



Enabling Grids for E-science

Training and Outreach

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EGEE 1st EU Review

9-11/02/2005

www.eu-egee.org



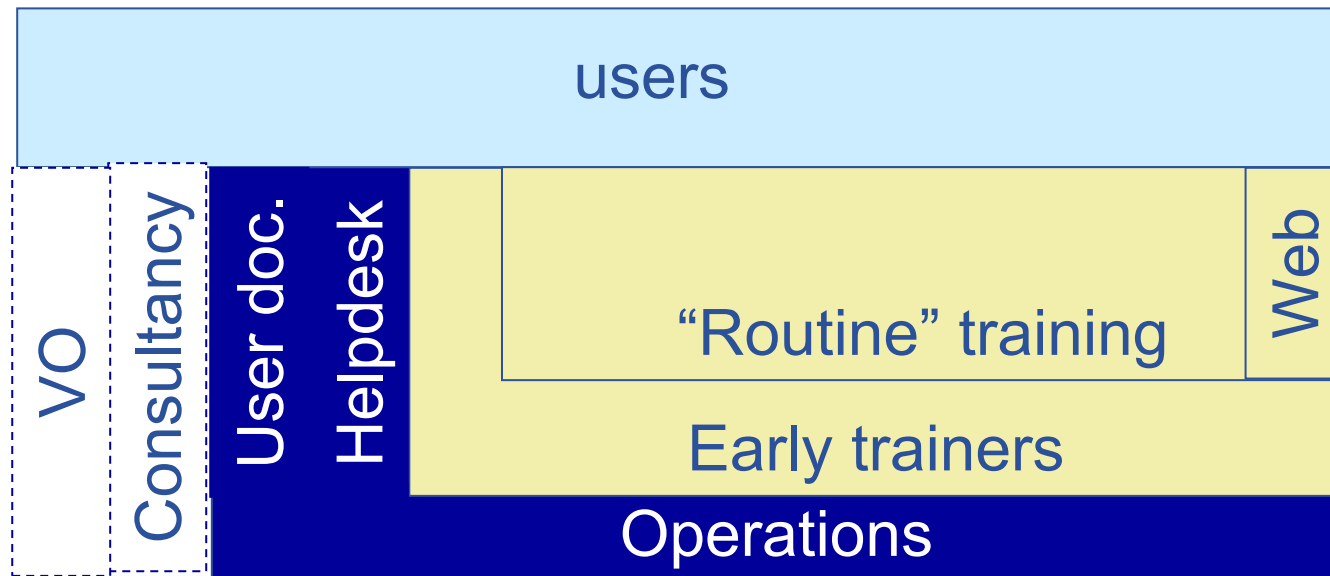
- **Who are the trainers and what are they for?**
- **Highlights of the Training Year**
- **Training Achievements**
 - Exceeding planned targets
 - Effective federation and collaboration
 - Pioneering new training infrastructure
- **T-Infrastructure Provision**
 - GILDA/GENIUS
 - Administrator training
 - Training Repository & Course Support
- **Future Training & Issues**
- **Conclusions**

- **The EGEE training programme is built on a federation of 22 partners and close collaboration across activities**
- **It has delivered well above planned targets and is raising grid awareness, gaining users, building teams and empowering developers**

Who are the trainers and what are the for?

What are trainers for?

- **EGEE Goal**
 - many effective and active users in many locations
- **Technology is supported by a small number of people**
- **Training helps to make this feasible and scalable**
 - EDG demonstrated the necessity of training

