

03.03.06

# eInfrastructures Concertation Workshop Report



Contractual Date: 31/01/06  
Actual Date: 03/03/06  
Contract Number: 511082  
Instrument type: Integrated Infrastructure Initiative (I3)  
Activity: NA7  
Work Item:  
Lead Partner DANTE  
Document Code GN2-06-063v2

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## Abstract

The purpose of this report is to provide feedback from the second Concertation Workshop on eInfrastructures held on 14 December 2005 at the Palais des Congrès in Bordeaux, France. This Deliverable describes the objectives, planning and outcome of the event.

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## 0 Executive Summary

The idea behind the European Commission's eInfrastructures Concertation initiative is to stimulate cooperation and knowledge exchange between relevant FP6-funded projects. The second eInfrastructures Concertation workshop, organised by DANTE on behalf of the GÉANT2 project, was intended to provide a forum within which discussion would take place between the invited projects about networking-related issues of relevance to them. Projects eligible to attend were defined by the Commission as the Research Infrastructures (DG INFSO Unit F3), Grid Technologies (Unit F2) and Broadband Technologies (Unit D1) projects. The opportunity was also taken to form a better understanding of other projects and their requirements, particularly those of the grid community, an objective of relevance to GÉANT2 user support activities (work package NA3 of GÉANT2).

The workshop took place in Bordeaux on 14 December 2005. In planning the event, attention was focussed on ensuring the workshop would consist of practical, focussed discussions of substance so the event would be as worthwhile as possible for all involved.

More than forty projects were invited to attend the workshop. In practice, 21 projects, plus the European Commission and Juniper Networks, were represented by a total of 38 attendees. The timing of the workshop, shortly before Christmas and at the same time as several other important events in related areas, was the likely cause of the modest attendance but on the day this contributed positively to the workshop's success due to the significant level of interaction achieved amongst all the attendees.

Much work went into preparing the workshop's agenda and content prior to the event itself. Relevant topics were grouped under four headings which formed the subjects of the parallel sessions at the workshop, each of which had an assigned facilitator:

- Parallel Session 1: Monitoring & Performance Enhancement (Maurizio Molina, DANTE)
- Parallel Session 2: Resource Management / Allocation (Victor Reijs, HEAnet)
- Parallel Session 3: Security & Authentication and Authorisation Infrastructure (AAI) (Diego Lopez, RedIRIS)
- Parallel Session 4: Interoperability & Interface Issues (Zoran Jovanovic, AMREJ)

Participants were invited to provide project-specific input prior to the event via a questionnaire. This feedback enabled the session facilitators to capture and analyse in advance key issues and challenges faced by the projects, and to steer the debate effectively during the workshop.

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The workshop received very positive feedback and demonstrated the impact such a cross-project initiative can have towards strengthening the eInfrastructures concept overall. Our impression was that participating projects fully recognised the potential of this workshop and the opportunities it offered as a forum for the projects to discuss areas of common interest and requirements or opportunities for joint collaboration. During the session-specific wrap-ups, concrete action points emerged. These are detailed in Chapter 4, and are specific and technical in nature. The action points identify joint initiatives that can or should be taken between the various projects represented at the workshop to progress or fulfil network-related requirements.

The eConcertation initiative is one for which responsibility rotates from one project to another with each event. GÉANT2 was requested by the Commission to host the second workshop. This having been achieved, our responsibility has, strictly, been fulfilled although the project is clearly interested in the potential of many of the action points identified.

To realise the full potential of the eConcertation initiative, it is clear that follow-up activity is needed to progress the identified action points. This requires leadership, structure, and allocated responsibilities – and in particular, adequate resourcing. These requirements were discussed at the workshop, and the recently launched BELIEF project has been identified by the Commission as a suitable forum within which it may be possible to carry forward some of the eConcertation work. GÉANT2 will shortly complete the handover of relevant information about eConcertation to BELIEF. Direction and coordination of eConcertation will be carried forward by the European Commission. A key issue which remains to be resolved is how to resource the majority of the action points identified at the workshop.

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# 1 Introduction

The eInfrastructures Concertation is an initiative of Unit F3 of DG INFSO of the European Commission and is aimed at stimulating cooperation and knowledge exchange between members of FP6-funded projects. Responsibility for organising eConcertation workshops rotates amongst the projects involved. The first eConcertation meeting, focussed mainly on grids, took place in November 2004 within the context of the 2<sup>nd</sup> EGEE conference in The Hague (<http://public.eu-egee.org/concertation>). Attendance was open to projects funded by Unit F3 (Research Infrastructure) and Unit F2 (Grid Technologies) of DG INFSO. The second eConcertation meeting was focussed on the projects' network-related issues and therefore the European Commission requested DANTE to organise it on behalf of the GÉANT2 project. At the Commission's request, attendance was extended to include Broadband Technologies projects from Unit D1 of DG INFSO.

The workshop was held on 14 December 2005 in Bordeaux, France and was intended to provide an opportunity for the projects to gather together and discuss networking-related issues of common interest, to explore potential synergies in tackling them, to exchange information on best practice, and to identify ways of continuing concerted efforts. Twenty-one projects, plus the European Commission and Juniper Networks, were represented by a total of 38 attendees.

This Deliverable describes the preparation and outcomes of the second eInfrastructures Concertation workshop.

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## 2 Background and Planning

### 2.1 eConcertation Objectives

The key objectives for the eInfrastructure Concertation initiative are defined by the European Commission as follows:

- to provide an opportunity for FP6-funded network, testbed, grid and broadband technology projects to gather together and discuss issues of common interest;
- to identify commonalities and develop synergies to tackle issues of common concern;
- to improve and advance the service that the eInfrastructure projects can provide to the research community in a 'joined up' approach;
- to support collective efforts, including impact on standardisation;
- to foster mutual understanding among the projects and their respective requirements;
- to inform about new projects, following recent calls for proposals and provide useful input to the workplan of these new initiatives;
- to provide an overview about new strategic initiatives in the context of FP7;
- to explore ways of continuing and consolidating cross-project collaboration after the workshop.

### 2.2 Objective of Second eConcertation Workshop

DANTE, on behalf of GÉANT2, was requested by the European Commission to organise the second eConcertation workshop.

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The second eInfrastructures Concertation workshop was intended to provide a forum within which discussion would take place between the invited projects about networking-related issues of relevance to them. In planning the event, attention was focussed on ensuring the workshop would consist of practical, focussed discussions of substance so the event would be as worthwhile as possible for all involved.

## 2.3 Workshop Format and Agenda

Following consultation with other projects and the European Commission, it was felt that a hands-on workshop would be the best-suited event format to encourage fruitful discussion and interaction. To keep the event to a manageable size, attendance was by invitation only and limited to a maximum of three representatives from each project.

Drawing on the conclusions of the first eConcertation workshop, and on discussions with representatives of the various projects, a list of potential topics was compiled and subsequently circulated among the projects for comments and additional input. The identified issues were then grouped into four streams which formed the basis for the following break-out sessions:

- Parallel Session 1: Monitoring & Performance Enhancement
- Parallel Session 2: Resource Management / Allocation
- Parallel Session 3: Security & Authentication and Authorisation Infrastructure (AAI)
- Parallel Session 4: Interoperability & Interface Issues

The final agenda, which is available at Appendix A, featured brief context-setting presentations in an opening plenary session, followed by the four break-out sessions. The findings of each parallel session were then presented in the closing plenary which saw also lively debate on how to continue cross-project collaboration after Bordeaux.

