection provides a complete list of all documents referenced elsewhere in the document.]

[R1] https://edms.cern.ch/document/400278	Technical Annex
[R2] https://edms.cern.ch/document/422807	Execution Plan Guidelines

1.4 DOCUMENT EVOLUTION PROCEDURE

This document will be updated incrementally as the NA3 activity knowledge increases.

Comments should be sent to the author.

1.5 TERMINOLOGY

Glossary

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Definitions

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2 PROJECT OVERVIEW

2.1 SCOPE OF THE WORK

The principal aim of EGEE is to integrate existing national, regional and application Grid efforts in order to create a production-quality European Grid infrastructure operating 24 hours per day which will enable access to computing, storage, instrumentation and informational resources across the European Research Area, for a diverse range of e-Science user communities.

2.1.1 Objectives of NA3

Within the overall aim of the EGEE project, the objectives of the NA3 activity are:

- To produce a portfolio of training material and courses, from introductory to advanced.
- To use this material to train a wide variety of users, both internal to the EGEE consortium and from the external user groups across Europe who will make use of the infrastructure.
- To ensure that an EGEE Team Spirit is engendered early in the project's lifetime.

NA3 partners must realise that they are at the 'sharp end' of the EGEE operation, in that it will be largely through the provision of detailed statistics, indicating the number of new users to EGEE and Grid computing who have been successfully inducted and trained, that the success of the overall project will be measured. The quality of the EGEE project work will also be affected by the effectiveness, or otherwise, of the internal induction and training activity for which NA3 is responsible.

2.1.2 Description of work

In the first two years of the project we plan to run over forty training courses for over 1,500 people from across the EGEE consortium and user communities. We will have a particular focus on hands-on training to ensure early usage of the EGEE infrastructure.

Each course will be followed up by recording participant and provider evaluations. These will be analysed and used to direct course improvements. Summary statistics will be published as Key Performance Indicators every 3 months.

NeSC, as lead site for this activity, will oversee the preparation, scheduling, publicising and running of all training activities. It will also be responsible for ensuring that statistics and feedback are gathered from each activity, and that summary statistics are produced. It is the responsibility of every NA3 partner to cooperate with NeSC in fulfilling these tasks.

The procedure to be followed by NeSC in preparing and refining the execution plan and putting it into effect is summarised in the following steps:

- 1) Produce a draft execution plan, including:
 - Proposed training activities per Quarter
 - Identify partners responsible for each type of activity per Quarter
 - Establish mechanisms for revising responsibilities and monitoring their delivery
 - Specify target result
 - Define common pattern and standards for all NA3 activities
 - Define each activity in detail, including: content, participant, prerequisites, measure of success.
- 2) Engage NA3 partners in the execution plan:

Comment: Structural issue – some of the items in the “procedure for ... refining the e-plan are in fact persistent desiderata that should be in the e-plan itself.

Comment: Execution some places, activity and action in other places?

Comment: e.g. this might read – “The plan should contain:”

Comment: We also produce a training plan as a deliverable – how do they relate?

Comment: participants or participants' constituency

Comment: measures

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- Teleconference to discuss it, following initial distribution
 - Stress that the training event numbers specified are *minima*, and that the more training is carried out, the more successful the EGEE project as a whole will be perceived to be. Specifically:
 - more users → greater prospect of ‘EGEE 2’
 - more trained application developers → more users, and greater prospect of ‘EGEE 2’
 - Training must enable users to start their work using EGEE quickly and significantly improve their prospects of making that work a success because they are using EGEE. Training must enable developers to move their development work to EGEE with minimal difficulty and must enhance the chance of that work being a success.
 - NA2 and NA4 are expected to generate demand. NA3 must work with them, but by our own activities must also generate demand: that is, it is part of NA3’s work to go out and find people for courses.
- 3) Allow NA3 partners some flexibility and discretion:
- They may take on extra commitment (i.e. beyond the minima specified in this execution plan), and are encouraged to do so.
 - They may swap specified training requirements between themselves, so long as the totals are not reduced and so long as the needs of local potential user communities and the needs of specific application sectors are met.
 - They may negotiate over partner roles and specialisations within training activities
- All suggestions, requests and proposed revisions should be sent to John Murison (john@nesc.ac.uk).
- 4) The importance of effective record keeping and reporting procedures is stressed, given that the funding is only released on acceptance of the NA3 quarterly reports, which will describe what induction and training has actually been achieved in the previous quarter, and what labour has been invested to achieve this.
- 5) At the initial EGEE conference in Cork (April 2004):
- a) Meet and discuss execution plan
 - b) Collate revisions to execution plan
 - c) Agree revised plan.

Comment: John, I’m adding this so that you can argue with people about their changes with these additional criteria.

Comment: Consistent capitalization? Earlier you used Quarter.

Comment:

- 5) By PM3 (end June 2004) the NA3 partners will have agreed:
- a) The detailed training plan for year 1 of the project (until 31st March 2005)
 - b) A provisional and outline training plan for year 2 of EGEE (until 31st March 2006)

2.1.3 Extracts of EGEE Technical Annex

The following texts are of particular relevance to the work of NA3:

The following extract is taken from section 2.A of the EGEE Technical Annex:

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“The EGEE Mission

In order to achieve the vision outlined above, EGEE has a three-fold mission:

1. To deliver production-level Grid services, the essential elements of which are manageability, robustness, resilience to failure, and a consistent security model, as well as the scalability needed to rapidly absorb new resources as these become available, while ensuring the long-term viability of the infrastructure.
2. To carry out a professional Grid middleware re-engineering activity in support of the production services. This will support and continuously upgrade a suite of software tools capable of providing production-level Grid services to a base of users which is anticipated to rapidly grow and diversify.
3. To ensure an outreach and training effort which can proactively market Grid services to new research communities in academia and industry, capture new e-Science requirements for the middleware and service activities, and provide the necessary education to enable new users to benefit from the Grid infrastructure.

