



Procurement for Very High Speed Global Internet Transit Service

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 their 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 5 June 2005.

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	Position:	Production Services Director	Date:

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1. INTRODUCTION

This document comprises an *Operational Requirement (OR)* for a very high speed global Internet transit service.

This document is an integral part of the 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 leading edge network for use in higher and further education and research organisations throughout the UK. The JANET network is operated and developed by UKERNA under a formal agreement with the Joint Information Systems Committee (JISC). The term JANET as used in this document is taken to include SuperJANET where SuperJANET is deemed to be the high-speed or broadband backbone of JANET. The SuperJANET or backbone element comprises resilient 10 Gbit/s links across the United Kingdom, with access links of 2.5 Gbit/s to each of the regional networks. The JANET network is truly world-class in terms of comparisons with equivalent National Research and Education Networks (NREN) throughout the world.

The JISC is a committee structure set up and maintained by the higher and further education funding councils in the UK to promote the effective use of IT in the learning, teaching, and research activities of these sectors. JANET is connected to the equivalent academic networks in other countries and to many commercial networks in the UK and abroad, forming part of the global Internet.

2. OVERVIEW OF THE FACILITIES REQUIRED

This Operational Requirement asks for full proposals for the supply of transit capacity at 10 Gbit/s initially between JANET and the (Commercial) Internet.

Current External Connectivity

In order to extend the reach of facilities provided to its users, UKERNA has established access from JANET to the global Internet. It has chosen to implement this by a basic three-pronged approach - peering with commercial Internet Service Providers (ISP) in the UK; establishing interconnectivity to networks operated by similar academic and research organisations in other European countries and around the world via GEANT; and procuring transit through ISP(s) to the global Internet. It is this third part of the provision which UKERNA is seeking to replace through this procurement.

Currently, the global transit service is provided by two suppliers. Each supplier provides us with two 2.5 Gbit/s connections to our separate PoP locations for resilience purposes.

Bandwidth and Traffic Growth

Growth and prediction in demand since 2004 is in the table below:

Year	2004	2005	2006	2007	2008
Capacity in Gbit/s	2.8	3.5	4.5	5.8	7.5

Service Requirements

The minimum access capacity required is 10 Gbit/s from the start of the contract. We are concerned however to provide as resilient a service as possible. We have therefore decided to have more than one point of entry onto JANET – by having two 10 Gbit/s connections into the SuperJANET backbone, at two of our Points of Presence in London: at Telehouse (Telehouse North), Telecity (Harbour Exchange). We would then wish to split traffic between the two ports in normal operation, but to be able to carry the full load on either port in the event that one connection fails. We must also be in a position to expand the capability even further if required.

UKERNA is interested in having two suppliers for the transit capacity with each supplier providing one 10 Gbit/s access connection. In case of one connection failure, the other suppliers should be able to carry the total traffic.

The supplier will have to demonstrate that it has sufficient capacity in the form of trunk capacity within its own network and interconnect capacity agreements with its Internet partners to cover the likely demands of JANET users, both immediately and for the duration of the contract. We are seeking, therefore, contractually enforceable guarantees on latency (round trip time) and packet loss within the supplier's own network.

The service must be installed and ready for UKERNA use by 30 August 2005.

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 "Operations Requirement for Very High Speed Global Internet Transit Service 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 822 220 Fax: +44 (0)1235 822 286 E-mail: Procurement-Co-ordinator@ukerna.ac.uk
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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/itt/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/itt/Global-transit-procurement.html>

and sent by e-mail to each registered supplier.

3.5 Timetable

The steps and timetable for this procurement are as follows:

Activity	Date
Notice to European Journal	20 April 2005
Final date for registration	5 June 2005
Closing date for tenders	12:00Noon, 13 June 2005
Selection of preferred supplier	1 July 2005
Contracts placed by	15 July 2005
Delivery of the service	By 30 August 2005

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 three 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 manner as required 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 Noon on 13 June 2005 to the contact listed in section 3.2.

Four paper copies of the tender are required and must be sealed and clearly marked "**Tender for Very High Speed Global Internet Transit Service**". One electronic copy should also be provided in PDF format as well as in Word 97 or Word 2000 format. Electronic copies can be submitted on CDROM or 3.5" Floppy Disc. 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

MR_n 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 will 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 29 of EU directive 92/50/EEC applies to the supplier:

- *{item (a)} is bankrupt or is being wound up, whose affairs are being administered by the court, who has entered into an arrangement with creditors, who has suspended business activities or who is in any analogous situation arising from a similar procedure under national laws and regulations.*
- *{item (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 (c)} has been convicted of an offence concerning his professional conduct by a judgement which has the force of res judicata.*
- *{item (d)} has been guilty of grave professional misconduct proven by any means which the contracting authorities can justify;*

MR2. The supplier must provide evidence of financial and economic standing, as specified in Article 31 of EU directive 92/50/EEC using any or all of the methods described in paragraph 1 of Article 31.

4.2 Technical Capability and Experience

MR3. The supplier must provide evidence of skills, experience and reliability as specified in the following areas taken from paragraph 2 of Article 32 of EU directive 92/50/EEC:

- *{item (b) of paragraph 2} A list of the principle services provided in the past three years, with the sums, dates and recipients, public or private, of the services provided.*
- *{item (d) of paragraph 2} A statement of the service provider's average annual manpower and the number of managerial staff for the last three years.*

- *{item (f) of paragraph 2} A description of the service provider's measures for ensuring quality. 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.*
- *{item (h) of paragraph 2} An indication of the proportion of the contract which the service provider may intend to sub-contract.*

IR4. 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 the UKERNA's standard form of contract to provide the starting point for any agreement.