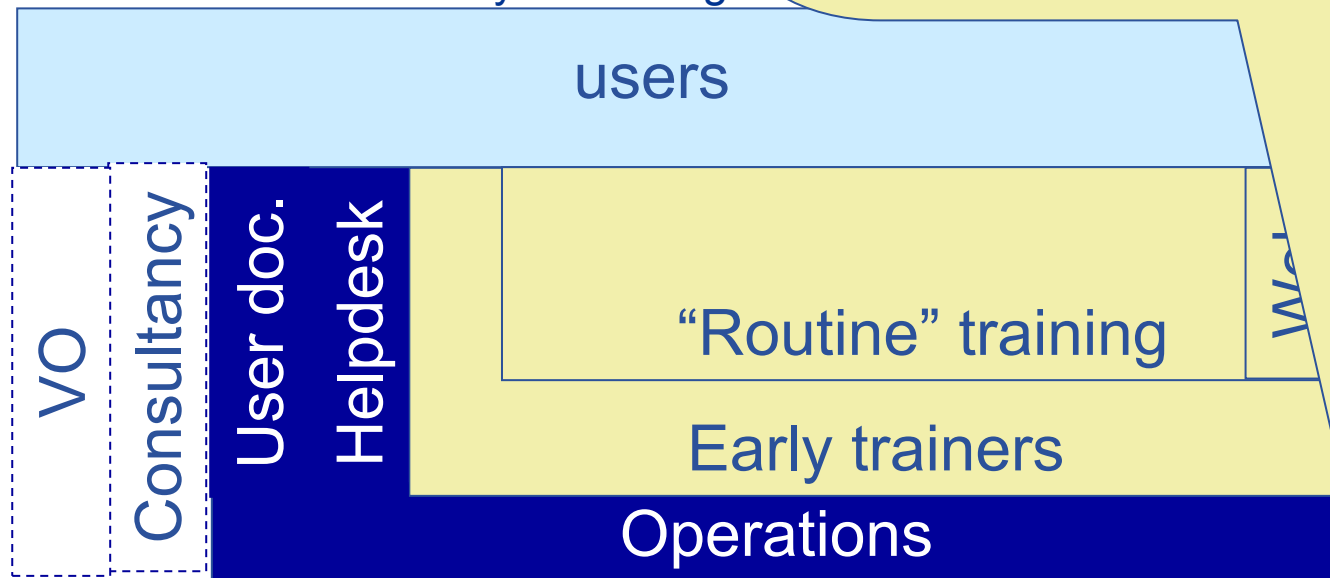


What are trainers for?

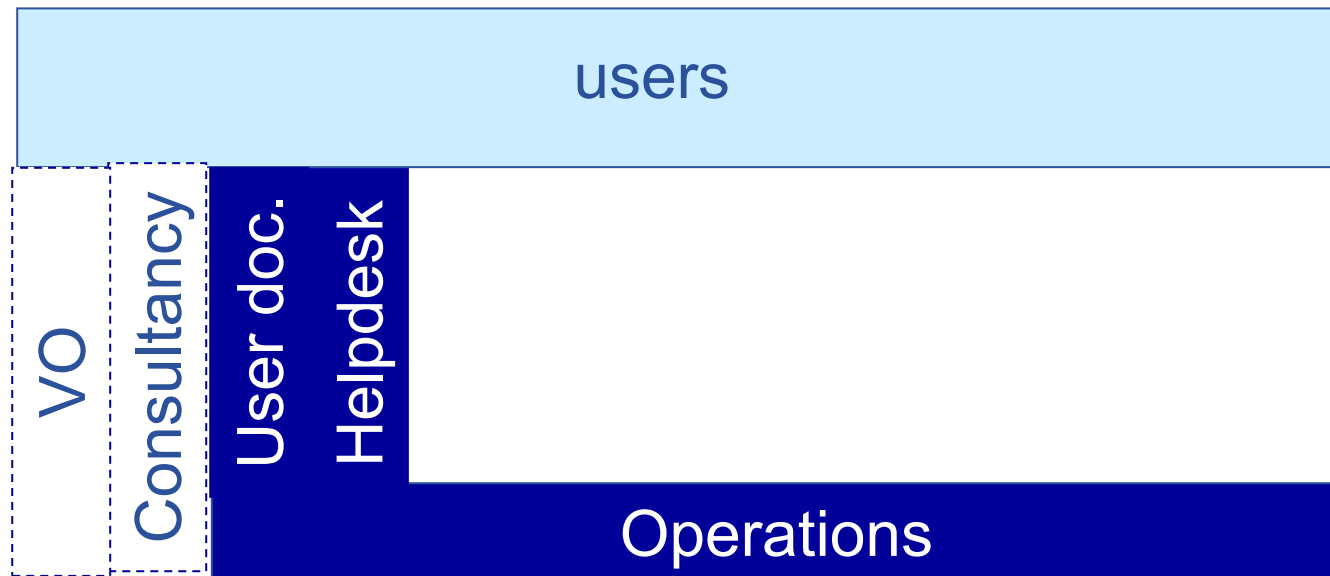
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- **Technology is supported by a small number of people**
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Increase trainer effect

- Repository of Training Material
- Courses to train new trainers
- Self-paced Learning support