Reflecting this three-fold mission, the EGEE proposal is structured in three main areas of activity: **services**, **middleware** and **networking**. These are described in the sections SA, JRA and NA of the proposal, respectively, and key aspects for each of these areas are summarised below.

It is essential to the success of EGEE that the three areas of activity should form a tightly integrated “Virtuous Cycle”, illustrated in [Figure 1](#). In this way, the project as a whole can ensure rapid yet well-managed growth of the computing resources available to the Grid infrastructure as well as the number of scientific communities that use it. As a rule, new communities will contribute new resources to the Grid infrastructure. This feedback loop is supplemented by an underlying cyclical review process covering overall strategy, middleware architecture, quality assurance and security status, and ensuring a careful filtering of requirements, a coordinated prioritisation of efforts and maintenance of production-quality standards.

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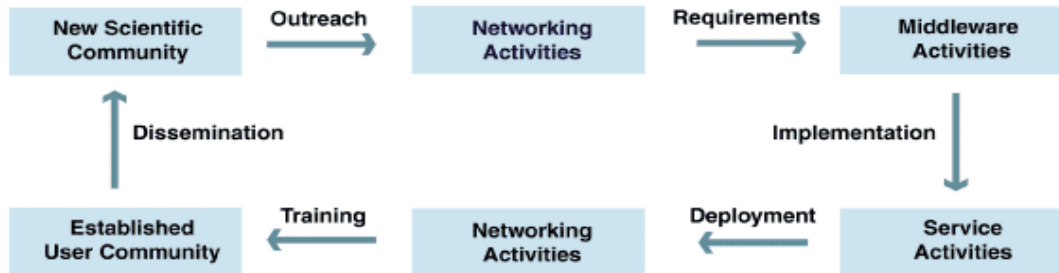


Figure 1: The “Virtuous Cycle” for EGEE development. A new scientific community makes first contacts to EGEE through outreach events organized by Networking Activities. Follow-up meetings by applications specialists may lead to definition of new requirements for the infrastructure. If approved, the requirements are implemented by the Middleware Activities. After integration and testing, the new middleware is deployed by the Service Activities. The Networking Activities then provide appropriate training to the community in question, so that it becomes an established user. Peer communication and dissemination events featuring established users then attract new communities.”

The part to be played by NA3 in closing the ‘virtuous circle’ is central: new participants can only become part of the established user community by being inducted and trained.

The following extract is taken from section 5.A.3 of the EGEE Technical Annex:

“There will be need for training at a variety of levels:

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- There is a need for introductory tutorials on EGEE specifics and on the necessary background, e.g. OGSi and GT3.
- Existing and new users will then need a series of courses to raise their skill level in application development to whatever is required for their research.
- In conjunction with the introductory courses, it is appropriate to help researchers through the stages of becoming users and their first use of EGEE services. This will require properly equipped training rooms and tutoring. We hope to take full advantage of existing local facilities to meet this need.

Tutorials have greatest practical value if users are taught about the steps needed to submit jobs to the Grid. For this purpose, dedicated “dummy” Certification Authorities and restricted dissemination test beds (running the same middleware as the EGEE production system) must be available from the beginning of EGEE. Moreover, since participants at some tutorials will not be experts in Grid computing, high-level user interfaces such as dedicated web portals should be deployed for hands-on sessions. This will exploit experience gained from the INFN Grid and DataGrid with the GENIUS grid portal (<https://genius.ct.infn.it>).

The initial training material, including tutorials and practical classes will be developed and managed by NeSC with input from other EGEE teams. During each year, courses will be presented at multiple sites and in multiple languages to make them easily accessible. This has been done very successfully by CERN during the DataGrid project.

We will seek to capture at least one run of each training course on video and audio and make them available over the web so that they can be replayed and used by project members at any time.

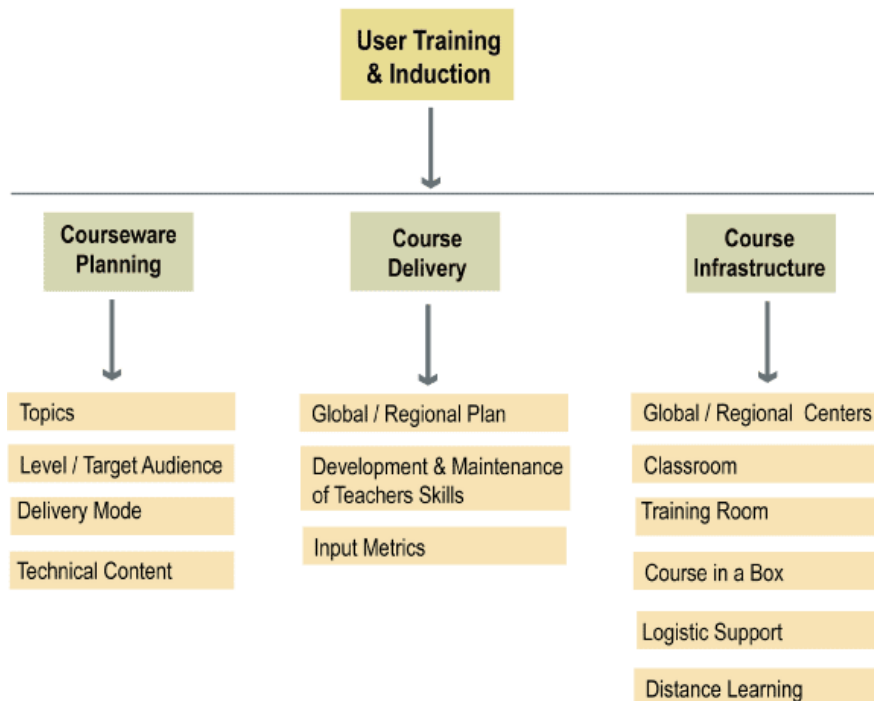


Figure 2 Overview of User Training and Induction tasks”

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These steps are described in the 'Policies' section of this Execution Plan (where this diagram is repeated).

