

Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

Meeting Object: <b>PEB</b>	Meeting	Object:	PEB
----------------------------	---------	---------	-----

Editor(s):	Bob Jones, Marc-Elian Bégin
Meeting Date:	2/12/2004
Meeting Place:	CERN, 600-R-002 + Phone
Attendees:	<ul> <li>NA1: Bob Jones, Marc-Elian Begin,</li> <li>NA2: John Dyer (phone), Licia Florio (phone)</li> <li>NA3: Malcolm Atkinson (phone)</li> <li>NA4: Massimo Lamanna, Vincent Breton (phone)</li> <li>NA5: Matti Heikkurinen</li> <li>SA1: Ian Bird, Cristina Vistoli (phone),</li> <li>SA2: Jean-Paul Gautier (phone)</li> <li>JRA1: Frédéric Hemmer, Erwin Laure</li> <li>JRA2: Gabriel Zaquine, Alberto Aimar,</li> <li>JRA3: Ake Edlund (phone),</li> <li>JRA4: Kostas Kavoussanakis (phone)</li> <li>GRNET Public Relations: Dimitra Kotsokali (phone), Krystallia Drystella (phone)</li> <li>3<sup>rd</sup> EGEE Conference organiser: Fotis Karayannis (phone)</li> </ul>
Apologies:	NA3: David Fergusson, NA4: Frank Harris
Absent:	
Distribution:	PEB Members
Information	Minutes from the previous meeting:
	http://agenda.cern.ch/askArchive.php?base=agenda&categ=a044540&id=a044540/m inutes

#### 1. PROPOSED AGENDA

- a. Minutes of the previous meeting and issues arising
- b. Review of action items
- c. Den Haag Debrief
  - General feedback (strong and weak points e.g. organisation, venue, programme, location, services what to improve for Athens?)
  - Main actions/outcome
  - Prioritisation of gLite features for RC1
- d. Status of PM9 Deliverables
- e. Demos short list for EU Review (following demo sessions last week)
- f. AOB
- g. Next meeting: Thursday 9th of December at 16:00



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

#### 2. AGENDA ITEMS

#### a. Minutes of the previous meeting and issues arising

Minutes accepted with minor correction requested by Ake. The date of the meeting was also corrected.

#### b. Review of action items

See action table here:

http://egee-intranet.web.cern.ch/egee-intranet/Project-Structure/boards/PEB2.html

#### **Deliverables and Milestones**

Find updated list of Deliverables and Milestone here:

http://egee-jra2.web.cern.ch/EGEE-JRA2/EUDocuments/Deliverables/Deliverables.htm

#### New action status:

92/94: "Extract required data per VO (non-HEP)" + "Provide support to JRA2 for where to find quality metrics data in the L&B and RB services". The solution for access to the required information is for JRA2 to download the entire database and fetch the required information from it – **92:On-Going, 94: Closed** 

97: "Compile list of questions in order to clarify the deployment the current middleware running on the JRA1 Prototype Testbed on the 30 Alice sites". Clarified during parallel sessions at the EGEE Conference – **Closed** 

98: "Propose names for the different presenters for the EU Review"

The EU has provided feedback on the review agenda. It is accepted with minor time changes. The main impact is on the reduced demo time to 1.5 hours from 2 hours (please see agenda page for details).

Confirmed presenters:

- Welcome: Wolfgang von Rüden and/or Jos Engelen
- Status of the Project : Fab
- Technical Overview : Bob
- Status of Production Service : Ian
- Application Assessment of Production Service : TBD
- Production Demonstrations : TBD
- Middleware Development : TBD
- Security: Ake Edlund + David Groep for Q&A

Doc. Identifier:



EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

- Pre-Production Service Deployment : TBD
- Application Assessment of gLite : TBD
- gLite Demos (TBD): TBD
- Quality Assurance : TBD
- Relations with Other Projects : TBD
- Training and Outreach: Malcolm Atkinson
- Dissemination: John Dyer and Joanne Barnett
- Plans for the Next Reporting Period : TBD

The IT Auditorium (the room where the review will take place) can only contain 100 people. Therefore, we need to make sure that only the required people will attend. A dedicated webpage is being developed to guide the registration for the event. This page will be shown to the PEB first.