### 2.3.1 Facilitators

Each parallel session was assigned a facilitator, nominated primarily on his reputation of being a subject-matter expert (rather than on the basis of his project affiliation). The following facilitators were appointed:

- Parallel Session 1: Maurizio Molina, DANTE
- Parallel Session 2: Victor Reijs, HEAnet
- Parallel Session 3: Diego Lopez, RedIRIS
- Parallel Session 4: Zoran Jovanovic, AMREJ

Facilitators were expected:

- to provide input for the session prior to the event (eg. assist in compiling a session-specific pre-event questionnaire to capture issues of common concern);

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- to perform an introductory presentation at the workshop analysing the project-specific questionnaire input, and summarising commonalities and potential areas of collaboration;
- to moderate the discussion during the parallel session;
- to present the discussion findings and conclusions of the parallel session in the closing plenary.

### 2.3.2 Pre-event Questionnaire

Project-specific input for the sessions was collated via a questionnaire (available at Appendix B). It was intended to capture, in advance, key issues and challenges faced by the projects involved and to enable the facilitators to prepare for the session and to steer the discussion on the day.

Project representatives were encouraged:

- to provide additional input and feedback in light of the experiences gathered within their own project(s);
- to indicate where they saw commonalities with other projects and where they envisaged synergies and room for collaborative efforts;
- to suggest suitable pre-reading material (deliverables, meeting reports etc.) which was distributed among the projects in preparation for the workshop.

Following repeated reminders, input was received from 15 projects (available at Appendix C of the restricted-circulation version of this Deliverable) which was collated and forwarded to the facilitators for analysis.

## 2.4 Timing and Location

In light of 40+ invited projects and with many other events (conferences, project reviews etc.) taking place in Q4 of 2005, scheduling the workshop turned out to be rather challenging. A lot of effort went into investigating whether the workshop could be combined with any of the forthcoming events which would attract a similar target audience (eg. TERENA NREN-Grid Workshop, ESFRI meeting). Timing and location was eventually determined by the Broadband Europe Congress ([www.bbeurope.org](http://www.bbeurope.org)) organised by the BREAD project on 12-14 December 2005 in Bordeaux as a number of the project representatives indicated that they would be attending this conference; tagging the concertation workshop to this conference gave projects the opportunity to attend both events without additional travel efforts; it also allowed DANTE to build on logistical arrangements which had already been put in place by the organisers of the Broadband Europe Congress.

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## 2.5 Registration

An eConcertation website was set up at <http://www.geant2.net/econcertation>. This site evolved as the planning proceeded. It contained workshop objectives, agenda, logistical details, website links of participating projects, as well as background information to the eConcertation concept.

A mailing list ([2nd-eConcertation@dante.org.uk](mailto:2nd-eConcertation@dante.org.uk)) was set up to communicate with the coordinators of the 49 invited projects (list available at Appendix D).

The online registration system went live at the beginning of November 2005. The registration password was notified by email. Registrants were invited to indicate during the registration process which parallel sessions they were planning to attend, providing the organisers with the ability to ensure an even distribution of attendance across the different sessions. The system allowed registrants to view the delegate list in real-time.

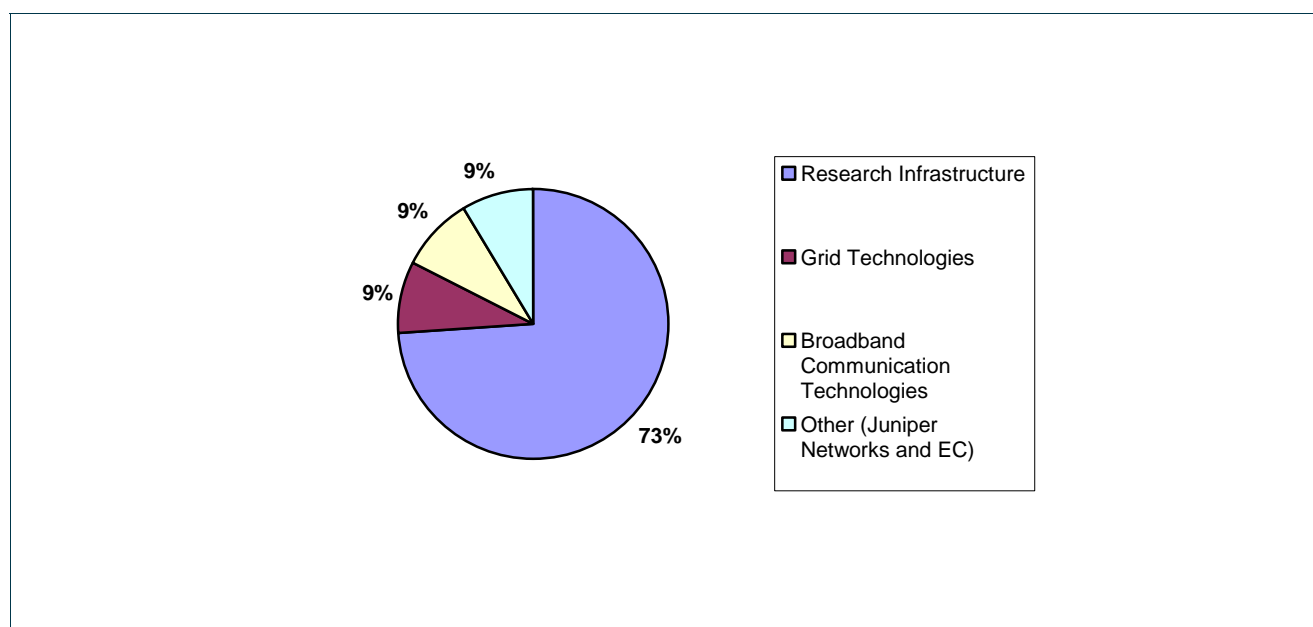
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### 3 Delegate Attendance

Forty registrations were processed between 10 November and 12 December 2005. There was one cancellation and one replacement, with 38 delegates actually attending the workshop. The ratio of invited to attending projects was 40%; feedback from various invitees suggested that attendance was lower than expected because of the timing of the event. On the other hand, the relatively small size of the workshop contributed to its success due to the significant level of interaction achieved amongst all the attendees.

The participants list can be seen in Appendix E.

#### 3.1 Project Representation



**Figure 3.1:** Distribution of projects by funding DG INFSO Unit

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The workshop was attended by 17 Research Infrastructure projects (funded by Unit F3 of DG INFSO), 2 Grid Technologies projects (funded by Unit F2 of DG INFSO), and 2 Broadband projects (funded by Unit D1 of DG INFSO) as well as by Juniper Networks (involved in standardisation efforts) and, of course, the European Commission (two officials from Unit F3). An overview of participating projects, sorted by DG INFSO Unit, is available in Appendix D.

The following chart illustrates project representation by number of attendees. It should be noted that several delegates represented more than one project at the workshop, which is why the numbers in the chart add to more than the total attendance of 38 people. To facilitate DG INFSO Unit allocation of the projects, the same colour coding as in figure 2.1 has been used.