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3 NA3 MILESTONES AND EU DELIVERABLES

Month	Deliverable or Milestone	Item
M03	DNA3.1.1	Training Plan
M03	MNA3.1	Planning phase complete – DNA3.1.1 delivered
M06	MNA3.2	First user-training material and induction course available
M09	DNA3.1.2	Revision of Training Plan
M12	MNA3.3	First external review of User Training and Induction with feedback
M15	DNA3.1.3	Revision of Training Plan
M24	MNA3.4	Second external review of User Training and Induction with feedback

The outcome of this activity will be twofold: first the creation of a well-trained group of EGEE users across the European Union from a wide variety of disciplines; secondly the creation of high quality training material, in a variety of European languages.

It is NeSC's responsibility, as lead site for NA3, to ensure that the milestones are reached on time and that the deliverables are produced on time. However, the cooperation of the other NA3 partners will be essential in meeting these requirements.

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4 ORGANISATION OF NA3 ACTIVITY

The 22 NA3 partner organisations between them represent a wealth of experience of Grid technology and its dissemination. It is not feasible for the lead organisation, NeSC, to operate a 'command economy' so far as the detail of each training activity is concerned, and it is fully expected that the NA3 partners will seek to present tutorials in ways which are appropriate to their regions and experience.

However, it must be appreciated that for the NA3 work as a whole to be effective, there must be close co-operation and liaison with NeSC. For this reason, every proposed EGEE NA3 activity must be discussed with NeSC beforehand, and the procedures specified by NeSC and agreed by NA3 must be followed. An initial specification will be developed in this document; revisions will be issued from time-to-time in the light of experience. Partners must comply with the latest revision of procedures, which will be clearly identified on the NA3 part of the EGEE Intranet.

Experience has shown that whenever training material from an earlier course is reused, it is changed. For this reason, the resulting version of the material used in every course will be kept separately and will be accessible via the NA3 part of the EGEE Intranet. It is anticipated that after a number of courses have been run, there will be a corresponding, developing, repository of material which will be available for future work. It is part of the NA3 task to consolidate and refine this material.

In order to present EGEE activities in a professional and standardised fashion, the quality assurance guidelines must be followed closely. It is by communicating with NeSC and with each other that the NA3 partners will be most effective in achieving the targets set in the EGEE Technical Annex.

The organisation of NA3 events is described in section 6, and developed in the succeeding sections. The initial responsibilities of the NA3 partners is described in section 9; note that these specify *minimum* amounts of training and induction activity: it is hoped that the actual amount of activity carried out exceeds the minimum, particularly for new-user induction courses.

Comment: Better make these self-updating links. Insert reference.

4.1 GETTING STARTED

It is inevitable that there will be a 'settling in' period for the NA3 training activities, before the procedures described in this execution plan have become established. This section outlines the initial months of NA3 activity.

Months 1 & 2

- Fundamental skill development of new hires
 - What will be the skills gaps we need to fill?
 - Request to other EGEE activities: tell us your best guess of requirements that won't be met internally
- Internal team and community building
 - for Training teams, each Activity team, ...
 - Tell us your requirements, ...
- In-depth workshops developing understanding:
 - Experts from within (and outside?) EGEE
 - Also builds team spirit & training material
 - Identify topics
- Revised specification of NA3 operational procedures, covering:

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- Course planning and scheduling
- Course material and presentation
- Course monitoring, statistics collection and analysis
- Shared repository of course material
- Public access to EGEE training material
- Reporting and agreeing labour committed to NA3
- Months 3 & 4
- Overflow from Month 1 & 2 requirements
- Initial User-Induction Courses
 - Decide which disciplines to target
 - What can we assume?
- Advanced Skills Development
 - EGEE staff courses
 - Depends on material from the Engineering & Operations Activities
 - Application Developer Staff Development
 - Identify requirements
 - Acquire material
- Revised specification of NA3 operational procedures
 - Covering previously listed topics, plus
 - Arrangements for recorded training
 - Arrangements for self-managed learning material

Months 5 & 6

- Establish regular Pattern of Distributed Training Events
 - Course translation & recording
- Advanced training
 - For EGEE staff
 - For Application Developers
 - For End Users
- Driven by Priorities
 - Derived by systematic requirement gathering
 - For each community
- Revisions of Material & “EGEE Style / Standard”
 - Systematic analysis of participant & trainer evaluations

Comment: Omit? I think it is necessary for some induction courses – but maybe later?

Dependencies & Relationships

- Interaction with both EGEE web sites (public and intranet) and NeSC web site

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Comment: Is this the right word? Self-managed training perhaps. Self-directed training? E-Learning?

Comment: I think material is plural and this should be depends

- Internal advertising and self-training
- External advertising and self-training
- Registration on NeSC web site
- Training material
 - Depend on pre-existing resources (EDG etc.)
 - Depend on active contribution from NA3 community
 - Depend on technical information from all Engineering and Application activities
 - Depend on timing information from Engineering teams
 - Courses clearly labelled with respect to target platform maturity, i.e. product, beta test, transition, etc.

