



## The JANET Access Grid Support Centre

# Operational Requirement

This document and the information it contains are provided solely for the purpose of allowing potential suppliers to provide a tender for the services being procured. It is issued under the Open Procedure of the EU Services Directive.

Any supplier wishing to submit a proposal must register its intent with UKERNA before submitting the proposal. UKERNA will not accept proposals from suppliers who have not registered according to the procedure described in this document.

**UKERNA will not accept any registrations after 06 December 06.**

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This document is the Operational Requirement (OR) for proposals to operate an Access Grid Support Centre.

The procurement process will be managed according to the open procedure as specified by the European Procurement Services Directive, 2004/18/EC, and this document is an integral part of the open procurement announced by UKERNA in the Supplement to the Official Journal of the European Union.

## **1.1 The Contracting Authority and the Procurement Agent**

The contracting authority and procurement agent for this procurement is the United Kingdom Education and Research Networking Association (UKERNA).

## **1.2 JANET**

JANET is the wide-area network that was created in 1984 to serve the needs of the higher education and research sector in the United Kingdom.

JANET provides services to all Higher Education Institutions, Further Education Colleges and Research Council establishments in the UK. The network also provides services to Adult and Community Learning and Specialist Colleges, Schools Networks and various research institutes. JANET has grown from an X.25 based network in 1984 connecting 50 sites, to an IP based network today with more than 1000 direct connections available to a community of 18 million users. "SuperJANET" is the name given to the national core backbone of JANET, which currently operates at 10Gbit/s, with access links at mostly 2.5Gbit/s to 19 regional networks. The regional networks operate under contract to UKERNA to deliver JANET to Higher Education Institutions, Further Education Colleges and Research Council establishments. The current version of the backbone is SuperJANET4. The rollout of its successor, SuperJANET5, is underway and will be completed by the end of 2006.

The JNT Association, trading as UKERNA, is responsible for providing JANET through a service level agreement with the Joint Information Systems Committee (JISC) of: the Higher Education Funding Council for England; the Learning and Skills Council; the Scottish Higher Education Funding Council; the Scottish Further Education Funding Council; the Higher Education Funding Council for Wales; the National Council for Education and Training for Wales; and the Department for Employment and Learning in Northern Ireland.

## **2. OVERVIEW OF THE FACILITIES REQUIRED**

The requirement is for a JANET Access Grid Support Centre (AGSC) to provide technical support for the activities of some 80 Access Grid (AG) Nodes and a number of Desktop AG solutions.

### **2.1 The Background to Access Grid**

The Access Grid was invented in 1998 at Argonne National Laboratory (ANL) as an Advanced Collaboration Environment and 'human interface' to Grid technologies. The video and audio tools commonly used in the AG environment stem from the original Mbone tools, VIC (for video) and RAT (for audio), which were first developed at Lawrence Berkley Laboratory, then further developed at University College London in the early 1990s.

The AG (including IG, developed by inSORS Communications in 2000) is typically used for meetings, seminars, teaching and research collaborations between researchers. There has

been a steady growth in the number of AG nodes across the UK: there are now over 80 nodes in the UK registered with the JANET Access Grid Support Centre.

### **2.1.1 The UK e-Science Community and Access Grid**

The original recommendations for the deployment of a support centre for the AG in the UK stem from the technical report “Multi Site Videoconferencing for the UK e-Science Programme, (UkeS-2002-04)”

[http://www.nesc.ac.uk/technical\\_papers/VCReport\\_FINAL\\_Oct2.pdf](http://www.nesc.ac.uk/technical_papers/VCReport_FINAL_Oct2.pdf)

It is now used at over 300 institutions worldwide, with 80 nodes deployed mainly at the UK e-Science Centres, and with a further rollout programme currently taking place, which will increase the number of UK Nodes

The Access Grid has been adopted by the UK e-Science community who continue to conduct research into ways of improving it for tutorials, lectures, seminars and training as well as for collaborative work sessions and large-scale distributed meeting.

### **2.1.2 The JANET Access Grid Support Centre**

The contract for the JANET Access Grid Support Centre (AGSC), was awarded to the University of Manchester as the result of EU procurement, it commenced in April 2004 and is due to end on 31 July 2007.

### **2.1.3 AGSC Activities**

The AGSC offers support services for the UK AG community with the aim of enhancing the user experience. Such services include:

- Hosting Virtual Venue servers;
- Hosting Multicast-Unicast bridges;
- Services for interoperation between different videoconferencing technologies, i.e. H.323 & VRVS (Virtual Rooms Videoconference Service);
- Services for application sharing;
- Support on the deployment, use and management of AG technology;
- Training in the form of workshops which take place every six months;
- Documentation, including FAQ's;
- Quality Assurance (QA) tests for AG nodes;

## **2.2 Location of Equipment for the JANET Access Grid Support Service**

The AG Servers are currently housed at University of Manchester Computing department.