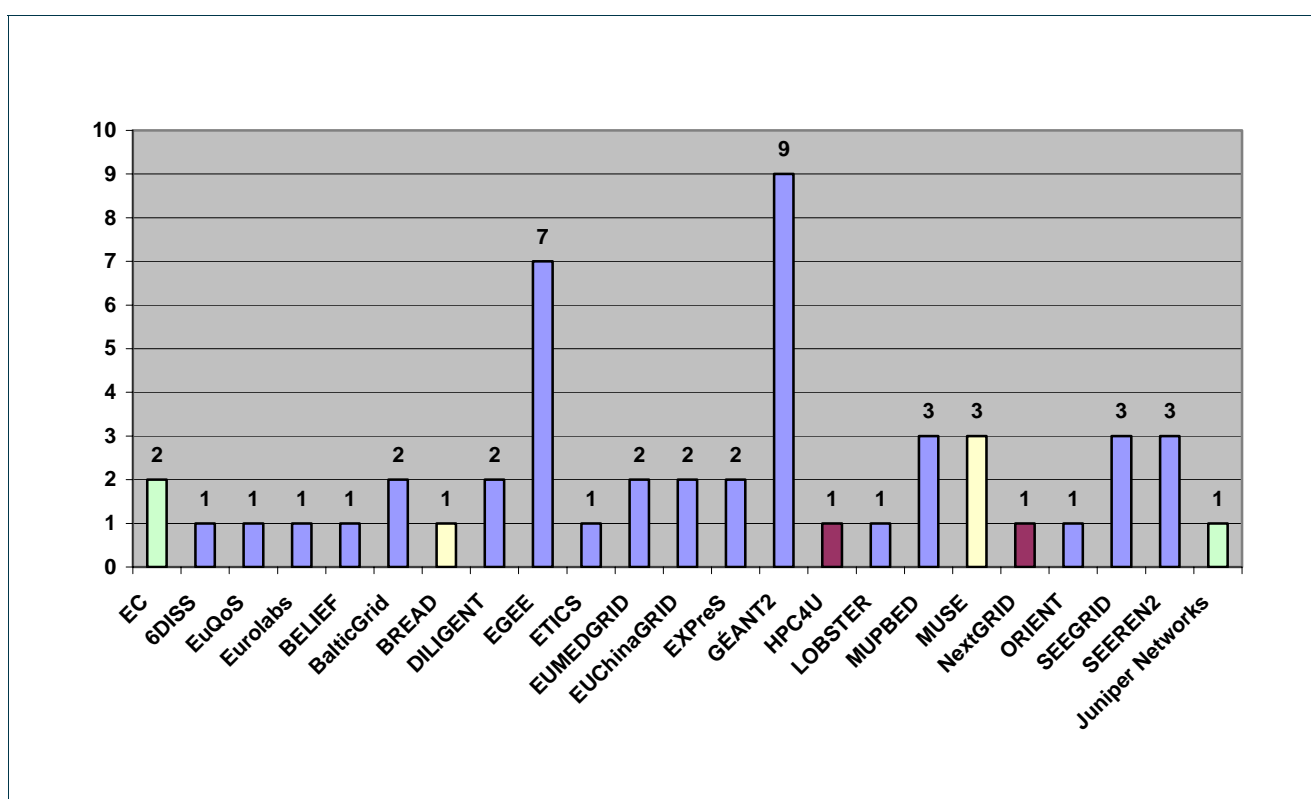


Figure 3.2: Project representation by number of attendees

### 3.2 Session Representation

Participation in the parallel sessions was well-balanced, both in terms of the number of individual participants at each and the number of projects represented.

- Session 1: 15 participants representing 13 projects (plus European Commission)
- Session 2: 19 participants representing 14 projects (plus European Commission and Juniper Networks)
- Session 3: 16 participants representing 14 projects (plus European Commission)
- Session 4: 20 participants representing 15 projects (plus European Commission and Juniper Networks)

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For additional details please refer to the Participants List available in Appendix E.

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## 4 Workshop Results

The discussion which took place in the workshop is summarised in the list of conclusions and action points below. Action points are marked as AP and numbered progressively. As can be seen from the list, a significant number of potential cross-project initiatives were identified by the workshop. Whilst several of the actions identified are being addressed in work already ongoing within GÉANT2 and other projects, numerous others are not currently being actively addressed. As can be seen, action points from parallel session 2 have identified participants and leaders. Other action points do not currently have any agreed ownership, participation or format.

Further comments on the workshop outcome and follow-up are contained in the Conclusions in Chapter 6.

### Session 1: Monitoring & Performance Enhancement

#### - How to fill the 'last mile' gap, evolving from edge2edge to end2end

During the discussion it emerged that this is already in process, in that grid applications are already gathering end site and system information. However, this information needs to be filtered, stamped as trusted, made more application independent, and information flows automated. Also, network monitoring infrastructures need to be extended to accept data of this 'event driven' nature coming from the ends of the network.

**AP01:** Continue discussion as to how info can be standardised and put in a coherent format.

#### - Disclosing network and grid monitoring data: privacy and policies for selective access

The value of sharing data was clearly recognised, and is an issue of interest to a large number of the workshop delegates, however there are dangers of user information being revealed via monitoring data, raising discipline-specific issues and increasing the risk of security attacks via the network.

Projects/NRENS have either not developed policies or are not sharing them. The picture is further complicated by the presence of 30+ different national laws. Progress in this area would be beneficial in view of the ongoing deployment and usage of perfSONAR.

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**AP02:** Initiate coordination of policies to identify methods for sharing data whilst minimising the associated privacy risks.

**AP03:** Define what is private, what is public and to whom.

#### - 'Chain of command'

Participants saw the need for better defined operational 'problem escalation procedures' and a clearer 'chain of command' in case of a fault. In that context, it was recommended to further promote the GÉANT2 PERT service (Performance Enhancement and Response Team) among the projects.

**AP04:** Promote and improve dissemination of the GÉANT2 PERT initiative and its benefits in the context of the problem reporting process.

#### - Maintaining existing monitoring tools

It was recognised that valuable monitoring tools are lost after projects come to an end. The MOME initiative has collated information about monitoring and measurement tools which could form the basis of a 'maintenance' initiative to avoid expertise and technology being lost and then recreated.

**AP05:** Start 'maintenance' initiative by creating a repository of existing and evolving monitoring tools.

## 4.1 Session 2: Resource Management / Allocation

#### - Prioritisation / Advance Reservation

It was recognised that adequate means of prioritising traffic need to be identified based on feedback from real usage experiences; policies for handling prioritisation need to be developed, and middleware is required to be able to handle multi-domain SLAs.

It was further recognised that advance reservation is an area of synergy where new initiatives would be beneficial to a number of projects.

**AP06:** Set up a working group to compile a list for requirements in the area of advance reservation. Activity to be led by Victor Reijs. Interest in participating expressed by Juniper, SEEGrid, BalticGrid, EGEE, MUPBED, GN2-JRA3.

**AP7:** Disseminate BoD policy definition document as a starting point for policy definition in the area of resource management.

#### - Multi-domain (e2e) services (SLA, QoS)

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It emerged that there is lack of consistency in the use of the term e2e. Often it is actually edge2edge, which is an intermediate step on the way to end to end.

**AP08:** Set up a working group to look into how to evolve from edge2edge to end2end. Interest in collaborating expressed by Juniper, EGEE, MUPBED, BalticGrid, MUSE, HPC4U, GN2-JRA3, EXPReS, 6DISS/EUQoS/Eurolabs. Activity to be led by Martin Potts from 6DISS/EUQoS/Eurolabs.

#### - Saleable solution including commodity internet

It was recognised that where pilot services are developed, often no business case is produced for them to justify their development and onwards progress.

**AP09:** Set up a working group to investigate how to sell services to the users and ensure that they are used. Volunteers from Juniper, EGEE, 6DISS/EUQoS/Eurolabs, MUSE, BREATH, SEEGRID). Activity to be kick-started by Jean-Marc Uze, Juniper.

## 4.2 Session 3: Security and AAI

### - Global AAI

There was general agreement that simple, seamless, globally interworking AAI is a basic infrastructure service which we should aim to achieve. The session reached a general consensus about the technologies that should be deployed (LDAP, X.509 PKI, SAML etc). The starting point should however be local and the service needs to be built step by step.