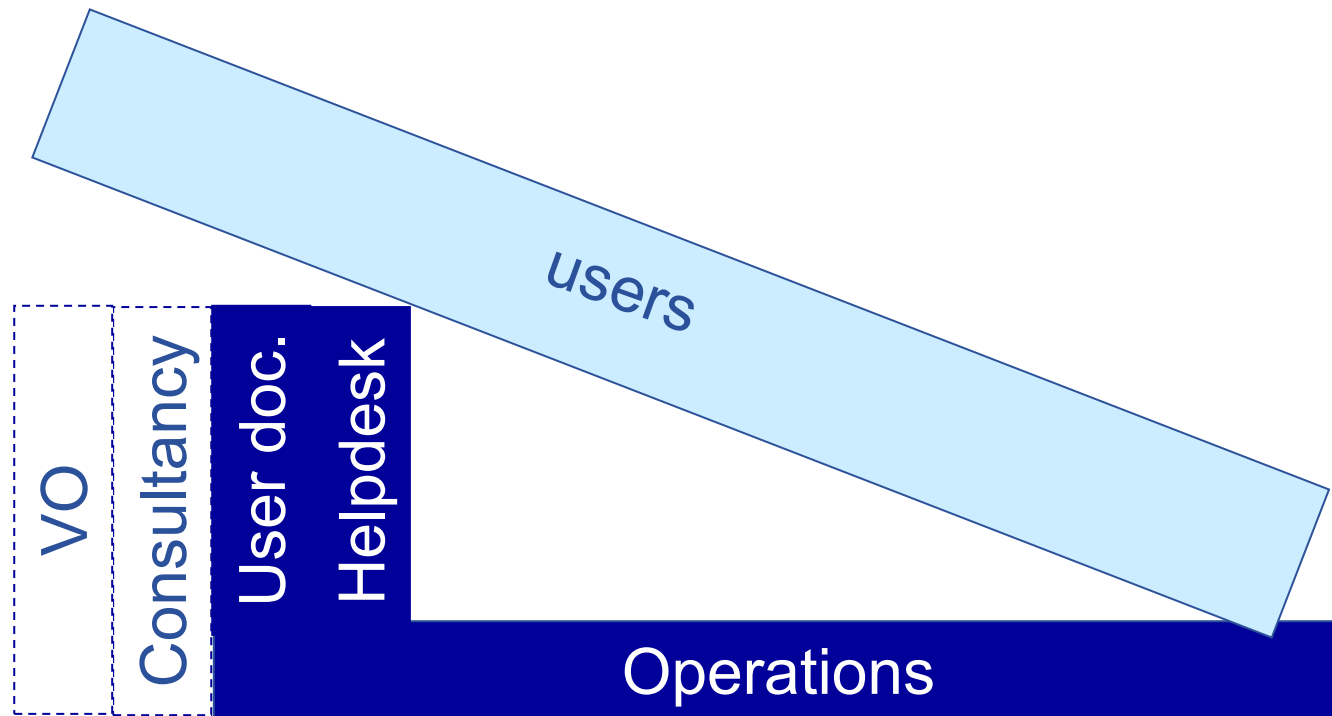


- **The danger of**
 - Users uninformed
 - Support staff overloaded
 - With mundane questions