Once the supplier is selected as a result of this procurement, the location of the AG servers will be the subject of negotiation, and could be hosted at JANET Co-location sites, which are located at key points on the JANET backbone. (There would be no cost to the supplier for use of this facility to provide the service and UKERNA would provide the remote console access and power management equipment free of charge).

The VRVS and resilient AG servers are housed at the JANET Co-locations, and UKERNA expect they will be continued to be hosted there. The equipment is configured to provide the highest levels of resilience and reliability. Single points of failure have been identified and where possible removed.

It is essential that suppliers bear in mind that the servers use IP as a transport technology and will be located remotely from where they are managed. It is vital that suppliers address the issues of security and resilience in their proposal. There is the requirement for high service availability, which UKERNA would prefer to see in excess of 99% and suppliers should also consider in their tender.

## **2.3 Further Development**

### **2.3.1 VRVS (Virtual Room Videoconference System)**

The current Access Grid Support Centre supports the VRVS project that is now coming to the end of its pilot phase and will be launched as a full operational service before July 2007.

VRVS is a worldwide collaboration and desktop sharing network used primarily by the high-energy and nuclear physics communities. It supports over 19,000 users with a distributed system comprising more than 80 servers. The AGSC has been providing operational support for servers for VRVS as part of the global distributed system; a reflector which provides a tunnel for VRVS traffic; and an AGSC gateway which provides access from AG Virtual Venues to VRVS venues and visa-versa.

The VRVS activity of the AGSC is supported by teams in Kosice, Slovakia and at the Californian Institute of Technology (Caltech). The Slovak team provide support on the basis of an agreed SLA which eliminates the problem of dissimilar time zones although Caltech is available in a supervisory capacity.

AGSC will support operation of the VRVS service by assisting with the preparation of user documentation, attendance at meetings (held using technology) and collaborate with Caltech in support for enhancement of services.

### **2.3.2 The AG Booking Service**

An initial report which considered the requirements for a Booking Service for Access Grid users was commissioned by UKERNA in the last quarter of 2003. This report was completed in March 2004 and is published on the UKERNA web site at:

<http://www.ja.net/development/e-science/e-sciencevc/md-report3.pdf>

The AG Booking Service has been developed by the Commercial Projects Team at University of Edinburgh, based on the specification provided by the AGSC and UKERNA.

The Access Grid Booking Service was developed in the first half of this year and launched as a pilot in September 2006.

Ongoing involvement with the AG Booking Service will be required from the AGSC, including specification of enhancements, assistance with the preparation of user documentation and attendance at meetings (typically held by AG or videoconference).

### 2.3.3 On-line Assessment Tool

QA testing is seen as a valuable and useful component of the AGSC, which improves the quality of AG sessions and thus user experience. The aim of this development is to provide an on-line audio, video and network analysis tool, which can be used by the AG community, to assist users in identifying and resolving obvious problems, prior to carrying out a QA test with a member of staff from the AGSC. The Automated Quality Assurance Test, also known as the 'AG-Check' may also be used on an on demand basis and reduce the need for operator-led QA tests.

The AGSC involvement in this project is the operation of online assessment tool, assistance in preparation of documentation and ongoing maintenance once the tool is operational. Separate funding has been agreed for development.

### 2.4 Funding

A nominal budget of around £250,000 is available for the first twelve months of operation and UKERNA wish to agree a contract with the preferred supplier for 3 years. The new contract will run from 1 August 2007 until 31 July 2010 with an option to extend the contract annually for up to an additional two years subject to mutual agreement.

## 3. PROCUREMENT PROCEDURE

### 3.1 General Issues

All formal communication with suppliers over the course of the procurement will be handled or arranged by UKERNA.

Responses to this OR will be accepted from any supplier, providing it conforms to the requirements defined in this section 3.

### 3.2 Registration

Suppliers are required to register their intention to submit a proposal. Each registration will be acknowledged with a printed copy of this document and allocated a registration number that should be quoted in the tender document and in any other correspondence.

Suppliers shall register their intention to bid by sending, to the address below, a request for "Operational Requirement for the Management of the JANET Access Grid Support Centre as announced in the EU Journal" by fax or letter on official headed notepaper or by email.

Suppliers are asked to register as soon as they start to consider a response to this invitation to tender. In any case, suppliers **must** register before a proposal will be accepted.

Procurement Co-ordinator UKERNA Atlas Centre Chilton, Didcot Oxfordshire OX11 0QS UK	Telephone: +44 (0)1235 822 341 Fax: +44 (0)1235 822 286 E-mail: <a href="mailto:Procurement@ukerna.ac.uk">Procurement@ukerna.ac.uk</a>
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### 3.3 Electronic copy

An electronic copy of this OR is available on the World Wide Web at the URL <http://www.ja.net/latest/itt/access-grid/index.html>

### 3.4 Clarifications on the requirements

Suppliers will be provided with clarification of UKERNA's requirements in accordance with the EU directives on procurement.