Killer applications would be extremely valuable to stimulate take-up. Two such applications were identified, the first being mobility, the second digital content which could be provided by global providers.

Policies need to be based on working experience and coupled with NREN procedures; they should be formally approved and it should be anticipated that there is a risk of lack of alignment (cultural, legal) between European policies and those in other parts of the world.

**AP10:** Continue discussion on how harmonisation efforts can be pursued.

The session facilitator has also subsequently suggested initiating discussions to share information on AAI requirements and availability.

### - (Con)federations

(Con)federations were seen to be a much more scalable solution than bilateral agreements. Despite being the best option, they are not perfect: SLAs between the user and service providers need to be developed, user privacy guaranteed and the management simplified.

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**AP11:** Provide definition of con(federation).

**AP12:** Encourage additional tests and interoperability assessments for tools and technologies.

#### - Scalability issues

It was recognised that deployment of AAI is on a very limited scale at present (a few thousand users), and only centralised services have been scaled up. There was consensus that user friendliness (eg less log barriers) may be as important to adoption of AAI on a global scale as any other characteristic of the service.

**AP11:** Conduct experiments on new trust models

#### - Legal aspects

It emerged that the legal aspects relating to AAI can be somewhat daunting to non-legal experts. As far as privacy issues are concerned, help is required and some collaborative actions have been initiated with Data Protection Agencies and other fora, to help progress in this area.

**AP12:** Progress and formalise collaboration with fora to share best practices in privacy

**AP13:** Examine further whether liability is manageable when moving beyond a federation.

#### - Full single sign-on

The session reached consensus that full single-sign on (SSO) is the ultimate goal and a commitment for GÉANT2. Simple procedures are essential to success and collaboration with industry would be very helpful in this area.

**AP14:** Continue discussion on how to simply procedures and assess usability.

**AP15:** Establish ways of coordination with industry.

#### - Put campuses in the loop

As campuses are generally the identity providers, it is important to include them in the AAI work/deployment. For this to succeed, simple management processes and user friendliness are both key.

**AP16:** Continue collaboration with associations such as the European University Information Systems Organisation (EUNIS) to involve individual campuses.

**AP17:** Undertake an analysis of how an easier user experience can be provided.

**AP18:** Investigate how physical and virtual organisations can be reconciled.

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### - Security incident handling

There was agreement that security needs to be effective and seamless. In that context IODEF (Incident Object Description and Exchange Format) as proposed by NRENs and EGEE was mentioned.

**AP19:** Contribute to definition of a common data format and common exchange procedures for sharing information needed to handle an incident.

## 4.3 Session 4: Interoperability & Interface Issues

This session picked up many issues which were not included in the other three parallel sessions. As far as issues concerning grid interface to network resources are concerned, the following were identified:

### - Relationship between IPv6 and grids

The debate included the recognition that grids have not, by and large, been created to operate on IPv6 networks. EUChinaGrid needs to connect to the Chinese IPv6 network, which is a significant enough requirement to justify some action being initiated in this area. Expertise from networks and grids, particularly the EUChinaGrid and EGEE projects, would be required in such an initiative. This could be done within the IPv6 Forum.

**AP20:** Investigate whether discussion/action regarding compatibility between IPv6 and grids can be conducted within the IPv6 Forum and identify leader to carry this activity forward.

### - Bandwidth on demand through grid application interfaces

GÉANT2 and EGEE have jointly developed an API for GÉANT2 to provide bandwidth on demand through grid application interfaces. This is a 'local' solution, however, and this work needs to be standardised for implementation by other networks in an effort to achieve worldwide uptake of the GÉANT2 API.

**AP21:** Conduct standardisation efforts for implementation of BoD through grid application interfaces and explore whether this could be done within the GGF.

### - Trouble tickets

It emerged that much work requires to be done on trouble tickets to provide adequately for interactions between the grid and network levels. Whilst GÉANT2 have considerable experience in this area, the grid community has less and could benefit from defining their ideas further, to provide input into a joint exercise to standardise ticket formats.

**AP22:** Initiate standardisation of network trouble ticket formats and grid trouble ticket formats.

**AP23:** Look into privacy issues and services which arise in providing network trouble ticket information to grids.

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In terms of coordination of network resources with grid resources, the following issues were identified:

**- How to gain network resources when storage and CPU are available**

There has been good cooperation between EGEE and GÉANT2. Europe leads the world in this area but it was clearly recognised that interaction with partners worldwide is required to develop global standards. Maintaining Europe's global leadership in this area is important.

**AP24:** Initiate discussion with partners worldwide to develop global (interoperable) standards in terms of coordination of network with grid resources.

**- At which level to use BoD services**

This should be decided by the network. But part of the definition is the type of network (IP vs lightpath), and the issue is also cost-sensitive. The grid community should define the type of service and the network community select the BoD service.

**AP25: Continue discussion**

**- Last mile solutions**

Parallel session 2 set up a working group to address this (**see AP08**).

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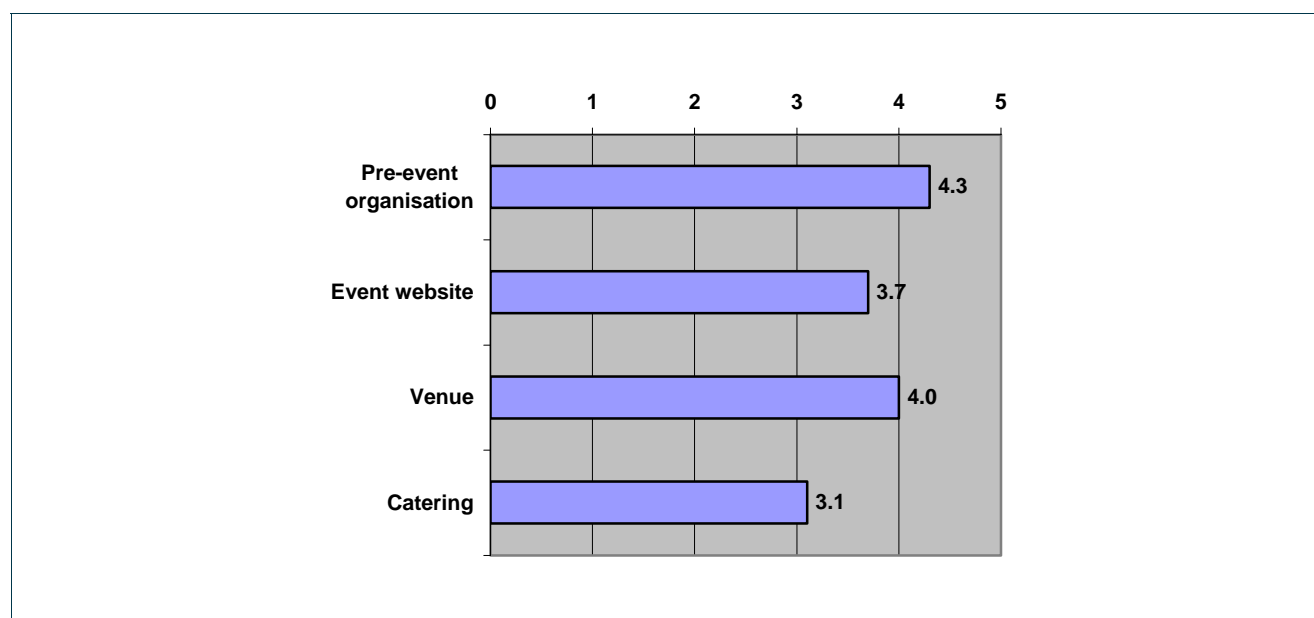
## 5 Delegate Feedback

### 5.1 Feedback Forms

The feedback forms were included in the delegate packs and participants were invited to complete and hand them in at the end of the workshop.