Please note that people wishing to see the EU Review material can attend the "dressed rehearsal". The rehearsal will also be broadcasted via VRVS.

#### ACTION (All): Register the key people for the EU Review using the newly created webpage: <u>http://egee-intranet.web.cern.ch/egee-</u> intranet/EU Review/index.html

#### **On-Going**

#### c. Den Haag Debrief

# General feedback (strong and weak points – e.g. organisation, venue, programme, location, services – what to improve for Athens?)

The following feedback was collected during the meeting:

- Good content and general atmosphere
- Venue must be available in the evening
- Some activities requested to have activity specific meetings as well as cross activity
- Better food for lunch (limited quantity/choice)
- Cold meeting rooms
- Networking facility inadequate: wireless and,
- Need a few public access machines (self-service)
- Need better direction to get to the venue from the hotel, including public transportation maps and instructions on how to buy tram/bus tickets or have free tickets
- Need flipcharts and/or whiteboards in meeting rooms
- No (too few) power cables in rooms
- No wireless microphones (for large audience and parallel rooms)
- Lobby and coffee area are important for human networking



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

- Need to prepare sessions in advance better i.e. chairman/woman and relevant activity leaders
- Provide better info on session content
- Keep enough time for discussions
- Noise level too high in temporary rooms
- Too much material packed in the available time (2 days too little), but good content

These should be taken into account for the next conference.

Fotis and his GRNET colleagues explain the plan for the next conference in Athens. We confirmed that 7 rooms where needed plus room for the PO and the PMB (and available in the evenings). Fotis also explained that two hotels are short-listed. They require however that 100 rooms are reserved in the hotel. With this bulk reservation, the main conference room would be given free of charge. The room rate would be 120 Euros/evening, including local tax and breakfast. Bob visited the two hotels and confirmed that they were very nice with good facilities.

Asked if they think 100 reservations could be made, all activity members present confirmed that the value for money was good and that staying in the conference hotel was an added convenience for networking.

#### Main actions/outcome

Meb and Bob presented the <u>document</u> attached to the agenda page. Note: This document only focuses on the criticisms. Meanwhile the following positive points were reported:

- The EAC is very pleased by the momentum of work that has been achieved since the 1st conference at Cork
- There are both good management practices and strong motivation of the participants to match the project objectives
- A sustainable scenario for the next 4/8 years concerning the EGEE Grid production infrastructure must be developed
- EGEE should not solve problems in an isolated manner that others have to solve
- Security, network...

Frédéric said that we should not have used draft minute material from EMT, which Meb and Bob acknowledged.

An updated version of the document has been put under EDMS <u>here</u>, which captures the result of the conversation. Further, a discussion took place about the role of the requirements that the PTF maintains. We agreed that the requirements should be "cleaned-up" and when RC1 is out, we revisit the requirements and check which ones are fulfilled. Then, we reassess the situation.

We also need to manage the expectation of what gLite can and cannot do in the lifetime of EGEE.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

The presentation <u>here</u> on security, follows work from Olle, Ake and David G. We need to have a statement made by Fab to reach-out to the other EU Grid project, following eIRG recommendation. We also need to market our already leading role in this domain better. It is important that in order to archive interoperability, that we share the same security infrastructure (as oppose to trying to have different security infrastructure to interoperate).

# ACTION (PO, JRA3, NA5): Issue reach-out statement to all EU Grid project on security, aiming at adopting the same security infrastructure.

#### Prioritisation of gLite features for RC1

Discussions are ongoing to prepare the management task force taking into account PMB statement and LCG needs.

#### d. Status of PM9 Deliverables

Two TOC for PM9 deliverables where not yet accepted by the PEB:

MSA2.2: Initial requirements aggregation model, specification of services as SLSs on the networks. This milestone will be reviewed by Eike Jessen (from DFN Germany and member of the External Advisory Committee), on behalf of the PEB. In the mean time, SA2 can continue with the current draft.