Suppliers should raise any issues of clarification with the Procurement Co-ordinator whose contact details are given in section 3.2 above. Where issues of clarification arise which are relevant to more than one supplier, these will be posted on the web site at the URL:

<http://www.ja.net/latest/itt/access-grid/index.html> and sent by e-mail to each registered supplier. Suppliers must submit all clarification requests by 6<sup>th</sup> December because UKERNA will not answer any clarifications that are submitted after this time.

### 3.5 Timetable

The steps and timetable for this procurement are as follows:

Activity	Date
Notice to European Journal	Mon 23/10/06
Final date for registration	Wed 06/12/06
Final date for clarifications	Wed 06/12/06
Closing date for tenders	12:00 Noon on Wed 13/12/06
Selection of preferred supplier	Tue 30/01/07
Contracts placed by	Mon 14/05/07
Contract start date	Wed 01/08/07

UKERNA reserves the right to vary this timetable if the need arises, within the constraints of the EU Services Directive.

Tenders will be expected to remain valid for six months after tender submission.

UKERNA may invite suppliers to attend tender clarification meetings if required.

### 3.6 Evaluation

The contract will be awarded on the basis of the offers that are the most economically advantageous. The main criteria to be used in determining which offers are the most economically advantageous will be:

- the supplier's ability to meet the mandatory requirements;
- UKERNA's assessment of the supplier's ability to provide the service on a timely basis based on the responses to the mandatory and information requirements; and
- Capital and recurrent costs.

UKERNA reserves the right not to award a contract.

### 3.7 Delivery of tenders

All copies of the tender documents, on paper and electronically, must be delivered on or before 12:00 Noon on the date specified in 0.3.5 Timetable above and to the contact listed in section 3.

**ONE paper copy and 6 electronic copies** of the tender on CD-ROM are required and must be sealed and clearly marked “Operational Requirement for the Management of the JANET Access Grid Support Centre”. The electronic copies should be provided in PDF format with the exception of spreadsheets that should be provided in Excel 97 or 2000. Any non-standard fonts used in electronic submissions must be embedded in the document.

All tenders must be returned in a plain envelope that does not identify the supplier on it. Any tender that identifies the supplier on the label will be deemed invalid.

Delivery of the tender by FAX is **not** acceptable.

Tenders submitted after the deadline will **not** be considered.

### **3.8 Format of tenders**

The response to the specific requirements must take the following format:

#### **A. Management Summary**

This section should be a single page summary describing the main points of the bid.

#### **B. Description of Services Proposed**

This section must describe the services proposed. The information required to satisfy all the specific requirements must be provided in this section.

The response must address all the requirements both Mandatory Requirements (MR) and Information Requirements (IR) detailed in all sections of this OR.

The order of replies to requirements (MR and IR) must be given in the same numerical order as they are stated in this document. The reference number and the text of the requirement to which it relates must precede each response.

### **3.9 Document notation**

*MRn* A mandatory requirement.

A solution that does not meet all mandatory requirements will not be acceptable.

Suppliers must state how all requirements will be met, considering the issues and the points raised. **A statement of the form ‘this requirement will be met’ is not sufficient. Tenders must satisfy all mandatory requirements.** Failure to satisfy a mandatory requirement May exclude a tender from further consideration.

*IRn* An information requirement

It is vital that suppliers provide full information on specific topics. These topics are identified as information requirements. Failure in a tender to provide full, relevant information in answer to information requirements may prevent the evaluation from being conducted properly, and hence lead to exclusion of the tender. Assessment of the quality of the tender will be based on the responses to these requirements, and will influence the selection process.

### **3.10 Freedom of Information**

UKERNA is subject to the provisions of the Freedom of Information (FOI) Act. If a supplier considers that any information supplied by them is either commercially sensitive or confidential in nature, this should be highlighted and the reasons for the sensitivity given. In such cases, the relevant material will in response to FOI requests be examined in the light of the exemptions provided in the FOI Act.

## **4. REQUIREMENTS FOR EVIDENCE OF COMPETENCE TO SUPPLY**

### **4.1 Financial and Economic Standing**

*MR1....The supplier shall warrant that none of the following circumstances set out in Article 45 of EU directive 2004/18/EC applies to the supplier:*

- *{item 2(a)} is bankrupt or is being wound up, where his affairs are being administered by the court, where he has entered into an arrangement with creditors, where he has suspended business activities or is in any analogous situation arising from a similar procedure under national laws and regulations;*
- *{item 2(b)} is the subject of proceedings for a declaration of bankruptcy, for an order for compulsory winding-up or administration by the court or for an arrangement with creditors or of any other similar proceedings under national laws or regulations;*
- *{item 2(g)} is guilty of serious misrepresentation in supplying the information required under this section or has not supplied such information.*

*MR2....The supplier shall provide evidence of financial and economic standing, as specified in Article 47 of EU directive 2004/18/EC using any or all of the methods described in paragraph 1 of Article 47.*