4.2 INITIAL PRODUCTION OF COURSES

Apr–Jun 2004	PM1-3	Development & consolidation of existing material. Initial priority will be given to introduction & induction courses (initially at CERN and NeSC only).
May–Oct 2004	PM2-7	Internal developer training – team building topics determined by Activities employing middleware developers & operations staff; include self-help methods. Venues: main sites for those staff.
Jul 2004→	PM4→	Regular Introduction & Induction courses around Europe.
Sep 2004→	PM6→	EGEE Application Developers’ courses presented regularly; determined by EGEE defining application development context and APIs.
Dec 2004→	PM9→	EGEE advanced application development courses.

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5 FEDERATION ORGANISATION

There are 22 partners in total involved in NA3. The activity is led by the UK National e-Science Centre (NeSC), who represent the UK & Ireland region. The following regions will also be represented: Central Europe, Germany & Switzerland, Italy, Northern Europe, Russia, and South East Europe. A short description of each participant and their role in the project is given below, organised by region.

5.1 UK & IRELAND

The University of Edinburgh (**UEDIN**), represented in the project by the UK National e-Science Centre (NeSC) and drawing on the activities and experience of EPCC will be the lead centre for Activity NA3. NeSC (**UEDIN**) employs a full-time manager responsible to lead the activity. An event coordinator at NeSC is responsible for coordinating all of the events, and for planning, commissioning and managing those events. Some aspects of this may be delegated to other sites for events in their region or discipline constituency. A core unit of the training team is at the lead site. There will be trainers and user-support teams at other sites, to gain languages, to improve accessibility, and to have a breadth of representatives on which all of these activities are built.

NeSC (**UEDIN**) will take responsibility for managing the formation and operation of the full training team, drawing on capabilities in various user communities and on existing national and regional training and outreach centres. This will include negotiating agreements with other sites to provide training, and oversight of that training to ensure the quality of training services. NeSC will manage the schedule of EGEE training and outreach and liaise closely with the lead partners of NA2 and NA4.

For each training event it will arrange planning, development, staffing, registration and programmes. It will also liaise with the Operations, Support and Management team to ensure users are correctly directed to the appropriate support mechanisms.

NeSC's main technical role will be to develop the courses and supporting material. To do this, they will expect specialist help from other EGEE teams, who will be expected to provide technical information and documentation, and some presentations.

Edinburgh will also take regional responsibility for outreach and dissemination for the UK and Eire.

5.2 CENTRAL EUROPE

The Central Europe region are represented by nine organisations in NA3 (**GUP, UNIINNSBRUCK, CESNET, BUTE, ELUB, MTA SZTAKI, ICM, PSNC and II-SAS**) that consist of a number of academic and research centres, out of which several already possess noticeable experience in Grid technology, owing to participation in the Framework 5 CrossGrid, DataGrid, Eurogrid, GridLab, GRIP and GRIDSTART projects. In the past years several members of the Federation have been organising events oriented towards dissemination of Grid technologies. These events often included "Grid tutorials" and/or "Grid open days". Many partners have also organised regular seminars on Grid technology at their institutions (e.g. Cyfronet), and several promoted Grid topics in lecturing and in student theses.

The central Europe NA3 activities in EGEE will be based on this experience.

The following NA3 activities will be carried out by the Central Europe region:

- include Grid technology in academic lectures and MSc/PhD theses at the technical universities of Cracow, Brno, Budapest, Innsbruck, Linz, Poznan and others, organise dedicated Grid seminars for researchers at every participating institution;
- prepare tutorials on layered software oriented towards interactive applications and organise dedicated training workshops (several per year) for students and potential users;

Comment: In what way does this fit with the NA3 goals? A well-trained PhD or MSc student is possibly a well-trained EGEE user, but not everyone on a standard university course can be so designated – how do we identify inducted users from this? Those that did a project using EGEE perhaps?

Comment: What does this mean? Portals perhaps?

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Comment: Again, should we include this in our metrics? If so, how?

- during the first year of the project, develop one or more dedicated training centre(s) in one or two partner countries, serving the whole community;
- prepare dissemination brochures on applications which are relevant to the Federation (e.g. "Grids for flood crisis response");
- during the first two years of the project (2004 and 2005) – organise in every country of the Federation "Grid open days" (including demonstrations), oriented to attract and induct new users;
- develop and support dedicated Web pages.

5.3 GERMANY & SWITZERLAND

FZK, Karlsruhe, the largest non-commercial science and engineering institution in Germany, represents Germany & Switzerland in NA3. The centre has close cooperation with industry, universities and institutions of higher education. For this purpose FZK operates a training centre and will offer EGEE-related courses and tutorials on a regular basis in order to promote the use of the EGEE infrastructure in Germany.

The funded EGEE activity will fulfil the training and induction requirements of German users by:

- Localisation of EGEE related didactic material;
- Presentation of EGEE training and course material.

All activities will be performed in close collaboration with the German Grid User Support Centre and NeSC. A Web portal will be installed and supported to serve as a single point of contact for the German Grid community and all other interested parties.

Comment: Can we report this as part of our goals, or will it be part of the NA2 goals?

5.4 ITALY

INFN, who represents Italy in NA3, has a long tradition of dissemination and training, to the scientific community and to the general public.