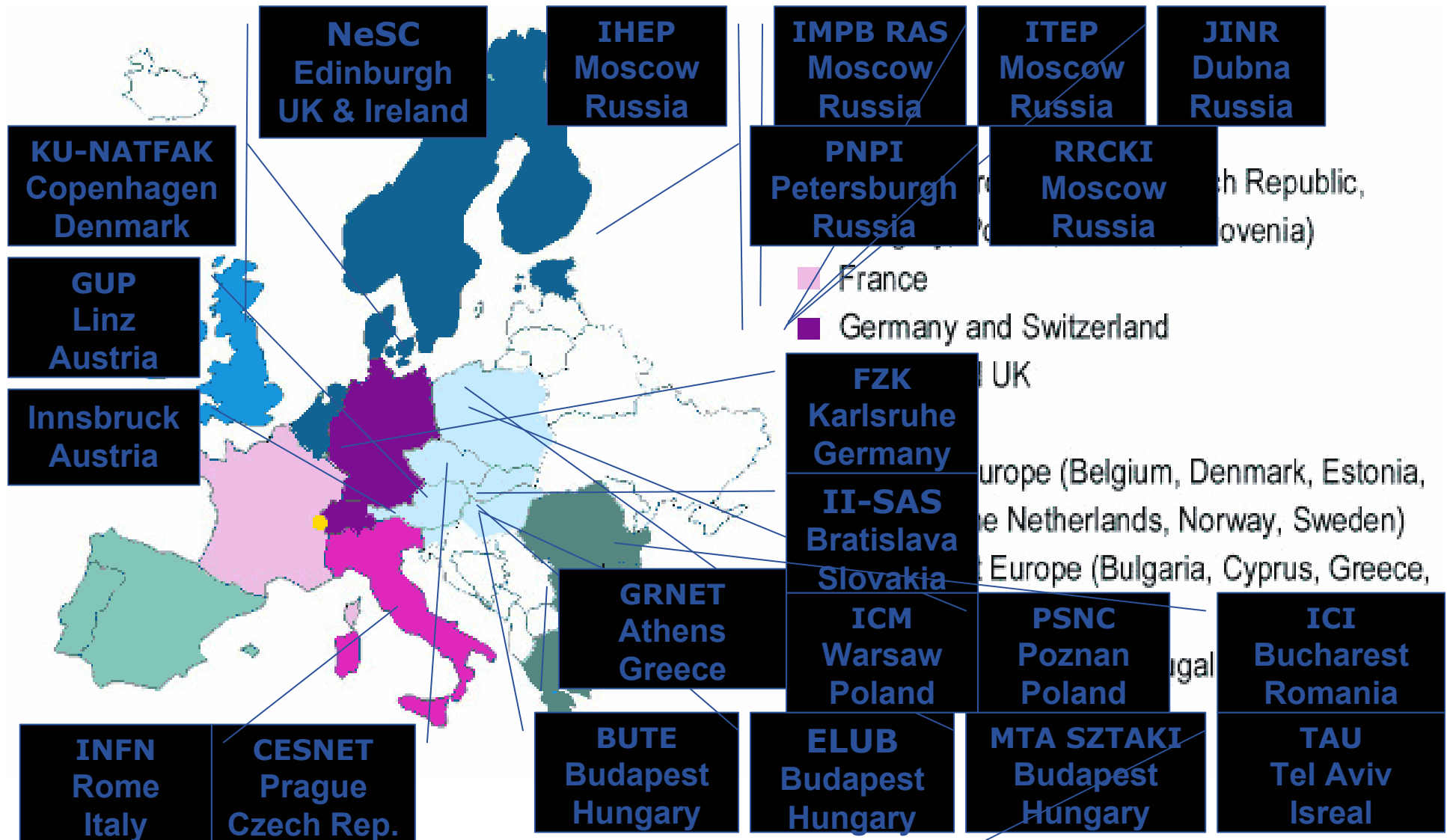


- **The danger is that**
 - Users uninformed
 - Support staff overloaded

If you think training is expensive,
 try ignorance
 Roy Crock, Founder of M^cDonalds