DJRA3.2: Site access control architecture. Ian reviewed the TOC/Scope and provided the following feedback:

- Address audit requirements (accountability, traceability)
- Explicit discussion of how OSG/EGEE basic interop is assured. This is not an option as we must inter operate. Add a section under Anthz). What are the mechanisms to ensure this will happen? Why are they not the same?
- (Sect. 3.7) How so we migrate to a situation where same credentials (i.e. Authentication/Authorisation) are used for the grid and local services, especially local services? What is the roadmap to achieve "real" ACL controlled access to files without backdoors?
- Where is credentials management/storage discussed?

Further, on DNA3.1.2: Training Plan revision, we agreed that the deliverable should address the issue of resources required for future training events.

#### Taking into account these comments, the PEB accepted the deliverables.

#### e. Demos short list for EU Review (following demo sessions last week)

Find the Den Haag demos session here:

http://agenda.cern.ch/fullAgenda.php?ida=a044621



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

Since the meeting, Bob sent the following an <u>email</u> explaining the short listed demos for the review.

We agreed that the demos also need to address economic issues like comparing the cost of running a local cluster vs. running applications on the grid through a "computing on demand" model.

#### f. AOB

All Activity Meeting dates for first half of 2005. See final dates here.

EGEE-03 Conference in Athens on the 18-22<sup>nd</sup> April. See section

Gabriel said that a new requirement coming from applications, would be to have statistics not only per VO but per application. We agreed that this was a problem with the current system, since we cannot control which application runs were and there are no clear mappings between users and applications. We agreed to delay this requirement and start with deploying a valid solution per VOs first.

Frédéric mentioned that generating timesheets before the end of the year would be a problem.

Meb mentioned that Kyriakos wanted a plan of the next 15 months, as part of the review pack given to the reviewer. Bob said that this would be first discussed off-line in the PO.

Ian said he will not be present for the next meeting.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

#### 3. CURRENT ACTIVITIES STATUS

#### 3.1. NA1

(from Meb)

On the 30 November, a meeting was held to discuss technical issues between MammoGrid and EGEE. Erwin Laure and Meb attended for EGEE. The preliminary minutes can be found here:

http://edms.cern.ch/document/528763

On the same day, Meb attended a meeting with CERN and a representent from the LOFAR project (represented during the EGEE Concertation meeting last week in Den Haag). The project should start operations in 2006. The project is interesting. We made the suggestion for the LOFAR project to approach the EGAAP committee for potential submission in EGEE phase 2.

(from Bob)

The 2<sup>nd</sup> EGEE conference was held on 22-26<sup>th</sup> November in The Hague and was attended by more than 400 people. The opening plenary gave an overview of the status of the project from both the management and technical perspectives with specific talks to highlight the state of the deployment of applications and development of the new middleware (gLite).

The next two days consisted of parallel sessions dedicated to cross-activity subjects such as how to deploy the new gLite middleware, requirements from the different applications domains and training needs.

Requests from six new scientific groups to make use of the EGEE infrastructure were considered during the EGAAP (EGEE Generic Application Advisory Panel) session of which four were recommended for support.

Seven demonstrations of applications from a number of scientific fields that have already been ported to the grid infrastructure (either on the production service or the GILDA testbed) were presented as well as 2 demonstrations of initial use of the gLite prototype by LHCb and Alice.

JRA1 (middleware development) presented the latest status of the gLite components in a session with SA1 (grid operations) that explored the most likely contents of the first official release scheduled for March 2005, as foreseen in the project plan.

A session between NA4 (applications) and SA1 (grid operations) highlighted the approaches used and issues faced when running on the production service (with LCG-2 middleware) by a number of applications from different scientific fields.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

The final plenary provided summaries from the parallel sessions as well as a talk on the status of grid standardisation work via GGF and feedback from the project External Advisory Committee (EAC). The EAC highlighted the excellent progress that has been made in all activities of the project but noted a number of issues that could have an impact on the project as a whole, including clarifying the direction the gLite middleware should take, support for licensed application software, simplifying access for new users to the substantial documentation and information about the project and support for new VOs, and the need to secure a long-term future for the infrastructure.

An overview of the LCG project, which had been reviewed the same week, provided high-level input from the HEP pilot application area and a summary of industrial interest in grids was also presented.