22 forms (out of a potential total of 38) were returned.

### 5.2 Workshop Administration Feedback



**Figure 5.1:** Feedback – Workshop organisation

Participants were asked to rate the administrative and logistical aspects of the workshop. On a marking scale of 1-Poor; 3-Fair; 5-Excellent, various items have been categorised. Overall, the feedback was very positive.

Some participants remarked that the workshop was announced rather late and criticised the timing of the workshop as it clashed with other events (security related MWSG + JSPG Meeting in Amsterdam 14-16 December, e-IRG meeting in London 13-14 December). However, as outlined under section 1.2, accommodating schedule requirements of over 40 projects was extremely difficult and a compromise had to be found.

### 5.3 Evaluation of Specific Sessions

When asked what their favourite session was, participants delivered the following picture:

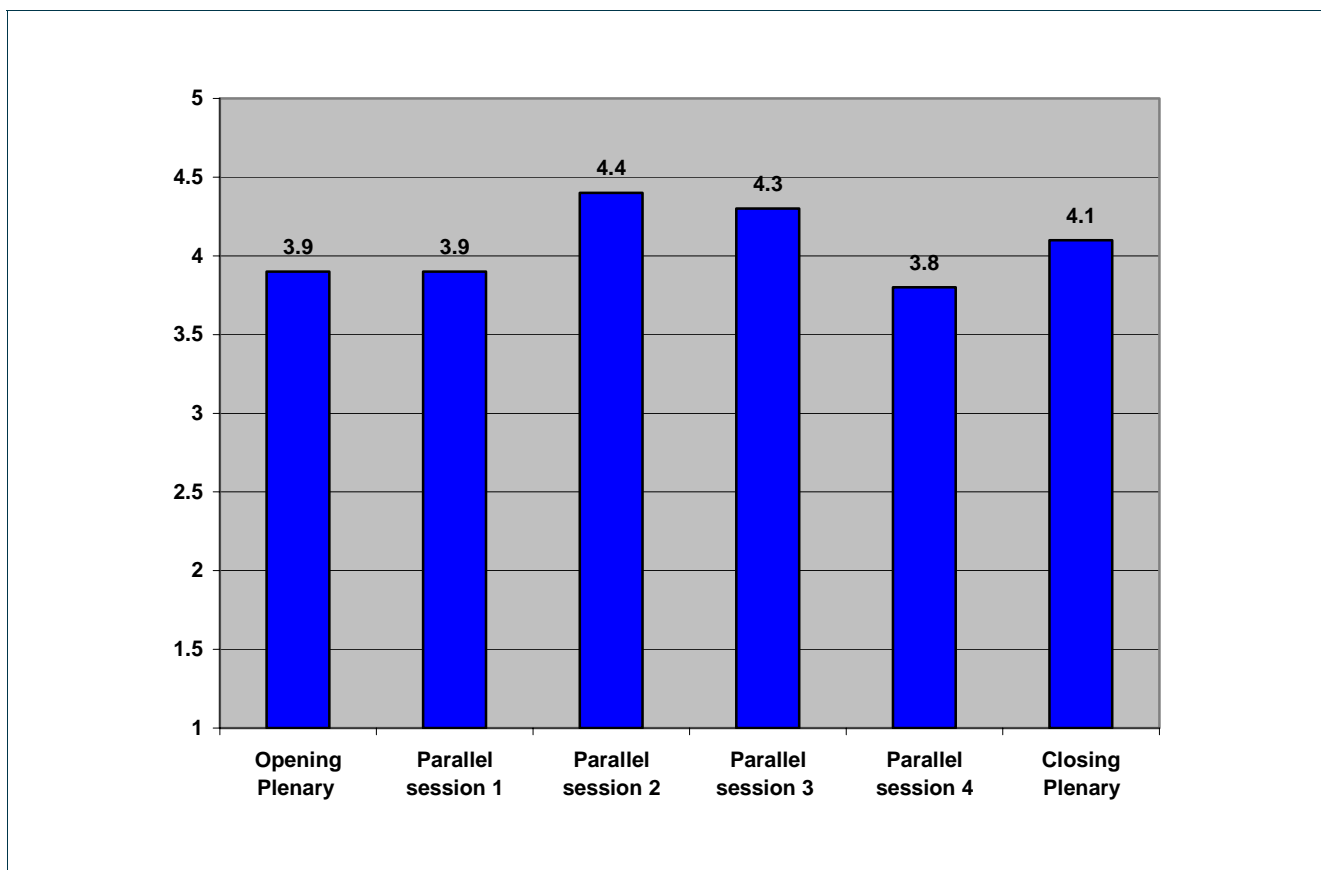


Figure 5.2: Feedback – Workshop sessions

Ratings were high for all sessions. The parallel session on Resource Management / Allocation scored the highest. Whilst most attendees commented positively on the priorities identified in parallel session 4 (Interoperability & Interface Issues), some delegates felt that the management of the discussion time did not

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allow to deal with all identified issues. It must however be added, that the scope of that particular session was particularly wide and less well defined than that of other parallel sessions.

Participants valued highly the closing plenary session, especially the wrap-up presentations of the single facilitators, the attempt to identify action points to keep the momentum as well as the FP7 outlook provided by Bernhard Fabianek from the European Commission.