EGEE 22 Training Partners

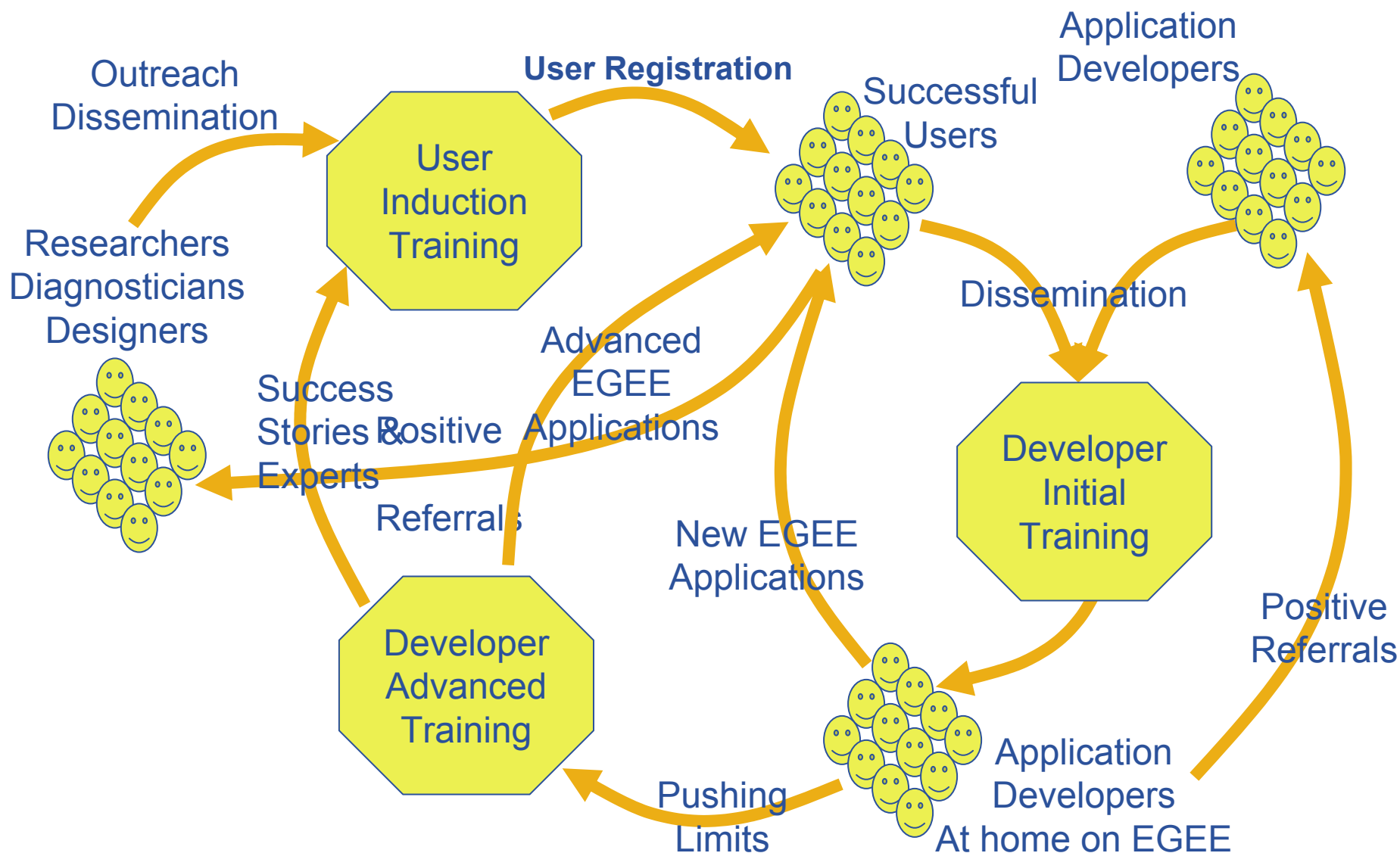


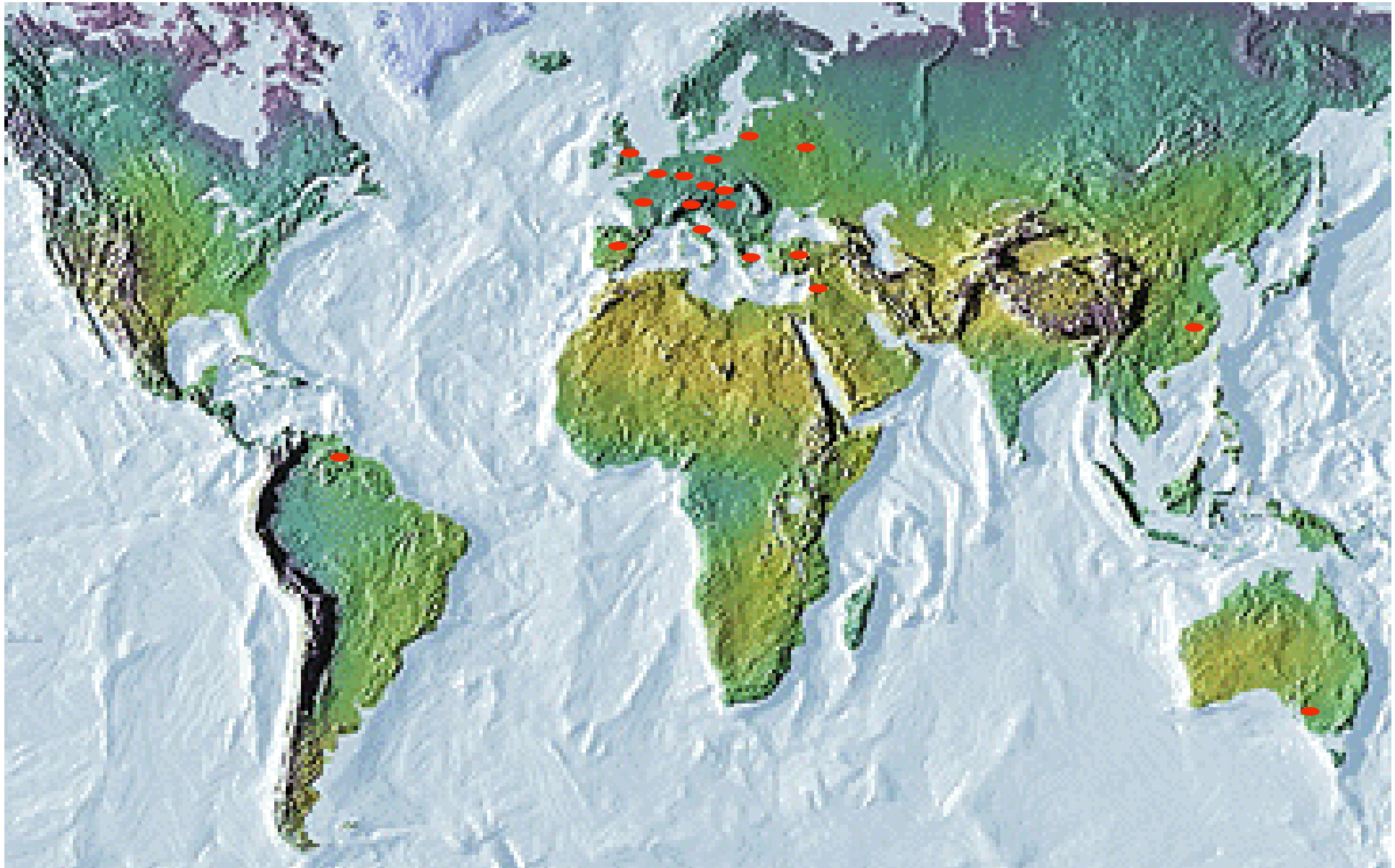
Federation	Effort in FTEs
South East Europe	3.44
Russia	4.13
Northern Europe	1.33
Italy	1
Germany/Switzerland	1
Central Europe	5.29
UK/Ireland	6
TOTAL	22.19

~ 1 FTE per partner in NA3 (22 partners)

~ 0.3 FTE per partner within EGEE (given 70 partners).

Training's Role in Virtuous Circles





Highlights of the training year

NA3 has produced courses based on commitments in the execution plan and training requests which have been received (mainly from NA4).