A meeting of the Project Management Board (PMB) recommended that JRA1 concentrate all its effort on high priority components to ensure the milestone of March for the official release can be met.

All slides from the plenary and parallel sessions of the conference are available through the website: <u>http://public.eu-egee.org/conferences/2nd/</u>

The 3<sup>rd</sup> project conference will be held in Athens on 18<sup>th</sup>-22<sup>nd</sup> April 2005.

This EGEE conference was part of a two week long sequence of grid related events organised under the banner of "European leadership in e-science and grids". The other events included:

#### IST 2004

The annual conference of the 6<sup>th</sup> Framework Programme of Information Society Technologies (<u>IST 2004</u>) was held the week before the EGEE conference (15 to 17 November 2004) and included several grid-related talks and dissemination activities around grids and e-science.

#### Workshop e-Infrastructures

This <u>workshop</u> on the eInfrastructures initiative (which coordinates on a high European level the introduction of a grid based infrastructure for e-Science) consisted of a plenary meeting (to set the context for the whole workshop) and break-out sessions on AAA (Authentication, Authorization & Accounting) followed by a final plenary where the results from the parallel sessions were summarised.

#### e-IRG meeting

This <u>meeting</u> of the <u>eInfrastructure Reflection Group</u> (eIRG) brought together representatives from European governments to discuss in depth on new common policies and will provide relevant recommendations on the shared use of electronic resources in Europe.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

#### **Grid Summit**

This was a first joint meeting of the various grid infrastructure projects, to stimulate cooperation and knowledge exchange between participants. Presentations were made by eminent speakers such as Mark Linesch (the new GGF Chair), Prof. T. Sato (director General of the Earth Simulator, the worlds fastest computer), the Dutch minister of education, culture and science Maria van der Hoeven and representatives from EGEE, DEISA, SEE-GRID and DILIGENT. Grid Summit is an EU Grid infrastructure concertation event.

#### **DEISA meeting**

<u>DEISA</u> (Distributed European Infrastructure for Supercomputing Applications) is a consortium of national supercomputing centres in Europe aiming to jointly build and operate a distributed terascale supercomputing facility using grid technologies. The project members met and also held joint meetings with other projects.

#### **DILIGENT** meeting

<u>DILIGENT</u> (Digital Library Infrastructure on Grid Enabled Technology) will create an advanced test-bed that will allow members of dynamic virtual e-Science organizations to access shared knowledge and to collaborate in a secure, coordinated, dynamic and cost-effective way. The test-bed will build upon the work of the EGEE project, and it will integrate the experiences and tools developed by a number of key leading European research groups in the area of digital libraries. The DILIGENT infrastructure will be demonstrated and validated by two complementary real-life application scenarios: one from the cultural heritage domain and one from the environmental e-Science domain.

#### **SEE-GRID** meeting

<u>SEE-GRID</u> (South Eastern European Grid-enabled eInfrastructure Development) aims to initiate grid activities in South East Europe (Greece, Albania, Bulgaria, FYR of Macedonia, Serbia-Montenegro, Bosnia-Herzegovina, Romania, Turkey, and Croatia).

#### 3.2. NA2

See reports from John here:

https://wwwlistbox.cern.ch/earchive/project-eu-egee-peb/msg01371.html

#### 3.3. NA4

#### (from Massimo)

Inputs to the prioritising of the component for the gLite RC1 is going on in LCG. NA4 HEP is actively participating in the discussion with the LHC experiments

RI-INFSO-508833

**INTERNAL** 



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

(from Frank)

#### Follow-up from EGEE-2 for new VOs

A special NA4/SA1 meeting has been organised for Dec 9

http://agenda.cern.ch/fullAgenda.php?ida=a045453

In preparation we are chasing up detail on status of new VOs.

During this meeting we will discuss a proposal from Cal Loomis for a way to get new VOs 'easily' started

#### Writing DNA4.3

Good progress has been made in chapters for HEP and Biomedicine. The HEP chapter is currently being reviewed by experiment representatives. We intend, following this feedback, to do another update early next week prior to Dec 9 deadline.

Our moderator has been kept in touch with progress on this.