## 5.4 Facilitator Rating

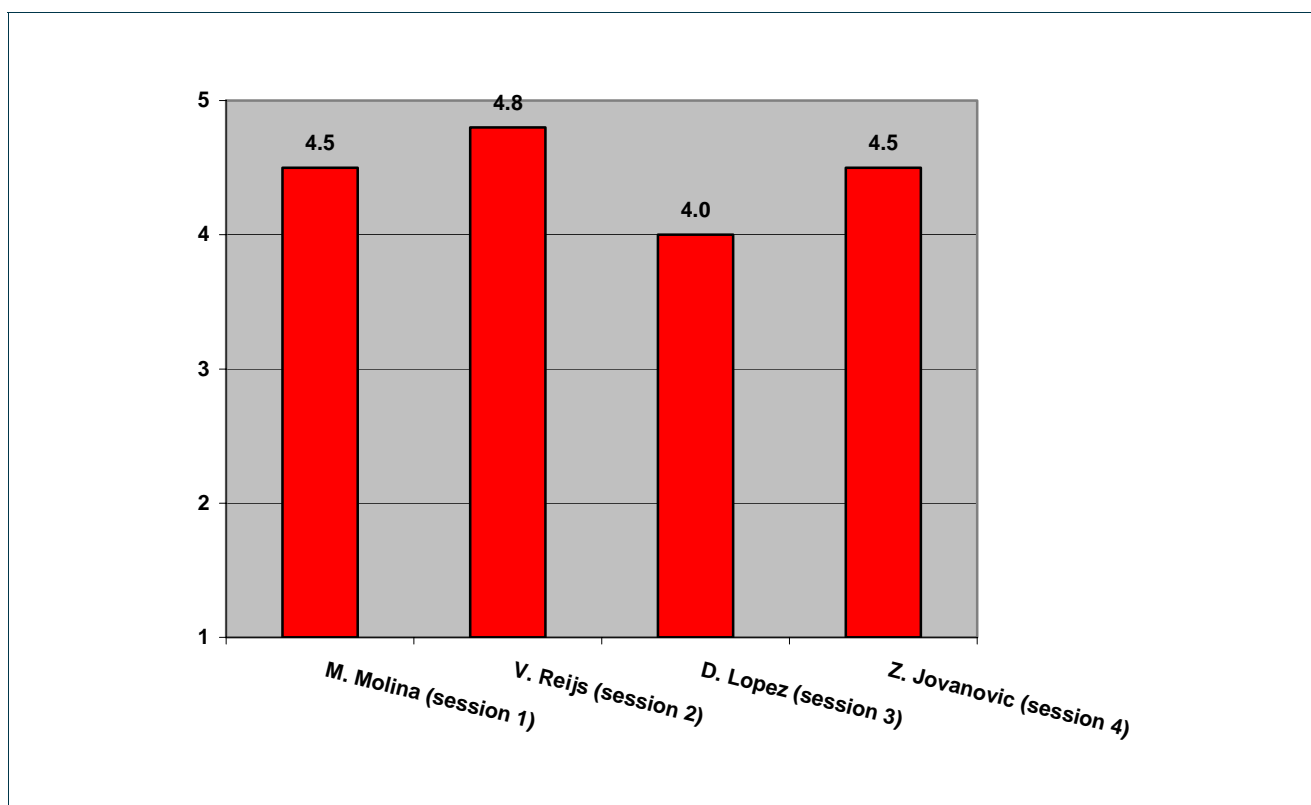
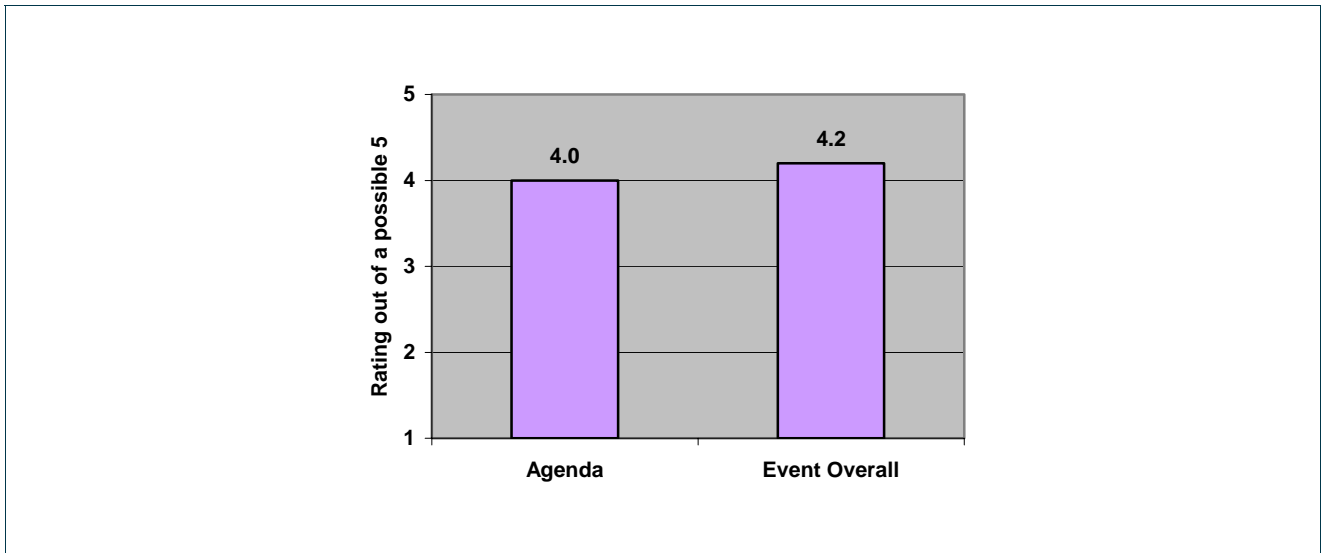


Figure 5.3: Facilitator Rating

Ratings of facilitators were consistently high. Delegates commented positively on the unbiased way in which all facilitators led the discussion. Particular mention was made of Victor Reijs' competence to encourage interaction and get project representatives committed to forming working groups.

## 5.5 Feedback of Event Overall



**Figure 5.4:** Feedback – Event overall

In relation to the workshop programme, most delegates commented positively on the structure, on the competence of the speakers and facilitators and the appropriateness of the allocated discussion time. Some participants felt that the balance of high-level and technical discussions could be improved (more technical).

Although commitment to follow-up actions clearly emerged during the workshop, some participants indicated that they would have liked agreement on a clear follow-up action plan with a well-defined responsibility and progress report structure to retain the momentum of the initiative after the workshop.

### 5.5.1 What do you feel were the strengths of the workshop?

- Strong project attendance
- The mix of people
- Excellent interactivity and active discussion
- Concertation between GEANT2, EGEE and other 'user' projects
- Bringing grids and net people together
- Pre-event organisation
- A 'real' workshop, not just the usual slide shows
- Presence of decision makers

### 5.5.2 What will you take away from the workshop?

- Collaboration opportunities (e2e, QoS, SLA) and action points

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- Business cards and an action point on measurement data access policy
- Better awareness and understanding of other projects
- Some ideas about priority areas for future collaboration
- Recognition that most of the projects have the same requirements as EGEE
- Strong interest for a common/unified AAI
- Action point for MUPBED to get in closer touch with the application projects
- GÉANT2 EGEE AAI interoperability idea
- Willingness of the network to consider the requirements of the grids community
- ...that people are eager to work together.

### 5.5.3 Finally, looking back, in making your decision to attend the workshop, what aspects of the event appealed to you most?

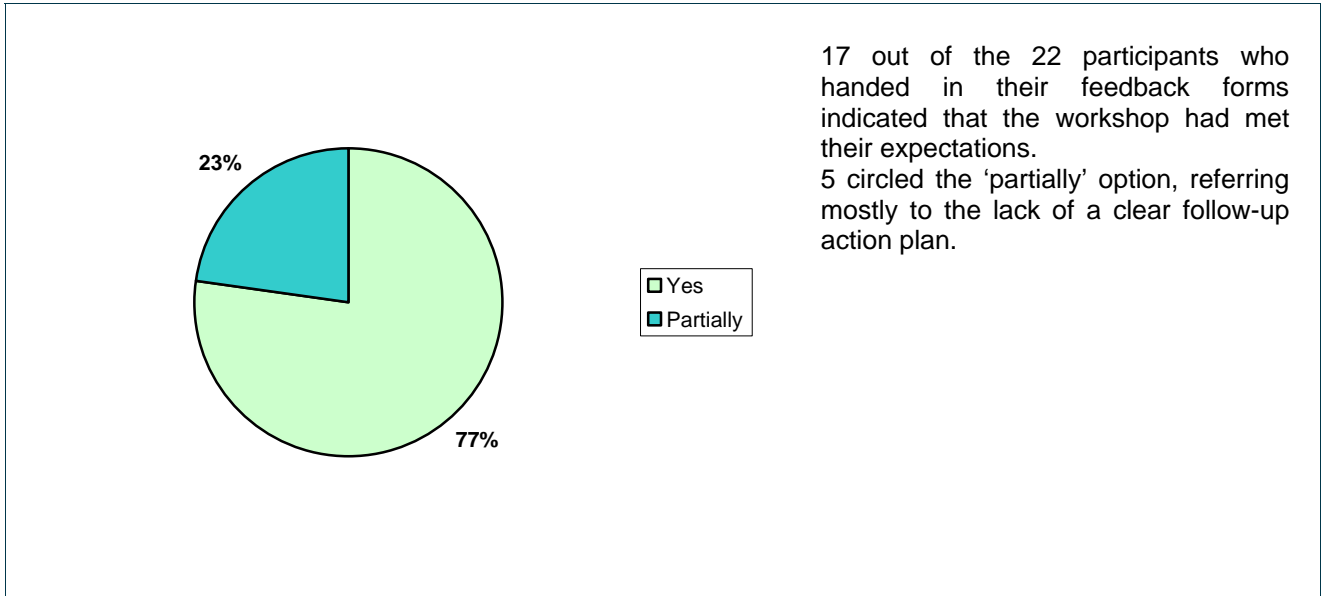
- Workshop content
- Meeting people
- Get a feel for what other projects are doing and for the people involved
- Provide visibility to my project
- Discuss advances in the area of AAI
- Meet people to collaborate with
- Dissemination of EGEE work
- Get a better understanding of common issues and explore ways of tackling them
- Workshop preparation (possibility to provide project input prior to the event)