### **4.2 Technical Capability and Experience**

*MR3....The supplier shall provide evidence of skills, experience and reliability as specified in the following areas taken from paragraph 2 of Article 48 of EU directive 2004/18/EC:*

- *{item (e) of paragraph 2} the educational and professional qualifications of the service provider or contractor and/or those of the undertaking's managerial staff and, in particular, those of the person or persons responsible for providing the services or managing the work;*
- *(item (i) of paragraph 2} an indication of the proportion of the contract which the services provider intends possibly to sub-contract.*

*MR4....A description of the service provider's measures for ensuring quality as indicated in article 49 of 2004/18/EC. For this item, a copy of the supplier's ISO 9000 certificate will be adequate. If the supplier is not registered under ISO 9000, then a brief description of the policy used to ensure quality will be acceptable.*

*IR5.....The supplier is invited to supplement the information above with a brief description of its general capability to provide the services being offered.*

## **5 REQUIREMENTS FOR THE OFFERED SERVICE**

### **5.1 Contract Form**

UKERNA expects that their standard form of contract will provide the starting point for any agreement. This will be provided to suppliers upon registration

Documents will have the following decreasing order of priority in determining resolution of any conflicts once a contract is in place:

1. The body of the contract
2. The schedules to the contract including UKERNA's standard Terms and Conditions;
3. The supplier's response to this OR, as modified by any written clarifications and amendments;

4. Ancillary information supplied with the supplier's response

*MR6...The supplier shall indicate that it will accept a contract under English law, and the principle and order of the document priority listed above.*

## **5.2 Delivery**

The successful supplier will be expected to sign a contract by no later than 13th May 2007, and commence operation of the JANET Access Grid Support Centre, according to the parameters detailed in this Operational Requirement, on 1st August 2007.

*MR7. The supplier shall provide the service from 1st August 2007, subject to a contract being placed by 13th May 2007.*

*MR8. The supplier shall include a description of how the project will be managed, together with an implementation plan which clearly identifies key areas, the time scales for implementation and the critical path. The project schedule must be specified in terms of elapsed time from award of contract.*

*MR9. The supplier shall provide details of how they will establish procedures to ensure successful operation of the Support Centre and should be prepared to make these procedures available to UKERNA on request.*

## **5.3 Additional Facilities and Services**

*IR10...Suppliers are invited to propose any additional services directly related to the enhancement of the support service proposed. Any proposals for additional services, and any additional equipment required to operate these services, should be clearly separated from the response to the main requirement. Any associated costs should be separately listed here.*

## **5.4 General Management**

The JANET Access Grid Support Centre will be required to have the facilities to take part in sessions over Access Grid, VRVS and H.323 videoconferencing in order to provide proactive support and liaise with UKERNA. These facilities should comply with any QA test requirements that are required by UKERNA operated services, be registered with those services and available, when required, for Support Centre activities.

Support Centre participation in conference over Access Grid will require the site to have an Access Grid node on site, a connection of at least 34Mbit/s, with at least 25Mbit/s spare capacity. Staff at the Support Centre should have experience of running an Access Grid node and a multicast enabled network.

On occasions UKERNA will request that the JANET Access Grid Support Centre provides appropriate representation at conferences, on working groups and at various meetings, such as Access Grid Retreat (see <http://www-new.mcs.anl.gov/fl/flevents/ag/agr06/>), the JANET Booking Service Steering Group and with suppliers of AG equipment. On occasions, staff from the AGSC will be required to give presentations at conferences, working groups and meetings. It is anticipated that time for such activities will not exceed 25 days per year, excluding travelling time.

UKERNA will require meetings once every month with senior staff at the AGSC to discuss the operation and management of the service. Such meetings will be held by AG or H.323 videoconferencing when possible.

UKERNA will be responsible for any travel and other expenses incurred by the supplier when attending meetings, working groups and conferences, which are agreed in advance.

*MR11. The supplier shall describe AG node, VRVS and H.323 facilities and videoconferencing studio provision, and availability at its site. In answering this requirement, the supplier should describe its experience in the operation of these facilities.*

*MR12. The supplier shall describe how it will provide resilient connectivity to JANET, ensuring that bandwidth in excess of 25Mb spare capacity is available. In answering this requirement, the supplier should describe the network connectivity of the AG node(s) at their site.*

*MR13. The supplier shall confirm that it will provide representation, when requested by UKERNA, at conferences, working groups and meetings, including meetings with UKERNA. The supplier shall provide information in its response about which staff would be made available to attend.*

*MR14. The supplier shall agree to provide 1/2 FTE for the development of AG services, including testing and installation of new software releases, and working with UKERNA to increase the capacity of the service, should it be required.*

*MR15. The supplier shall guarantee that it will not connect to or make recordings of AG sessions or videoconferences, except with the agreement from either a named participant from one of the nodes that is participating in the session. The supplier shall describe procedures that will be put in place to ensure these working practices are adopted.*

*MR16. The supplier shall provide details of how it would deal with new development projects which would be separately funded.*

## **5.5 Management of Equipment**

The JANET Access Grid Support Centre will manage all AGSC equipment, which may include:

- Three InSORS servers
- Four AG toolkit venue and bridge servers - two running AG2, two running AG3
- A small AG node to support QA Testing in a test room environment
- Two servers supporting miscellaneous other services (open source bridges, beacons, etc.)
- Four VRVS Servers (Two for resilience)
- AG Toolkit Servers (3 Servers a dedicated DVD player & Access Grid PC).