- **Induction**
- **LCG2 installation**
- **LCG2 APIs**
- **gLite preparation**
 - Web Services
 - WSDL



Example: GGF Summer School

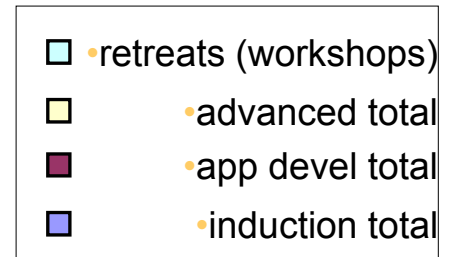
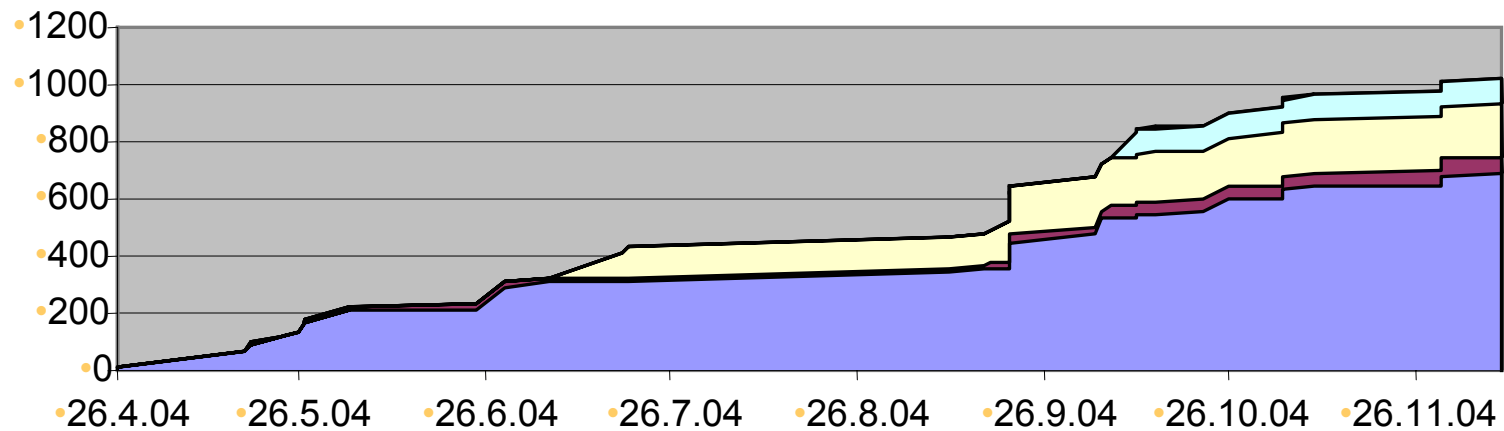


The NA3 training team made a central contribution planning, organising and presenting the 2004 GGF Summer School. Presentations were given on “High-level Grid applications: a portal based approach”; “Introduction to Web Services”; + a tutorial “Introduction to the GENIUS portal and the GILDA Test bed” and “An Introduction to Data Services & OGSA-DAI”

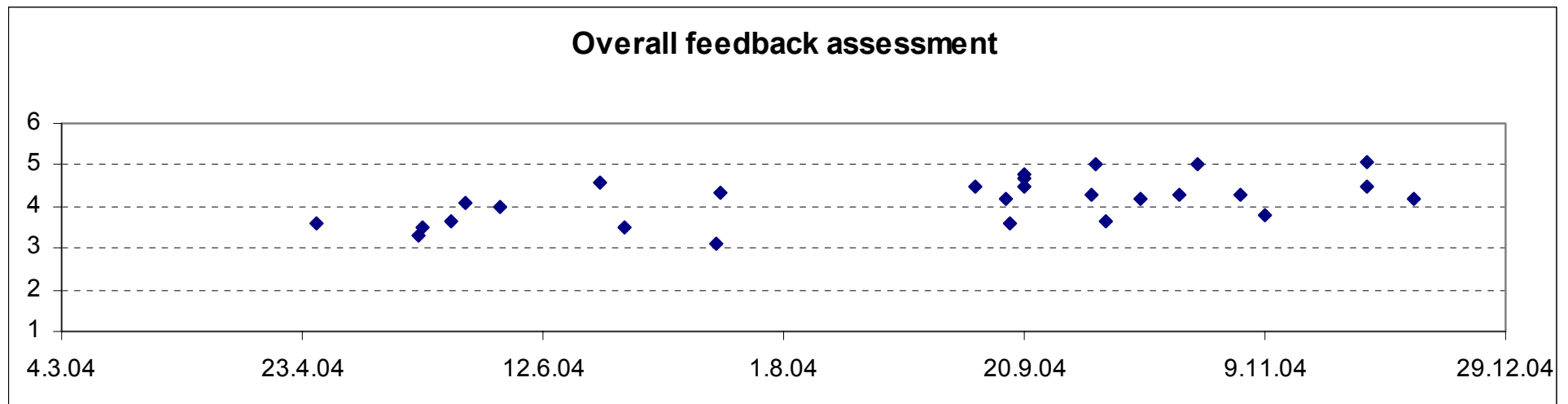
The event was attended by 84 selected advanced international students.