### 5.5.4 Other comments and suggestions

- Announce workshop earlier
- Workshop should have a well defined follow-up action plan with clear responsibility allocations
- Have an executive (Roberto Sabatino or Bernhard Fabianek) in each session to steer the debate
- Balance between high-level and technical discussions could be improved (increase technical level)
- A good meeting – well worth attending

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## 5.6 Delegate Expectations



**Figure 5.5:** Were delegate expectations met?

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## 6 Conclusions

The workshop saw lively interaction and constructive contributions from the participating projects and clearly demonstrated the impact such a cross-project initiative can have towards strengthening the overall development and coherence of the eInfrastructures concept. Our impression was that participating projects fully recognised the potential of this workshop and the opportunities it offered as a forum for the projects to discuss areas of common interest and requirements or opportunities for joint collaboration. During the session-specific wrap-ups, concrete action points emerged, as detailed in Chapter 4. In the case of the parallel session on Resource Management/Allocation, working groups with leaders and volunteers from various projects were identified.

An overall post-event report has been posted on the GÉANT2 website (<http://www.geant2.net/server/show/ConWebDoc.1631>).

The eConcertation initiative is one for which responsibility rotates from one project to another with each event. GÉANT2 was requested by the Commission to host the second workshop. This having been achieved, our responsibility has, strictly, been fulfilled although the project is clearly interested in the potential of many of the action points identified.

To realise the full potential of the eConcertation initiative, it is clear that follow-up activity is needed to progress the identified action points. This requires leadership, structure, and allocated responsibilities – and in particular, adequate resourcing. These requirements were discussed at the workshop, and the recently launched BELIEF project has been identified by the Commission as a suitable forum within which it may be possible to carry forward some of the eConcertation work.

BELIEF is a support action programme aimed at bringing research infrastructure projects together. The BELIEF project has indicated their willingness to provide a digital library for eConcertation documentation, and to host a forum as a basis for supporting ongoing eConcertation discussion. Discussions have taken place between GÉANT2 and BELIEF to identify ways of developing the communication network platform and of populating the digital library, and GÉANT2 will provide a full set of eConcertation information, including this Deliverable, to BELIEF. One of the key issues that remains to be resolved is how to resource the majority of the action points identified by the workshop. Responsibility for directing and coordinating eConcertation lies with the Commission, however, and with the completion of this Deliverable, GÉANT2 hands the eConcertation initiative back to the Commission.

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## Appendix A Workshop Agenda

- 08:00-09:00**                      **Registration**
- 09:00-09:45**                      **Opening Plenary** (*Chair: Dale Robertson, Public Relations Manager, DANTE*)
- Welcome and Introduction**  
*Roberto Sabatino, Chief Technical Officer, DANTE*
- Reflections on eInfrastructure Concertation**  
*Enric Mitjana, Project Officer, DG INFSO, Unit F3, European Commission*
- 09:45**                                **Coffee break**
- 10:00**                                **Break-out group sessions (run in parallel)**
- Monitoring & Performance Optimisation**  
*Facilitator: Maurizio Molina, DANTE*
- Resource Management / Allocation**  
*Facilitator: Victor Reijs, HEAnet*
- 11:45**                                **Lunch**
- 12:45**                                **Break-out group sessions (run in parallel)**
- Security and Authentication and Authorization Infrastructure (AAI)**  
*Facilitator: Diego Lopez, RedIRIS*
- Interoperability and Interface issues**  
*Facilitator: Zoran Jovanovic, AMREJ*
- 14:30**                                **Coffee break**
- 15:00**                                **Closing Plenary**
- eInfrastructure - Present and Future**  
*Bernhard Fabianek, Project Officer, DG INFSO, Unit F3, European Commission*

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**Presentation of findings of each parallel session**

*Maurizio Molina, Victor Reijs, Diego Lopez, Zoran Jovanovic*

**Wrap-up**

*Roberto Sabatino, Chief Technical Officer, DANTE*

**17:00**

**Close**

## Appendix B Pre-event Questionnaire

### 2nd Concertation Workshop on elnfrastructures 14 December, Bordeaux

#### Questionnaire

The workshop will feature four break-out sessions which will provide an opportunity for attendees to focus on a specific topic, to explore ways of exchanging project-specific experiences and consequently to pull forces. The first set of sessions will take place in the morning, the second one in the afternoon. The sessions will run in parallel.

The section below lists some of the topic-specific issues which have been identified for each session. To enable us to capture key issues and challenges faced by the projects involved and ensure that the debate can be adequately steered on the day, we would like to encourage you

- to provide additional input and feedback in light of the experiences gathered within your own project(s);
- to indicate where you see commonalities with other projects and where you envisage synergies and room for collaborative efforts;
- to suggest suitable pre-reading material (deliverables, meeting reports etc) to be distributed among the projects in preparation for the workshop.

Please complete this questionnaire and send it back to [registration@dante.org.uk](mailto:registration@dante.org.uk) no later than **21 November 2005**.

*Many thanks for your collaboration!*

Name:.....Project:.....

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#### Break-out session 1

#### **Monitoring and Performance Enhancement**

*Facilitator: Maurizio Molina, DANTE*

This session will explore the role of performance monitoring in and between different elnfastructure environments. Specifically, it will address the following issues:

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- Multi-domain network monitoring, grid monitoring
- Tools for measurement collection and visualization
- Measurement functionalities on network equipments
- Too much information kills the information: how to “summarize” the monitoring information
- Sharing monitoring information (with NOCs, with researchers): policies, anonymisation, privacy
- Standardization: what has been done, what should be pushed forward?
- End-to-end performance: last mile and systems issues
- Performance Enhancement and Response Team (PERT)  
[\[http://www.geant2.net/server/show/conWebDoc.1061\]](http://www.geant2.net/server/show/conWebDoc.1061)
- Definition of operational procedures in case of a fault

*Please indicate which of the above topics are issues of main concern to your project. Please elaborate and/or add topics if not listed above.*

*What future challenges do you envisage for your project in this area?*

*Where do you see commonalities with other projects and opportunities of synergies?*

*Please indicate any deliverables, reports etc that you wish to be circulated as pre-reading material in preparation for this session.*

## **Break-out session 2**

### **Resource Management /Allocation**

*Facilitator: Victor Reijs, HEAnet*

The aim of this session is to discuss issues related to resource management and look into concepts such as unified/integrated control planes and routing, how to allocate bandwidth for future use and possible relations with protocols like GMPLS (Generalised Multiprotocol Label Switching), UCLP (User Controlled LightPath) etc. It also aims to address resource allocation in the grid environment.