Rack space required is variable and most of the units are 1U but some of the equipment consists of tower units although these can be changed. It estimated that space of at least one and a half racks is required to house equipment.

The equipment can be hosted at the supplier's site, or at JANET Co-location site(s).

Information about the standard model for the deployment of equipment at JANET Co-location sites can be found at:

[http://www.ja.net/co-location/service\\_guide.pdf](http://www.ja.net/co-location/service_guide.pdf)

The supplier will not have physical access in its equipment at any JANET Co-location site under normal circumstances and thus it will have to be remotely managed.

- MR17. The supplier shall describe how it will ensure effective management and operation of all equipment listed, taking into account security and ensuring the availability described in 2.2.*
- IR18. The supplier shall indicate if it is able to provide space with power and environmental reliability at its site for any service equipment and indicate any associated costs in the spreadsheet.*
- IR19. The supplier shall describe the steps that will be taken to ensure access to all equipment located at the supplier's site is restricted to authorised personnel only. The supplier shall provide an outline of its security procedures.*
- IR20. The supplier shall describe the steps that it will take to ensure that backups are kept of the configuration of equipment.*
- IR21. The supplier shall describe plans for recovery in event of a failure of its primary access link to JANET.*
- IR22. The supplier shall provide details of how they will continue to offer Support Centre services in the event of a failure of their link to JANET.*

## **5.6 Availability, Response and Support**

The AGSC helpdesk is staffed between 09:00 and 17:00 Monday to Friday, excluding holidays (namely New Year's Day, Good Friday, Easter Monday, May bank holiday, Spring bank holiday, Summer bank holiday, Christmas Day, Boxing Day and the days between Christmas and New Year).

A single dedicated contact phone number, fax number and e-mail address will be provided by the Support Centre, enabling users to contact the Support Centre staff with enquiries, or to report faults or incidents. During the Staffed Period, all phone enquiries will be answered in person except in exceptional circumstances, when a messaging facility will be provided.

At times outside the Staffed Period, means must be provided by which users can log enquiries and report faults and incidents.

The JANET Access Grid Support Centre will provide day-to-day support, help and advice to all users at AG nodes.

- MR23. The supplier shall describe the staff cover to be provided at the JANET Access Grid Support Centre during the Staffed Period.*
- MR24. The supplier shall describe how it will provide appropriate levels of support, to all users, and how it will act upon to enquiries by phone, e-mail or fax during the Staffed Period, within 2 hours, including information about procedures it will implement to ensure timely resolution of enquiries.*
- IR25. The supplier shall describe the proposed staffing requirements, including details of staffing numbers, percentage of time that will be dedicated to the Centre, the role and responsibilities of each member of staff in the proposed Centre, and costs including overheads for each member of staff.*

## 5.7 Information Management

The JANET Access Grid Support Centre will author documentation for users covering operational information about all aspects of the service, Quality Assurance testing, and maintain a list of frequently asked questions. This documentation will be made available electronically on the AGSC web site, which will be hosted on a web server operated and maintained by the supplier

- MR26. *The supplier shall agree to author appropriate levels of documentation in respect of the JANET Access Grid Support Centre Service and its use, for both technical and non-technical users.*
- MR27. *The supplier shall agree that all documentation will be approved by UKERNA prior to publication and that the copyright and IPR on all material will reside with UKERNA.*
- IR28. *The supplier shall provide information about how consideration will be given to documentation to facilitate ease of use by users with disabilities, including but not exclusively, blind people, people with a visual impairment and people with dyslexia.*

## 5.8 Monitoring

The Centre will be required to have a multicast Beacon deployed at its site and will encourage other Access Grid node sites to deploy Beacons locally. Further information regarding the multicast beacons can be found at the following web site: <http://ulcc.beacon.ja.net/>

This will enable monitoring of the multicast traffic. The Centre will be responsible for providing a website displaying the status/matrix of these distributed beacons. UKERNA will run the Beacon server from which the stats will be available. If a Beacon is unavailable (other than for scheduled down time) the supplier must inform the site within 24 hours.

- IR29. *The supplier shall provide details of how they will deploy the multicast beacon at its site.*
- MR30. *The supplier shall describe how it will ensure proactive monitoring of all equipment located at the Support Centre and at the co-location sites, to ensure that faults and incidents are diagnosed promptly and appropriate action is taken for resolution.*

## 5.9 Fault Management

The JANET Access Grid Support Centre will be required to provide means by which users are able to report faults and incidents directly to the Support Centre at all times.