INFN intend to build upon their existing successful Grid dissemination activities at national and international level. INFN activities envisaged in the context of NA3 will concentrate on:

1. The organisation of dedicated tutorials and training sessions all over Italy for industry, government and other sciences taking part in the IG-BIGEST initiative; this will include the production of documentation and all needed dissemination material. Subject to EGEE funding, INFN Grid can also contribute to support the EGEE participation in general European or international events.
2. The set up of an EGEE separate test bed in Italy for demos, running the official middle-ware released within the project. This testbed, called GILDA, is fully dedicated to dissemination activities to be used during the tutorials and training events and by application users. It is assumed that other EGEE partners will take the responsibility of providing resources and support for this test bed outside Italy to gain a European dimension.
3. The development, installation and maintenance of the GENIUS grid portal on the dedicated EGEE demo test bed in order to help new users to get started. INFN Grid will provide unfunded efforts with Nice to keep the evolution of this portal in line with the evolution of the EGEE middleware and LHC experiments grid application layer.

5.5 NORTHERN EUROPE

The networking activity for the Northern European Grid (NEG) Federation is a challenge because of the variety (seven) of very different languages and cultures. As the NEG Federation started prior to, and independent of, the EGEE initiative some measures have been taken already to improve communication and dissemination among the NEG partners. Web sites and mailing lists have been established and NEG partner meetings have been organised. These measures are in addition to similar

activities going on within the countries in the context of national grid activities; DutchGrid, EstGrid, NorduGrid and SweGrid have organised meetings, conferences, tutorials etc. and website and mailing lists exist also at a national level.

Within the NEG Federation, who are represented within NA3 by **KU-NATFAK**, there is an increasing need of training at various levels. Use will be made of the material to be prepared by NeSC for the introductory training courses, but those courses will have to be translated into the various languages and be maintained. More specialised courses will be developed within the NEG Federation itself, depending on the requests from the users and developers.

As many of the NA3 active participants from the NEG Federation are also university professors, we intend to develop academic classes at introductory and more advanced level. This material will be disseminated among the other partners in EGEE for further use.

To achieve coordination among the various NEG efforts, which are spread over seven countries, appropriate experts from all NEG partners will be delegated into a *NEG networking group*. This group will coordinate dissemination and outreach (NA2), training and induction (NA3) and application identification and support (NA4) within NEG and towards the whole of EGEE.

5.6 RUSSIA

Russia is represented in NA3 by six organizations – **IHEP, IMPB RAS, ITEP, JINR, PNPI and RRCKI**. Each of the organizations undertakes a specific role as follows:

- IHEP – Training and Induction of users from Moscow region; Prepare user training and course material, support and distribute it;
- IMPB RAS – Produce training and course materials on GRID in biology. Training and induction of users in biology;
- ITEP – Produce training and course material, training of users from Russian nuclear centres;
- JINR – Organise the Grid tutorials, training and education for EGEE user community in CIS countries. Support of distributed courses on the project;
- PNPI – Provide user training and GRID tutorials for St-Petersburg region;
- RRC KI – Training of the users for CA and Security, prepare training and course material, support distributed course on these topics.

The work of the NA3 Russian partners will be coordinated by Elena Slabospitskaya, of IHEP.

5.7 SOUTH EAST EUROPE

GRNET is the partner coordinating the South East European regional efforts and leads the South East Europe (SEE) effort within NA3. Two further SEE partners are represented in NA3: **TAU** and **ICI**.

GRNET coordinates the HellasGrid Task Force and operates the National Research and Education backbone network. In NA3, **GRNET** will undertake the coordination of the training and induction activities in the SEE region, involving production and localisation of training material, running of courses from introductory to advanced, and interaction with the other SEE and EGEE partners for feedback and improvements. **GRNET** will be responsible for training in Greece and Cyprus and will provide the appropriate hardware infrastructure and facilities when the courses are delivered.

TAU (Tel Aviv University) coordinates the Israeli Grid collaboration (Israel Academic Grid – IAG) and the IUCC, Israel's NREN. In NA3, **TAU** undertakes to develop the necessary skills to provide a series of training sessions in Israel, first to the HEP users and then to other user groups in the IAG. Feedback and interaction between other training teams is seen as a priority.

ICI, the National Institute for Research and Developments in Informatics based in Bucharest, is the coordinator of the Romanian Grid Consortium (RoGrid). In NA3 they undertake to provide the course

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infrastructure and material for training sessions in Romania and Bulgaria covering the RoGrid partners and BGConsortium.

In summary, the EGEE SEE area countries have considerable needs for training sessions and tutorials. Keeping in mind the diverse languages in the area and the difficulties this entails, local support will be needed. There are considerable needs for different types and levels of tutorial on EGEE specifics and on the relevant background middleware.

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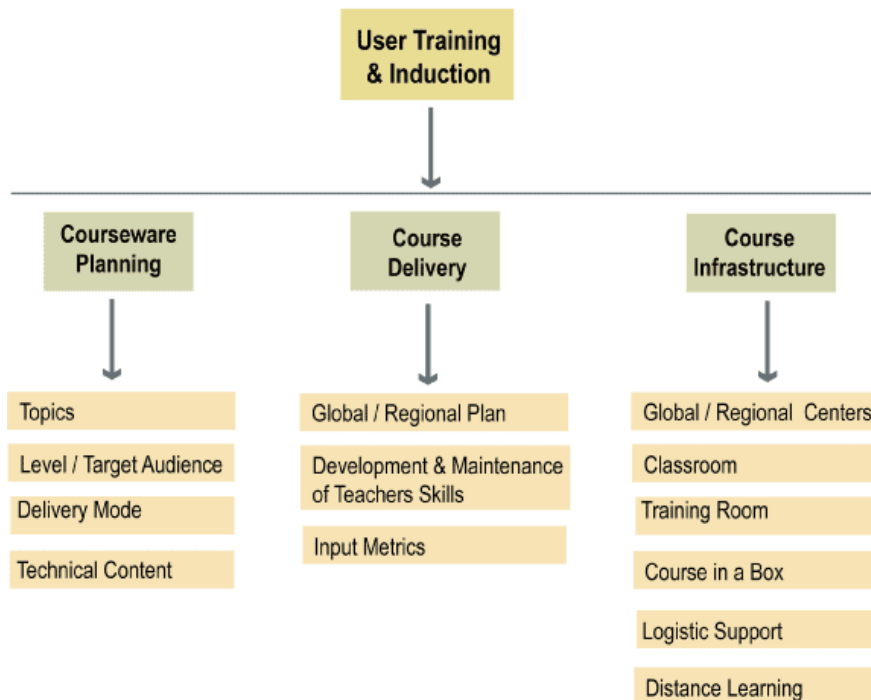
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6 POLICIES