Training Acheivements

• Total number of trainees



Participants grade course from 1 to 6



Trainers review grades and update course material and training plans

Table 1: Delivery of courses by presentation location (end of November 2004)

LOCATION	Number of Courses	Normalised for FTEs	Number of Days contact	Normalised for FTEs
Central Europe	10	1.9	19	3.6
United Kingdom	8	1.3	16	2.6
Italy	3	3	7	7
Northern Europe	2	1.5	4	3
Russia	6	1.4	11	2.7
Germany/Switzerland	8	8	17	17
South East Europe	2	0.6	3	0.8
Baltic	1	-	2	-
Spain	1	-	2	-
France	1	-	2	-
TOTAL	39	1.7	78	3.5

NB. The table above shows the courses and effort categorised by where the events were presented. This may not match the partner who provided the tutors (e.g. Spanish and Baltic events had tutors from the UK as did two of the events in Switzerland and one in Italy).

Table 2: EGEE Induction and Training Courses planned in the Technical Annex

	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

NB. Mean figures – can't be used to directly calculate participant/days

Targets for year 1, **but demand exceeds original estimates**

Course type	No of Attendees	% of target	No of courses	% of target
Induction	479	95.8	14	140
Application Developer	48	24	5	62.5
Advanced	109	200	4	200
Technical Activity Retreats	?	?	2(?)	33.33 (?)

Total trained 1033 so far. 2 year target 1500, so a bit over 2/3rd

	Event Type							
	Induction Courses		Application Developer Training		Advanced Courses		Technical Activity Retreats	
Number per Year	10	30	8	6	2	5	6	4
Average Attendance	50	23	25	10	25	37	30	30
Course Length (days)	2	2	4	2	5	5	2	2
Course Equipment	Web Access		Workstations		Workstations			
Num. of EGEE Staff	2		2		2		2	
Number of non-EGEE Experts	0		1		3		0	

	Event Type			
	Induction Courses	Application Developer Training	Advanced Courses	Technical Activity Retreats
Number per Year	30	6	5	4
Average Attendance	23	10	37	30
Course Length (days)	2	2	5	2
Course Equipment	Web Access/Access to GENIUS/GILDA. High bandwidth networking	Workstations/Access to GENIUS/GILDA. High bandwidth networking	Up to 5 Workstations per participant group (requirements for LCG2). High bandwidth networking	
Num. of EGEE Staff	2 - 3	2 - 3	2 - 5	2
Number of non-EGEE Experts	0	0	Varies as required	Varies as required

- **11,584 participant days at induction events (1000 expected) or 1158.4% of targets**
- **286 participant days at developer courses (800 expected) or 35.75% of targets**
- **3,732 at advanced courses (250 expected) or 1492.8% of targets**
- **and 481 at workshops (360 expected) or 133.6% of targets**

- **Resources per course are higher than was initially estimated.**
- **This can be seen, from the table above (tables 2 and 3),**
 - reduced number of days per course
 - more administration per participant day
 - fewer participants per course
 - greater numbers of trainers required
 - increased e-Infrastructure requirements
- **The reduced numbers of participants per course needs to be accepted as a necessary adjunct to maintaining quality in training provision.**
- **Shorter courses are necessary to fit with participants' constraints.**

- **Each of the NA3 federations has delivered at least two courses during the period under discussion.**
- **The first training plan (DNA3.1.1) calls for a total of 26 training events per year, whereas 39 have actually been delivered.**
- **The courses delivered have averaged almost exactly two days each across all of the federations.**
- **The total number of attendees so far reported is 1033.**

- | | |
|---|--|
| • Induction, France (NA4) | 4 th January |
| • Induction, France (NA4) | 11 th January |
| • Grid conference tutorials, Russia | 17 -19 th Jan |
| • Induction, France (NA4) | 18 th Jan |
| • Induction for NA2 | 28 th Feb-1 st Mar |
| • WSRF, UK | 23 -24 Feb |
| • Application Developer course, Spain | Feb/Mar |
| • DILIGENT training, Italy | 8 -10 th March |
| • GATE tutorial, Germany | 7-9 th March |
| • Web Services (with AG), Germany | 16 -18 th March |
| • Induction, France (SA1) | 22-23 rd March |
| • Courses at Athens Conf, Greece | 18 -22 April |
| • Tutorial, Grid conference, Russia | 11-15 th July |
| • International Grid Summer School, Italy | July |
| • PPARC Grid Summer School, UK | 10 -13 th May |
| • Induction, Austria | Sept |

- **The Top 3 training achievements achieved by NA3 working with NA4, SA1 & JRA1 are:**
 - 1) The establishment of an effective and federated collaboration for training across the whole of the EGEE geographic area**
 - 2) Significantly exceeding our first year goals in the provision of training and induction**
 - 3) Identifying the requirement for t-Infrastructure and pioneering its provision with GILDA and the shared training material repository**
- **The training has been extended to many other countries and is bringing new communities to EGEE.**

- An effective federated training network for EGEE across Europe has been created.
- Induction material has been created and courses presented. The numbers have greatly exceeded targets.
- Induction material has been re-used, modified and translated.
- The GENIUS/GILDA t-infrastructure has been successfully used by many induction courses.
- Application developer material (web services and LCG2 APIs) has been created and courses presented.