The Support Centre must respond to any fault with an initial prognosis within one hour of the fault being reported during Staffed Periods, and within two hours of the start of the next Staffed Period if reported outside this time. Upon clearance of the fault the originator must be informed within one hour of the clearance. The Centre should inform UKERNA if any fault identified will affect Access Grid services to a node for more than four hours.

The Support Centre will also be responsible for fault and incident management of the central Access Grid equipment. Hence, problems with equipment must be reported to the equipment supplier or manufacturer and UKERNA, and followed up in order that fixes are provided in a timely manner.

On the occasions when a fault or incident is found to be caused by a network problem it may be appropriate for the JANET Access Grid Support Centre to work with the JANET operations staff, as well as users, towards resolution of the fault.

*MR31. The supplier shall describe how it will provide proactive appropriate technical support, fault finding support and fault resolution services to all users. In answering this MR, the supplier should consider how it will interface with UKERNA, the JANET operations staff, service users and developers, to ensure the timely resolution of faults and incidents.*

The AGSC Support Centre will be required to respond immediately if a user, participating in an AG session, reports an incident or fault.

*MR32. The supplier shall describe how it will provide appropriate support to all users in the event of an incident or fault during a session.*

## **5.10 Quality Assurance Testing**

Quality Assurance (QA) Testing which is managed through the Booking Service measures the audio and video quality and levels of all Node venues, and the network connectivity of nodes. This testing is a central element of the JANET Access Grid Support Centre service; It makes successful operation of a session more likely.

Nodes are QA tested when they make an application to register to use the service and every six months thereafter. The schedule for the current QA test is found in Annex B. The JANET Access Grid Support Centre will generate a report as a result of each QA test which will be made available to UKERNA and the Node tester; Further information can be found on the AGSC web site:

<http://www.agsc.ja.net/QAtesting/QAtesting.php#teststructure>

Guest users are not expected to take a QA test. However, they are invited to undertake a short Guest Registration Test prior to participating in a session, to check the level of quality of their system, ensuring they can connect to a conference and the audio levels are within an acceptable range.

UKERNA is presently running a project to augment this service with an automated Online Assessment Test (see 2.3.3 for details).

*MR33. The supplier shall describe the procedures it will put in place to ensure the timely QA testing of all Access Grid nodes with a view to assuring a standard quality.*

*MR34. The supplier shall agree to make the results of each QA test available as a report to the node tested and UKERNA.*

*MR35. The supplier shall describe the process it will use to carry out Guest Registration Test for guest nodes.*

In the event that a node fails a QA test, the Support Centre shall provide assistance to the node to correct any faults found.

*MR36. The supplier shall describe the level of support that it will be able to provide and the procedure it will adopt in the event that a node fails a QA test.*

## 5.11 The Booking Service

The Access Grid Booking Service enables users to check the availability of nodes and book AG sessions and QA tests using a web interface.

*MR37. The supplier shall agree to work with UKERNA on further development of the booking service, as part of the development effort described in section 2.3.2.*

## 5.12 Reporting

UKERNA requires a monthly service report in order to comply with SLA requirements as well as for future capacity planning. Details of the information to be included in the report are as follows:

- Outages & Downtime of Equipment and Applications
- Support Requests
- Web Information
- Number of supported conferences in that period and the technologies used e.g. Access Grid only, VRVS only, gatewayed Access Grid/VRVS and gatewayed unicast/multicast
- VRVS only, gatewayed Access Grid/VRVS and gatewayed unicast/multicast
- Multicast Unicast Bridge (Uses, Hours Used)
- Number of QA tests & Results

### **Conference Information**

- No of Conferences by Type (Number of Uses, Total Hours Used, Average Time used)
- Equipment Outages

### **Equipment Information**

- For each Server: number of faults, downtime of Servers in minutes, and the percentage availability of the each Server.
- Multicast bridge downtime
- Beacon downtime

### **Quality Assurance Information**

- Quality Assurance test results

*MR38. The supplier shall provide UKERNA with a monthly report, which is delivered on or before the fourth working day of the subsequent month.*

*IR39. The supplier is invited to suggest any additional information that may be included in the monthly report, that it considers may be useful to UKERNA.*

*MR40. The supplier shall amend the monthly report should UKERNA's reporting requirements change.*

### 5.13 Safety

*IR41.. Suppliers shall provide information on any properties of its proposed equipment that may have safety implications, e.g. microwave or laser radiation. Suppliers should state what precautions would need to be taken, or operational procedures adopted, by institutions or organisations where equipment is sited.*

## 6 COSTS

### 6.1 Contract Term

UKERNA wishes to agree a three year contract with the option of extending an additional two years, subject to agreement by both parties.

All the tender costs should be indicated in a particular format as specified in the spreadsheet found at:

<http://www.ja.net/latest/itt/access-grid/index.html>

Costs at current sterling prices excluding VAT should be quoted for all aspects of the proposal. If UKERNA finds it necessary to place some interpretation on any aspect of the total tender cost, it will seek confirmation of its interpretation with the supplier. Subject to this process, costs that appear elsewhere in the proposal but are not included in the price, arrived at using the format specified, will be deemed to have been waived.