6.1 INTRODUCTION

To follow

6.2 PROCEDURES FOR TRAINING



The steps to be taken in running a course – the sequence of elements which must be completed before during and after each course – are described here.

To follow

6.2.1 Paperwork: planning a course

6.2.2 Approval

6.2.3 Expected logistical support & planning from local host

6.2.4 Expected administrative support from NeSC

Explain registration process, and need for two local contacts with NeSC in Edinburgh: a technical contact (for matters relating to the subject matter of the course), and an administrative contact (for matters relating to the venue, accommodation, handout preparation and other administrative details).

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6.2.5 House style

There are templates for different types of document available from the EGEE intranet. These must be used when preparing training materials. It is essential that the brand name and appearance of the EGEE house style is reinforced by training activities. By this means EGEE activities will become recognised throughout the European scientific community and beyond. (For the same reason it is essential that high standards are maintained in the training materials.)

6.2.6 Preparations for a course

material, computational, exercises

6.2.7 Documentation for participants prior to course

6.2.8 Expected delivery patterns

6.2.9 Post-course ratings and comments from participants and teachers

6.2.10 Course analysis and post mortem

6.2.11 Records required by NeSC

6.3 RELEASE OF TRAINING MATERIAL

6.4 SIGNAGE

6.5 ESTABLISHING STANDARDS

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7 EVENT TYPES

The types of event specified in the EGEE Technical Annex, with size, length and frequency of each, are as follows:

	Event Type			
	Induction Courses	Application Developer Training	Advanced Courses	Technical Activity Retreats
Number per Year	10	8	2	6
Average Attendance	50	25	25	30
Course Length (days)	2	4	5	2
Course Equipment	Web Access	Workstations	Workstations	
Num. of EGEE Staff	2	2	2	2
Number of non-EGEE Experts	0	1	3	0

Table: EGEE Tutorials and Training Courses

Each of these types of event is described in the following sub-sections. The service indicators to be used in gauging the success of each course type are described in the following section.

7.1 INDUCTION COURSES

7.1.1 Introduction

An induction course has the target of bringing new people in as EGEE participants or users. They may be new recruits to the EGEE project, but the majority will be new users.

The induction training material will include how to become a registered user of EGEE, the simple use, via portals, of established facilities run by EGEE and Virtual Organisations (VOs). It will also include good real-world examples, and provide motivation for persevering with what can be a difficult technology.

Induction includes an introduction to the further courses: e.g. the courses for application developers who then know how to integrate applications with EGEE infrastructure and deploy them.

7.1.2 Induction goals

Three different subclasses of user induction must meet requirements of numbers trained, timeliness and quality.

1. Users already grid-aware inducted to be EGEE users
2. Users grid-naïve inducted to be EGEE users
3. EGEE team members oriented and prepared to be effective in EGEE (New hires and old hands)

Data to enable an assessment of achievements relative to these goals will be gathered as part of the normal course operation.

Comment: Quality and numbers may be assessed in this way, but timeliness (the priority for 3) requires other data as well.

7.1.3 Types of Course

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7.1.3.1 EGEE Member Induction (EMI)

The aims of the EMI course are:

- so that participants understand the EGEE project
- recognise and support its goals
- understand its structure
- understand its technical choices in general terms
- become proficient users of project management tools (relevant for their work)
- become proficient users of basic EGEE facilities (if you don't understand what the users use you can't build or run things for users)

Questions to be resolved:

- Q1: Are there some staff who only require part of EMI?
Q2: What are the prerequisites for EMI?
Q3: What is the profile of demand?
Q4: Which project tools need to be taught, and to what depth?
Q5: How much technical content should be included?

7.1.3.2 Grid-Aware Induction (GAI)

This type of induction is typically addressed to supporting people from national projects, former FP5 projects and concurrent FP6 projects. Attendees will have the following characteristics:

- they are already motivated
- they already have the concepts but not EGEE's factoring and naming of them
- they already have skills with some interfaces, tools, etc. but not necessarily EGEE's
- they require a fast introduction to project structure
- they require a fast introduction to deployed EGEE service
- hands-on experience of using EGEE service

In order to plan this type of activity effectively, and gain the most from it, NA3 must:

- look ahead at expected EGEE developments (this requires the active cooperation of NA4 and SA1)
- be sure we capture attendees' comments on what EGEE is doing
- be sure we hear their additional requirements¹

Course attendees will want the new world to look like the old. Their criticisms of our work will be valid if

¹ These last two activities are an important part of NA3's work, as NA3 must gather intelligence as to what informed and new users want, and collate that information to feed it effectively into the EGEE middleware and services development cycles.