- Advance reservation tools
- Job prioritisation (between grid and non-grid jobs and between grid-jobs)
- Routing and scheduling for dynamic bandwidth control
- Bandwidth on Demand ([www.geant2.net/server/show/nav.756](http://www.geant2.net/server/show/nav.756))
- Developments in lower layer technology, like in pure optical switching
- Developments in integrated control planes (optical/SDH/SONET/Ethernet/IP)
- Time frame of possible applicability within for instance National Research and Education Networks (NRENs)
- Possible relation with concepts like UCLP (User Controlled LightPath), GMPLS (Generalized Multiprotocol Label Switching), etc.
- Vision of place of pure optical networking in (near?) future

*Please indicate which of the above topics are issues of main concern to your project. Please elaborate and/or add topics if not listed above.*

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*What future challenges do you envisage for your project in this area?*

*Where do you see commonalities with other projects and opportunities of synergies?*

*Please indicate any deliverables, reports etc that you wish to be circulated as pre-reading material in preparation for this session.*

### **Break-out session 3**

#### **Security and Authentication and Authorization Infrastructure (AAI)**

*Facilitator: Diego Lopez, RedIRIS*

This session is aimed to explore the convergence paths for the different solutions on authentication and authorisation systems that are currently in use in the academic and research community, with the vision of a global, secure and seamless support for digital identity services. Topics to be discussed include:

- Towards globally inter-working AAI
- Scalability issues
- Management of federations and confederations
- Legal issues: Privacy of user attributes, liability
- Going beyond X.509 identity certificates. Attribute-based authorisation in Grids
- How to put the campus infrastructures in the loop (generally as identity providers)?
- Full single sign-on, from network to application access

*Please indicate which of the above topics are issues of main concern to your project are. Please elaborate and/or add topics if not listed above.*

*What future challenges do you envisage for your project in this area?*

*Where do you see commonalities with other projects and opportunities of synergies?*

*Please indicate any deliverables, reports etc that you wish to be circulated as pre-reading material in preparation for this session.*

### **Break-out session 4**

#### **Interoperability and Interface issues**

*Facilitator: Zoran Jovanovic, AMREJ*

This session aims to address the essential interfaces between the various stakeholders in the network-grid-application community with the aim of improving inter-working and increasing transparency:

- Grid interface to network resources
- Coordination of network resources with grid resources (eg CPU, storage)
- Interoperability among different grid infrastructures
- Standardisation of application interfaces to different Grids

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*Please indicate which of the above topics are issues of main concern to your project. Please elaborate and/or add topics if not listed above.*

*What future challenges do you envisage for your project in this area?*

*Where do you see commonalities with other projects and opportunities of synergies?*

*Please indicate any deliverables, reports etc that you wish to be circulated as pre-reading material in preparation for this session.*

## Appendix C Project-specific Session Input\*

**\*Included only in the restricted-circulation version of this report, as project representatives were not informed that their comments may be made publicly available.**

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## Appendix D List of Invited Projects

Participation in the eConcertation workshop was open to representatives of projects funded by the European Commission's Directorate-General Information Society and Media Units F2, F3 and D1.

### D.1 Unit F3 – Research Infrastructure

- 6DISS
- DEISA
- DILIGENT
- EGEE
- EUQoS
- EuroLabs
- GÉANT2 (incl. ALICE, EUMEDCONNECT, TEIN2)
- GridCC
- IPv6TF-SC
- LOBSTER
- MUPBED
- SEE-GRID
- SEEFIRE

Projects whose contracts have been approved in the context of the recent [FP6 Call 'Communication Network Development – Infrastructure – Consolidating Initiatives'](#) were also encouraged to attend.

- AUGERACCESS
- BalticGrid
- BELIEF
- BIOINFOGRID
- EELA
- e-IRGSP
- ETICS
- EUChinaGRID
- EUMEDGRID
- EXPReS
- Go4it
- ICEAGE
- ISSeG
- ITHANET
- OCCASION
- ORIENT
- Porta Optica Study
- SEEREN2

### D.2 Unit F2 – Grid Technologies

- Akogrimo
- CoreGRID
- DataMiningGrid
- GRID@Asia
- GridCoord
- HPC4U
- IntelliGrid
- K-WF GRID
- NextGRID
- OntoGrid
- Provenance
- SIMDAT
- UniGrids

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### D.3 Unit D1 – Communication Technologies

- [BREAD](#)
- [e-Photon/ONe](#)
- [GANDALF](#)
- [MUSE](#)
- [NOBEL](#)

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## Appendix E Participants List

Name	Project	Affiliation	Morning Session	Afternoon Session	Country
Emanouil Atanassov	SEEGRID, SEEREN2	IPP-BAS	Session 2	Session 4	Greece
Guntis Barzdins	BalticGrid	University of Latvia	Session 2	Session 4	Latvia
John Chevers	GÉANT2, ORIENT, EXPreS	DANTE	Session 1	Session 3	UK
Alberto Di Meglio	ETICS	CERN	Session 2	Session 3	Switzerland
Ake Edlund	EGEE	KTH		Session 3	Sweden
Florida Estrella	EGEE, DILIGENT	CERN	Session 2	Session 4	Switzerland
Bernhard Fabianek		European Commission	Session 1	Session 3	Belgium
Hans-Martin Foisel	MUPBED	T-Systems / DT	Session 2	Session 4	Germany
Jean-Paul Gautier	EGEE	CNRS/UREC	Session 1	Session 4	France
Mathieu Goutelle	EGEE	CNRS/UREC	Session 2	Session 4	France
Zoran Jovanović	SEEGRID, SEEREN2	University of Belgrade	Session 2	Session 4	Serbia & Montenegro
Christos Kanellopoulos	EGEE	GRNET/AUTH	Session 1	Session 3	Greece
Joanne Lawson	EGEE	CERN	Session 1	Session 4	Switzerland
Diego Lopez	GÉANT2	RedIRIS	Session 2	Session 3	Spain
Andrea Manieri	DILIGENT, BELIEF	Engineering Ingegneria Informatica S.p.A.	Session 2	Session 3	Italy
Branko Marović	SEEGRID, SEEREN2	University of Belgrade	Session 1	Session 4	Serbia & Montenegro
Sorin Miclea	MUSE	Alcatel Bell	Session 1		Belgium
Enric Mitjana		European Commission	Session 1	Session 4	Belgium
Maurizio Molina	GÉANT2	DANTE	Session 1	Session 3	UK
Pieter Nooren	MUSE	TNO	Session 2		Netherlands
Per Öster	BalticGrid	KTH PDC	Session 1	Session 3	Sweden
Christos Papachristos	LOBSTER	FORTH-ICS	Session 1	Session 3	Greece

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Martin Potts	6DISS, EuQoS, Eurolabs	Martel	Session 1	Session 4	Switzerland
Juergen Rauschenbach	GÉANT2, MUPBED	DFN-Verein	Session 2	Session 3	Germany
Victor Reijs	GÉANT2	HEAnet	Session 2	Session 4	Ireland
Cormac Reynolds	EXPREs	JIVE	Session 1	Session 4	Netherlands
Dale Robertson	GÉANT2	DANTE	Session 2	Session 4	UK
Federico Ruggieri	EUMEDGRID, EUChinaGRID	INFN	Session 2	Session 4	Italy
Roberto Sabatino	GÉANT2	DANTE	Session 2	Session 3	UK
Géry Schneider	HPC4U	IBM FRANCE	Session 1	Session 4	France
Nicolas Simar	GÉANT2, EGEE	DANTE	Session 1	Session 4	UK
Helga Spitaler	GÉANT2	DANTE	Session 2	Session 3	UK
Federica Tanlongo	EUMEDGRID, EUChinaGRID	GARR		Session 3	Italy
Jean-Marc Uze	Standardization Efforts	Juniper Networks	Session 2	Session 4	France
Peter Van Daele	BREAD	IMEC-Ghent University	Session 2	Session 4	Belgium
Peter Vetter	MUSE	Alcatel		Session 3	Belgium
Henrik Wessing	MUPBED	DTU	Session 2	Session 4	Denmark
Francis Wray	NextGRID	EPCC	Session 2	Session 3	UK