On the present growth rate, extrapolated figures indicate, the number of supported room nodes will increase by a maximum of 100 for the period 2007 – 2008.

Firm costs should be clearly identified for all staff requirements together with any equipment and other costs for each of the three years, from 1st August 2007 until 31st July 2010, and for a further two years, on an annual basis.

The cost of implementation and set up of the JANET Access Grid Support Centre into operation, including capital and installation costs should be separately identified and costed.

*MR42. The supplier shall provide the price in sterling excluding VAT and any other duty for a three year contract with details of indicative costs annually for a further two years. The supplier shall provide details of any other costs that may be incurred in the operation of the JANET Access Grid Support Centre, both in terms of cost and items of expenditure. The supplier shall indicate on which elements of the proposal VAT or any other duty is applicable in column F of the spreadsheet, by inserting the percentage applicable. The price shall be presented in a tabular form, using the spreadsheet found at:*

<http://www.ja.net/latest/itt/access-grid/index.html>

*MR43. Suppliers shall complete the spreadsheet, but should not alter its format in any way as it forms part of the evaluation.*

*MR44. If other duties are applicable, suppliers should specify them in responding to this requirement.*

*MR45. The supplier shall specify the cancellation charges (if any) in the spreadsheet for early termination by UKERNA.*

*IR46. The supplier shall propose a mechanism for price review at the end of the initial period of 3 years, to include details of the timing of such reviews within the contract period.*

- IR47. If the supplier includes any expenditure in the 'Other costs' rows on the spreadsheet, details of this expenditure shall be specified in responding to this requirement.*
- IR48. It is recognised that the service may grow faster and that additional services may be offered. Suppliers are invited to propose mechanisms to support the service as it scales and the incorporation of new services.*

## **7. FREEDOM OF INFORMATION (FOI)**

UKERNA is subject to the provisions of the Freedom of Information (FOI) Act. If a supplier considers that any information supplied in a response to this Operational Requirement document is either commercially sensitive or confidential in nature, this should be highlighted and the reasons for the sensitivity given. In such cases, the relevant material will in response to FOI requests be examined in the light of the exemptions provided in the FOI Act.

- MR49.. Suppliers must highlight any information that is either commercially sensitive or confidential in nature and reasons for the sensitivity should be given.*
- MR50.....Suppliers must provide contact details (name, telephone number and email address) of the person within their organisation that is responsible for dealing with FOI requests.*

## 8. ANNEX A

### 8.1 Spreadsheet for costs

The copy of the spreadsheet is provided here for guidance only. Suppliers shall use the spreadsheet provided to show costs. Un-shaded fields are available for data entry; all other fields are locked. The MS Excel spreadsheet can be obtained from:

<http://www.ja.net/latest/itt/access-grid/index.html>

Operational Requirement for the Access Grid Support Centre				
Summary of Costs				
Supplier	<input type="text"/>			
Registration no.	<input type="text"/>			
Description	Reference to OR	Price (£)	% VAT or other duty	Total including VAT (£)
<b>Capital and initial set up costs</b>		£ -	0.0%	£ -
<b>Year 1 Costs</b>				
Other costs - please specify	IR47	£ -	0.0%	£ -
Staff costs	MR42	£ -	0.0%	£ -
Cost of housing and managing equipment	IR18	£ -	0.0%	£ -
Cancellation charge	MR45	£ -	0.0%	£ -
<b>Year 2 Costs</b>				
Other costs - please specify	IR47	£ -	0.0%	£ -
Staff costs	MR42	£ -	0.0%	£ -
Cost of housing and managing equipment	IR18	£ -	0.0%	£ -
Cancellation charge	MR45	£ -	0.0%	£ -
<b>Year 3 Costs</b>				
Other costs - please specify	IR47	£ -	0.0%	£ -
Staff costs	MR42	£ -	0.0%	£ -
Cost of housing and managing equipment	IR18	£ -	0.0%	£ -
Cancellation charge	MR45	£ -	0.0%	£ -
<b>Year 4 Costs</b>				
Other costs - please specify	IR47	£ -	0.0%	£ -
Staff costs	MR42	£ -	0.0%	£ -
Cost of housing and managing equipment	IR18	£ -	0.0%	£ -
Cancellation charge	MR45	£ -	0.0%	£ -
<b>Year 5 Costs</b>				
Other costs - please specify	IR47	£ -	0.0%	£ -

## Operational Requirement for the Management of the JANET Access Grid Support Centre

Staff costs	MR42	£	-	0.0%	£	-
Cost of housing and managing equipment	IR18	£	-	0.0%	£	-
Cancellation charge	MR45	£	-	0.0%	£	-

## 9. ANNEX B

QA testing aims to improve Access Grid sessions by improving the quality of individual Access Grid nodes. The tests comprise the measurement of various metrics to ensure that each Access Grid node conforms to an acceptable standard of quality. These metrics cover the categories of audio, video, networking and the use of related applications, such as presentation software and the use of the Jabber (text chat). QA tests also provide a means to disseminate good practice to node operators.