- A materials archive to provide support for trainers throughout EGEE has been created and made available. This now contains over 100 presentations and over 300 files and will be expanded to include a wide variety of resources, including practical tutorials, video tutorials, middleware images and example software.
- The, previously unrecognised, need for advanced installation/administration courses has been identified early in the project and is being addressed by the provision of courses and material across EGEE. Although this type of course was not expected to be required in the first year, partners have responded well to the appearance of the requirement.
- NA3 partners, particularly INFN, UEDIN and GRNET, have been closely involved in presenting training outside EGEE and encouraging new regions to join the project.

T_infrastructure provision

- **Training may require special e-Infrastructure**
- **T-Infrastructure emulates e-Infrastructure**
 - technical, operational and management aspects
 - covered by courses
- **T-Infrastructure may anticipate a future platform**
- **Authentication at (or just before) a course**
- **Authorisation may restrict imposed loads**
- **T-Infrastructure may be operated in isolation**
- **Guarantees of availability and response**

- **GILDA provides a prototyping mechanism to bring applications and communities to EGEE**
- **GENIUS provides a user friendly portal for introducing users to grids**
- **GILDA/GENIUS provide support to training activities**
 - Demo mode, no certificates required
 - Certificated users – special VO, portal access to many applications
 - Developer access to GILDA

- **Metadata now being added (course, module, author, location, language, etc)**
- **Archive now has :**
 - over 100 presentations
 - over 300 files
 - 34 modules
 - 7 course types:
 - EGEE induction
 - Globus ToolKit 2
 - Globus Toolkit 3
 - LCG2 APIs
 - LCG2 Installation and Administration
 - UML for developing web services
 - Web Services
 - <http://www.egee.nesc.ac.uk/trgmat/index.html>

Issues and plans

- **The training team's primary concerns are:**
 - 1) Sustaining high-quality training throughout the region for as long as required, will need continuous collaboration, focus, leadership, communication and resources**
 - 2) Experts are needed to inform planning, preparation and delivery of new courses; these occur frequently in a rapidly developing e-Infrastructure environment and those experts are under heavy pressure achieving the same developments**
 - 3) The demand for training is growing rapidly and the breadth of requirements expands with each new community and operational advance.**

- **Important deliverables, milestones and steps for the next 9 months**
- **Highlight any changes w.r.t. to TA**

- **MNA3.3 First external review of User Training and Induction with feedback**
- **DNA3.1.3 Training Plan revision**
- **DNA3.3.2 Training Progress Report update**

- **Note: One slide please**

- **Effort must be focussed on Application Developer courses to help support new application domains brought in by NA4. Partners have been asked for new commitments in this direction.**
- **The limitations of ad hoc solutions to providing t-infrastructure has been recognized at UEDIN and physical resources are being put in place to address this requirement.**
- **Expansion of the content of the materials archive and improvements in its structure and interface based on feedback from users.**

- Encouraging the expansion of the use of grid based communications technology in presenting courses, for instance the use of AccessGrid to remotely present courses has been trialed at UEDIN and GRNET has experience in the use of SMIL extensions to XHTML for providing material over the web.
- Expanding the use of eLearning technology in order to provide increased support for training.
- A group (User Information Group, UIG) spanning NA2, NA3, NA4, and SA1 has been brought together in order to update the provision of information from EGEE to users.

- **Note: Normally, you should count 2 minutes per slide (don't write too many slides)**
- **Remember to refer to the point on the agenda page:**
<http://agenda.cern.ch/age?a043803>
- ***-Overview of events performed, planned and assessment of feedback received***
-Implementation of virtuous cycle
- **Objectives of your activity/organisation and its structure**
- **Major achievements for this past period**
- **Major issues and mitigation**

- **Summarise the important point in your talk**
- **Note: One slide please**
- **1) The establishment of an effective and federated collaboration for training across the whole of the EGEE geographic area**
- **2) Significantly exceeding our first year goals in the provision of training and induction**
- **3) Identifying the requirement for t-Infrastructure and pioneering its provision with GILDA and the shared training material repository**
- **The training has been extended to many other countries and is bringing new communities to EGEE.**
- **Focus on application developer and advanced courses, development of training support mechanisms (t-infrastructure), gLite migration support**