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- they don't understand how to do what they want to do.
- they don't understand how to do what they have been accustomed to doing.
- they believe we haven't accepted their requirements.

The following possibilities should be considered:

- We could mix these in with other types of attendee.
- We could target particular conversions in one course.
- Partial courses may be useful.
- The state of prerequisite knowledge needs to be established: courses may need to start with revision material.

7.1.3.3 New Grid User Induction (NGUI)

The following considerations apply to experts in a research domain:

- they now want to join a VO and require EGEE
- they may be computational experts, e.g. have developed applications
- they may be computationally inexperienced:
 - e.g. just want to run an application
 - e.g. a clinician interpreting or planning PET scan treatment
- their motivation needs confirming
- the concepts need introducing
- they must experience VO mechanisms, such as Certificates
- they must experience successful use of applications
- application developers must also experience successful construction and commissioning of an application to run inside EGEE
- application users must have had an experience during the course that not only equips them to run their work on the EGEE platform but which is subsequently supported by EGEE.
- application developers must also have had an experience that carries forward well to real applications development for EGEE and remains supported.

Questions to be resolved:

Q1: Is this one type of course or two?

Q2: What concepts need introducing at this stage?

Q3: How much should we vary the course for different application domains?

7.1.4 Relationships required within EGEE for Induction

- 1) Is NA3 getting a clear picture of volume and kind of demand for EMI from other EGEE activities?
- 2) Are the other EGEE activities getting a clear picture of what NA3 will offer?
- 3) Is NA3 getting adequate prior information about EGEE services that are / will become operational?
- 4) Is there a flow control mechanism so that NA2 stimulates demand for NGUI training at a rate that matches NA3 capacity?
- 5) Is there a mechanism linking NA4 & NA3, so that as NA4 develops an application domain, NA3 are prepared to help with both GAI and NGUI courses at an appropriate rate in an appropriate region?

6) Will NA4 provide material for use in tutorials and practical classes?

7.2 APPLICATION DEVELOPER TRAINING

7.2.1 Introduction

A developer is a person who can be external to EGEE or be within EGEE, but who intends to build new applications that:

- run in the context of EGEE
- exploit EGEE facilities
- will become available to other EGEE users.

The training will assume expert levels of programming in an application domain, but will not necessarily assume prior experience of Grids or Web Services.

An application-developer training course will develop the necessary understanding of the computational context provided by the EGEE platform. It will acquaint the developer with the commonly used functions of that platform and their APIs. Participants will also learn the constraints on applications and on users, and the tools available for monitoring and debugging operational applications.

Hands-on experience will take them through the construction and use of an example application. As soon as they are available, this will also include experience with EGEE's monitoring and debugging tools.

In preparing such courses, NA3 will need the assistance of relevant subject experts. Specifically, the assistance of NA4 in linking to the Particle Physics and Biomedical communities, as well as other application domains as these come into the EGEE activity area, will be essential.

These courses will also require information, and initially presentations, from the EGEE staff designing, developing and operating releases of the EGEE platform.

Some participants may also require a 'mini-induction' course. This could be a preamble to the main application developer training material, which those familiar with EGEE could skip.

Course attendees must have obtained certificates prior to the course.

7.3 ADVANCED COURSES

7.3.1 Introduction

The participants on advanced courses will already be experienced users of Grid based systems such as EGEE, and will have developed applications services or virtual organisations or both. In other words they will be well experienced in the underlying technology, its management and use. Typically, their knowledge and skills will be at least on a par with someone who has completed an application developer course and reinforced this with several months of intensive work developing and using applications in the context of the EGEE platform.

They will come to such courses expecting to work intensively to acquire advanced knowledge and skills in a specific technological area: e.g. job submissions, workload management or scheduling. Another example might be large-scale data management and data integration. This will require input from imported experts.

The aim is that after such a course the group of developers would be able to build much better applications and systems infrastructure in the area on which the course was focussed. They should act

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as effective evangelists for the benefits of using EGEE infrastructure as an environment for applications. Many will also become important *well-informed* sources of requirements input to the design of future EGEE platform releases.

It is envisaged that such courses would not start before Q4 2004, and would be held either at NeSC or CERN.

7.4 TECHNICAL ACTIVITY RETREAT

Technical activity retreats are intended to be intensive technical meetings focussing on a specific topic or area at an advanced level. It is anticipated that the need to have such retreats will be forthcoming from the technical activities within the EGEE project; that is, it is *not* expected that NA3 would initiate such an event. It will be the task of NA3 to facilitate such retreats, by finding suitable venues, arranging for external speakers or session leaders, preparing paperwork, and undertaking registration and other administrative arrangements. The technical input, however, is expected to come from the EGEE activity itself.

8 SERVICE INDICATORS

8.1 INTRODUCTION

This section describes means of measuring the effectiveness of each type of training course.

8.2 INDUCTION COURSES

8.2.1 Targets and Measures for each induction course type

The following considerations may be used to determine the success of the different types of induction course:

1) Minimum numbers of users inducted by various milestone dates [NGUI & GAI]

This is crucially dependent on

- (a) the quality of the EGEE service
- (b) the numbers attracted to attend the courses
- (c) the quality of our training

Could this be measured by correlation between course attendances and EGEE Certificate ownership?

2) Proficiency of users [NGUI & GAI]

- (a) How well can they carry on afterwards
- (b) How much of a load do they then impose on operations and help desk
- (c) How well are their applications prepared for EGEE

This depends mostly on the quality of training.

How can we capture 'proficiency of users'?