For nodes to have access to the various services offered by the AGSC, they must be registered for regular QA tests that are held every six months.

**Registration for a full QA Test is for the UK research and academic community only. Non-academic, non-UK and Access Grid users without a full studio node should register using the Guest Registration see: <http://www.agsc.ja.net/GuestReg/GuestReg.php> procedure.**

### 9.1 Structure of the QA Test

A QA test is scheduled to last for two hours, but will often take much less time. The QA test is currently comprised of the measurements in the table below, although the AGSC reserves the right to add or remove metrics and change methods of measurement according to good practice.

Category	Item	Measurement Scale	Measurement / Criteria
Audio	Echo	5. Imperceptible 4. Perceptible, but not annoying 3. Slightly annoying 2. Annoying 1. Very annoying	In a normal speaking voice, check for perception of echo. 1. Ensure the Echo Cancelling device is properly configured. 2. Consider microphone placement. Microphones placed too close to speakers will increase the risk of echo. 3. Check speaker levels as high volume settings can negate the effects of the Echo Cancelling device. No echo should be perceptible.
Audio	Audio Quality	5. Excellent 4. Good 3. Fair	Audio quality should be excellent. Voices must be clearly

		2. Poor 1. Bad	understood and there should be no distortion in the voice. In a normal speaking voice the LEDs in RAT should peak at orange, but not go into the red. The speaker should be asked to read something, with some emphasis on parts to check the peaks.
Audio	Microphones off	Display in RAT	The microphones are muted / switched off and there should be no lights showing in RAT.
Audio	Ambient room noise	Display in RAT	The microphones are switched on but no one is speaking. The background ambient noise should not light up more than the first 3 LED's on the display in RAT.
Video	Picture Quality	5. Excellent 4. Good 3. Fair 2. Poor 1. Bad	The contrast between the background and speakers in the foreground should be good. Presenters should not be placed in front of bright backgrounds e.g. with a projected image in background, as the system overcompensates and the presenters' images become too dark to see any detail clearly. The images should not flicker.
Video	Camera positioning of subjects	5. Excellent 4. Good 3. Fair 2. Poor 1. Bad	The cameras should be positioned to show a head and shoulders shots of the presenters. If groups must be shown, these should sit close together and be restricted to 2 or 3 people if possible to avoid

			becoming too small in the shot.
Networking	Time synchronisation	Public Time Servers free download <a href="http://www.ntp.org">http://www.ntp.org</a>	Is the NTP synchronisation running on the system? Useful tool for changing Windows XP synchg settings on <a href="http://www.dougknox.com/xp/utills/xp_inet_time.htm">http://www.dougknox.com/xp/utills/xp_inet_time.htm</a> .
Miscellaneous	Jabber (text chat application)	3.Responded 2.Character but no response 1.Jabber not in use	Is Jabber being used? Say "Hello" to other site. Do they respond within 5 minutes without being prompted? (Please see <a href="http://www-unix.mcs.anl.gov/fl/research/accessgrid/software/jabber.html">http://www-unix.mcs.anl.gov/fl/research/accessgrid/software/jabber.html</a> for details of how to set up Jabber software for the Access Grid.)
Miscellaneous	Shared presentation software	IGPix VNC	Test IGPix to share PowerPoint. Test VNC. (Note that failure to comply does not fail the QA Test as ability to demonstrate this application may be dependant on an institution's site security policy.)
Miscellaneous	Check all contact details are correct	Data Check	Check node resources (e.g. whiteboard, document camera) and node details (addresses, phone numbers, e-mail etc.)

Miscellaneous	Connection type	Multicast/Unicast	Check either: 1. Unicast functionality (multicast is not required for a QA pass). or 2. Multicast and unicast (unicast ports need to be open as a backup even if multicast is available).
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### Passing/Failing the QA Test

It is in no one's interest for a node to fail a QA test. The aim is to improve the quality of facilities and operators. Therefore, if simple adjustments can be made immediately in order for a node to pass a metric, this will be allowed. However, it is preferred for nodes to be in as ready a state as possible to pass the test. If time does not allow for quick troubleshooting or there are many problems, then a node will fail the test.

If a node fails the QA test, a retest will be scheduled as soon as possible after the initial test. If the retest is failed, then access to services will be withdrawn until such a time that the node is able to pass a QA test.

The results of QA tests will be public and held on this website. The results of the QA test will also be made available to UKERNA.

Filename: Access Grid OR.doc  
Directory: Z:\My Documents\Updating\JANET\latest\itt\access-grid  
Template: C:\Documents and Settings\susans\Application  
Data\Microsoft\Templates\Normal.dot  
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Author: Tim Kidd  
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