#### **Biomed Task Force and course**

The Biomed task force have attended special LCG-2 course Nov 29-30

#### 3.4. JRA2

(from Gabriel)

• Action 94: In Den Haag several discussions with mainly JRA1 Czech people conclude that relevant information as VO, sites, etc, are available in the LB database. However, JRA1 recommend downloading the whole LB database (using incremental LB tools provided by JRA1). JRA2 is currently investigating this solution, which requires a huge storage capacity.

• The "Job success" measurement tool is been upgraded mainly to refine the 'Done+OK" status from the LB database. New features are currently developed and will be available for the EU review: (job throughput and job success by VO and by site, reasons of "non success jobs", repartition by duration of jobs, etc.).

 $\cdot$  Cyril L'Orphelin has been hired by CNRS/UREC and he will start on 03/01/05 in order to replace Elodie Sanchez who left JRA2 in October.

This has slightly delayed the improvement of the "Job success" measurement tool.

· Den Haag:



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

- General feedback: Successful conference nothing special to notice
- JRA2 should work with the PO, concerning the EAC proposals (General index documentation, EGEE digital library, who knows what).

#### 3.5. JRA3

(from Ake)

#### 1. Milestones and deliveries update:

- Site Access Control Architecture, DJRA3.2

Internal editing started. The latest version (0.13) is in CVS and on EDMS now, and contains also an explanatory section in the introduction on the doc structure: https://edms.cern.ch/document/523948/

- Secure Credential Storage Procedures, Phase 1

Started. TOC created and iterated with MJRA3.6 activity leader.

- Policy combination, separate document and a chapter in next version of the security architecture document (part of DJRA3.3 work, due PM16).

Policy combination missing in the Sec Arch document. Is needed in DJRA3.2 but should not be part of this document.

Work plan:

- Create a separate document describing policy combination.

- Create an overview chapter in the next version in the sec arch document regarding policy combination. Pointing at the separate document (see first step).

- Point at the sec arch document in the DJRA3.2 (Site access control) when mentioning the policy combination issue.

#### 2. Security Modules

See EMT minutes regarding MLS, DAS and VOMS status.

#### **3.** Response to EAC request at 2nd EGEE conference.

A first response was prepared. Will be discussed at PEB.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

(send by David Groep about the security part of the EAC comments)
For security:
"
A common security infrastructure with other EU projects must be
established Standardising on VOMS ans TLS seems like to current
consensus. With common Authentication infrastructure (i.e. EUGridPMA).
However, MLS is likely to be a longer term solution, which is more
adapted to interoperability with other grid infrastructures (e.g.
WS-Security).
Collaborate with OSG, OMII, etc
Automate VO management, less errors, more secure.
Provide 'anonymity' feature through VOMS and in the short term a
client based encryption.
See further details from Ake in attached document:
http://agenda.cern.ch/askArchive.php?base=agenda&categ=a044542&id=a044
542%2Fmoreinfo%2FEGEE Security Overview.ppt"

It's quite a bold statement to say that for all projects in Europe VOMS+TLS is the current consensus :-) I'd say that "it's the approach to establishing a solid and effective Grid security infrastructure for Europe, which can be suitable for the other projects on the timelines of the first EGEE project". On the longer term, we should work /with/ those other projects, also via GGF, via an extended MWSG, via TF-EMC2, or whatever, to reach a more flexible authorization system that caters for other needs as well (e.g. digital libraries, student courses, etc) in line with what's described in the white paper (The Hague version 2.0).

The statement "Provide `anonymity' feature through VOMS" is plain wrong. The pseudonymity feature is to be provided though an external trusted third party that will have a role similar to that of a trusted CA.

#### 3.6. JRA4

(from Kostas)

#### **Deliverables and milestones**

- [PM9] MJRA4.2 Still on course to meet the deadlines for this deliverable.