3) EGEE-Team Building [EMI]

- (a) Did the training cope with the numbers of EGEE members?
- (b) Was the training provided quickly?
- (c) Was the training team well informed of the requirements for EMI?
- (d) Were the trained team members more effective for EGEE?

4) Time, Politics and Geography

- (a) Was training given on appropriate occasions?
- (b) Was training suitably distributed across disciplines?
- (c) Was training available in all of the partners' countries?

5) Intelligence Gathering

- (a) Did the training team gather information from users effectively?
- (b) Did they present it effectively to relevant parts of EGEE?

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- (c) Did those parts of EGEE take advantage of that information?
- (d) Did other parts of EGEE inform NA3 of their requirements accurately?
- (e) Did operational parts of EGEE inform NA3 of consistent misunderstandings held by trainees?
- (f) Did the NA3 team make good use of this intelligence?

8.3 APPLICATION DEVELOPER TRAINING

8.4 ADVANCED COURSES

8.5 TECHNICAL ACTIVITY RETREAT

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9 TRAINING RESPONSIBILITIES OF NA3 PARTNERS

It is a responsibility of NeSC, as lead site, to coordinate the work of the other partners, and to ensure that the results of their efforts are disseminated widely in ways which are appropriate and accessible. NeSC is also responsible for ensuring that the efforts of NA3 partners are fairly recognised and rewarded and that EGEE funds are not allocated unless the required work is delivered and of satisfactory quality.

9.1 INDUCTION COURSES

The following table presents an initial assignment of organisation and running of induction courses to the NA3 partners, who are identified by the numbers assigned in the EGEE Technical Annex. This provisional assignment does not allocate courses to yearly quarters, which will be decided after discussion with the NA3 partners.

It is again stressed that these are the *minimum* numbers of induction courses required to be organised in order to comply with the lower limits specified by the Technical Annex. It is hoped that the actual numbers of induction courses will be higher.

A partner who has not been assigned any courses to organise is nonetheless asked to participate, by assisting another NA3 partner in their federation, or by providing or revising training material. They may even organise additional courses.

The number of attendees and length of courses are given in section 7 above, namely 50 attendees and of 2 days duration. If the actual size or duration of a course is different from what has been estimated in section 7, then the partner(s) may adjust the number of courses so that the total number of participant-days does not fall below the set targets.

Partner	Event Type: Induction Course							
	Y1/Q1	Y1/Q2	Y1/Q3	Y1/Q4	Y2/Q1	Y2/Q2	Y2/Q3	Y2/Q4
17	2				2			
2					1			
3								
4	1							
5 + 6 + 8					1			
11 + 12	1							
13	1				1			
28	1				1			
31	1							
34					1			
41 + 42 + 43 + 44 + 46 + 47	1				2			
51	1				1			
52					1			
53	1				1			

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Table: Assignment of Induction Courses to NA3 Partners

9.2 APPLICATION DEVELOPER TRAINING COURSES

The following table presents an initial assignment of organisation and running of application developer courses to the NA3 partners, who are identified by the numbers assigned in the EGEE Technical Annex. This provisional assignment does not allocate courses to yearly quarters: this will be decided after discussion with the NA3 partners.

It is stressed that these are the *minimum* numbers of application developer training courses required to be organised in order to comply with the lower limits specified by the Technical Annex. It is hoped that the actual numbers of induction courses will be higher.

The estimated number of attendees and length of courses are given in section 7, namely 25 attendees and of 4 days duration. If the actual size or duration of a course is different from what has been estimated in section 7, then the partner(s) may adjust the number of courses so that the total number of participant-days is not reduced.

A partner who has not been assigned any courses to organise is nonetheless asked to participate, by assisting another NA3 partner in their federation, or by providing or revising training material.

Partner	Event Type: Application Developer Training Course							
	Y1/Q1	Y1/Q2	Y1/Q3	Y1/Q4	Y2/Q1	Y2/Q2	Y2/Q3	Y2/Q4
17	1				1			
2					1			
3								
4	1							
5 + 6 + 8					1			
11 + 12	1							
13					1			
28	1				1			
31	1							
34	1							
41 + 42 + 43 + 44 + 46 + 47	1				1			
51	1							
52					1			
53					1			
Total	8				9			

Table: Assignment of Application Developer Training Courses to NA3 Partners

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9.3 ADVANCED COURSES

Advanced courses will be organised directly by NeSC, drawing on the expertise of NA3 partners, other EGEE activities and external speakers, as the subject matter dictates. It is expected that advanced courses will be normally by held either in CERN or at NeSC; however, it is possible that an advanced course could be held elsewhere, if a federation specifically requests it and is able to provide assistance in its organisation.

There is a requirement to provide at least two advanced courses per year, each lasting five days and with an average attendance of 25.

9.4 TECHNICAL ACTIVITY SPECIFIC RETREATS

Technical activity specific retreats will be organised by NA3 at the specific request of technical activities within EGEE. It is anticipated that groups requesting such events will normally be able to provide the experts who will lead the retreat. NA3's contribution will be in finding a venue, providing administrative support, and possibly finding suitable experts to take part in the event.

There is a requirement to provide at least six technical activity specific retreats per year, each lasting two days and with an average attendance of 30.

NA3 partners are not assigned responsibilities for such retreats; however, they are required to assist NeSC in organising such an event if called upon to do so.

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10 TRAINING MATERIALS

Summary of materials required to run a course.

Summary of items provided by NeSC to partners (signage, badges, folders for course notes)

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11 TOOLS AND TECHNOLOGY

What documentation and training tools are to be used.

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12 INTELLECTUAL PROPERTY RIGHTS

A description of the status of the training material produced by EGEE, and conditions pertaining to its use by others.

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