#### **Staff changes**

N/A

**Sub-Activities** 

**INTERNAL** 





Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

- NPM (Network Performance Monitoring). The development of the prototype is complete. There was an integration meeting in Edinburgh on 30/11 and 1/12. The prototype is tested to work with the EDG::WP7 monitoring tools. There are still some open issues with respect to deployment in the 3 of the 4 sites, and also with harnessing perfmonit, GN2's backbone performance monitoring tool. These will be dealt with in earnest until the 1st of December, after which our attention will shift to the document deliverable. We will keep trying to fix the deployment issues in the background and return to them from the 10th of December. A major gain from the exercise is the transfer of EDG::WP7 skills from UCL (departing) staff to other JRA4 staff.

- BAR (Bandwidth Allocation and Reservation). Excellent joint meeting with JRA1 and JRA3 and also with SA2 in The Hague last week. Together with SA2, we are currently reviewing the requirements, with a version due on 3/12.

#### Den Haag

JR4/1/3 Joint meeting: JRA4 gratefully acknowledges the lively participation of the other activities in the joint meeting (55 persons). After T. Ferrari's talk, it appears possible that JRA4 can emulate (and perhaps implement if JRA1 go down that route) WS-Agreement behaviour. We agreed for JRA4 to solicit JRA1 (mainly) involvement in the design process, but after our requirements validation process. This is taking place together with SA2 and will also involve the PTF.

#### 3.7. SA1

(from Markus Schulz)

The following email was sent by SA1/LCG:

```
Subject: LCG-2-3-0 is out
Dear ROC, CIC and RC managers and administrators,
the next release of LCG2 LCG-2-3-0 has been released. Many bug fixes
have been integrated into this release and the accounting system is
now
part of the standard release. As you will see we have split the
installation notes into several documents. Please have a look at the
release page:
http://grid-deployment.web.cern.ch/grid-deployment/cgi-
bin/index.cgi?var
=releases
```

The main changes in this release are:

- 1) Support for SL3 and RH-7.3
- 2) New script based massively simplified generic installation
- 3) Torque and Maui as the recommended LRMS.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

Please have a look at the provided documentation and plan your upgrades. Make sure that you inform your users before upgrading your WNs and UIs to SL3, their applications might not be compatible. However you can upgrade the service nodes to SL3 independently of the WNs.

We hope to receive feedback from you soon.

the deployment

team

#### 3.8. SA2

(from Jean-Paul)

TSA2.3 (MSA2.2 M9): A draft of the milestone has been discussed in Den Haag (TNLC, JRA4 with BAR), it seems that at this first step of the aggregation model and SLS work we are moving toward a simple model and definition which will be enhanced in the future when we will get a better knowledge of the EGEE traffics and the EGEE specific provisioning issues. Today we work in order to respect the December 9<sup>th</sup> deadline.

-TSA2.4 (MSA2.3 M12): After Den Haag and the presentation of SA2 (Future plans for network service) in the SA1/SA2 meeting and a short meeting with Torsten Antoni (FZK) it seems that the way to introduce a TT system in EGEE will be through the GGUS. SA2 must work with FZK and SA1 to go ahead on the EGEE side. SA2 needs to discuss with GNE/SA3 for the GEANT/NRENs side. The gathering of information from NRENs/NOCs is underway

-TSA2.5 (DSA2.4 M12): After Den Haag (TNLC and SA1/SA2 meeting) we see that it is important to formalize the roles of GEANT/NRENs and the SA1 structure in the SLA process; a document will be proposed about that topic.

-TSA2.6 (Network services follow-up):

-Julien Guignard is in charge to review the SA2 and JRA4 requirements for the mid of December before to put them in the PTF requirements data base.

-We have begun to work on a scenario to implement Network QoS (IPPremium) for an EGEE application.

#### Den Haag, The conference was interesting for SA2:

- Six people of the SA2 team were attended, so we have had many discuss between us.



Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

- All the SA2 tasks should benefit from all the cross activity meetings we participated: TNLC, PTF, SA1/SA2, JRA1/JRA4/JRA3, and informal JRA1/JRA4.





Doc. Identifier:

EGEE-PEB-MIN-2004-2-12

Date: 15/12/2004

#### 4. PEB PROGRAMME OF WORK THROUGH TO THE FIRST EU REVIEW

See Programme of Work table here:

http://egee-intranet.web.cern.ch/egee-intranet/Project-Structure/boards/PEB2.html