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

MR5. The supplier must indicate that it will accept a contract under English law, and the principle and order of the document priority listed above.

5.2 Charges

UKERNA requires a usage based charging mechanism. This should be structured as a monthly charge based on the total bandwidth (in Mbit/s) used by JANET traffic across access port. Suppliers may choose to express this as either a single rate of charge irrespective of the amount of bandwidth used, or as a table of rates dependant on the level of usage (e.g. with lower rates at higher levels of utilisation). Suppliers may also choose to introduce a minimum or "committed" usage rate to which UKERNA must subscribe, again with different rates for this committed usage and any additional usage above this commitment.

However structured, suppliers must provide in their answer to MR6 their charges in sufficient detail and clarity to allow UKERNA to assess the likely total contract cost over a two-year period. In making this assessment, UKERNA will be guided by its prediction of total usage rates as given in the section 2.

MR6 The supplier shall indicate the cost to provide one of two shared main supplies (where each supply will normally take a proportion of the entire load, but must be able to take the entire load if the other supply fails). The price shall be provided in accordance to UKERNA's requirements above. The supplier shall state unambiguously exactly how its usage based charging algorithm works.

MR7 The supplier shall specify the cancellation charges (if any) for early termination.

MR8 *UKERNA shall require penalty payments for late delivery and failure to meet service levels. Suppliers shall indicate what penalty payments they would offer to UKERNA in these circumstances.*

IR9 *The supplier is invited to provide pricing details for other options that the supplier considers will be of interest in meeting our requirements (for example, higher capacity provision than that indicated above; discount for higher committed rates etc).*

All prices, including equipment costs, for the implementation, operation and maintenance of the proposed facilities should be included in the charge.

If UKERNA finds it necessary to place some interpretation on any aspect of the total cost, we will seek confirmation of our interpretation with the supplier. Subject to this process, costs that appear elsewhere in the proposal but are not included in the charge will be deemed to have been waived.

5.3 Delivery and Acceptance

UKERNA will require each supplier selected as a part of this process to sign a contract by no later than 15 July 2005. The facilities will need to be tested, ready for service and accepted by UKERNA no later than 30 August 2005.

MR10 *The supplier shall be able to deliver (i.e. install and prove operability of) the offered facilities by 30 August 2005. The supplier shall state the date by which the facilities shall be delivered.*

IR11 *The supplier shall provide details of the procedures for establishing successful working of the facilities provided and be prepared to provide test results to UKERNA.*

5.4 Technical Requirements

IR12 *The supplier shall provide details of its North American IP backbone network topology, including details of transatlantic provisioning and peerings with other Internet Service Providers; and of its arrangements for providing connectivity to South America, Africa, Asia Pacific and commercial Europe. This description must include a network topology map, which may be supported by additional information.*

IR13 *The supplier shall detail its policy for dealing with high levels of utilisation both on his own network and in the links with peers (e.g. automatic upgrade if average utilisation exceeds a certain predefined level).*

MR14 *The supplier shall provide details of physical routing from its chosen delivery point including leasing from other suppliers. UKERNA will use this information to ensure that the routes from the two chosen suppliers are as independent from each other as possible.*

MR15: *The supplier shall provide a statement of its plans for implementing IPv6 unicast and multicast and must commit to supporting both in line with its general deployment on the Internet.*

IR16: *The supplier shall provide full details on its BGP filtering policy including the filtering method used, any restrictions on advertisements accepted such as prefix-length, how the filtering is updated and how often this is performed if automated.*

IR17: *The supplier shall provide full details of its network policy, including prefix-length based route dampening and which BGP communities are supported to control route advertisements to its peers and preferences of the routes within its own network.*

MR18 *The supplier shall support a multicast service, utilising PIM-SM2, MBGP and MSDP.*

- IR19 The supplier shall state its targets for packet loss and latency within its network; what remedial steps would be taken if the targets were not met; and what contractual guarantees including penalty payments it makes on these parameters. UKERNA requires the measurement of availability and service responsibility to the port in our router at the locations chosen.*
- IR20 The supplier shall state the expected availability of the service measured over a rolling 12-month period from the port on UKERNA's router; and state what contractual guarantees including penalty payments it makes on this availability figure.*
- MR21 The supplier shall supply the service to one of the locations specified in this document. The supplier shall specify the location that will be used. The addresses of these locations are given in Section 8. **Note:** The suppliers shall make provision within its own rack space to accommodate any equipment that it wishes to place at the location.*
- IR22 The supplier shall define the nature of its physical interface at the location where connectivity is to be established and any requirement which that interface places on any equipment which UKERNA may choose to connect to it. UKERNA's preferred interface is a 10 Gbit/s, single mode, intermediate reach, packet over SONET interface. The cost of using other interfaces will be taken into account. Suppliers should bear in mind that one access point should be able to absorb the total JANET load in the case of the failure of the other supplier's access point.*

5.5 Usage and Connection Policies

All traffic flowing across these facilities will be subject to the JANET Acceptable Use Policy, a copy of which may be found at:

<http://www.ja.net/documents/use.html>

This policy is designed to ensure that all content obeys applicable legislation, and is broadly acceptable under the present-day social norms governing use of the Internet.

- MR23 The supplier shall place no restriction on UKERNA's use of the facilities provided, other than those which arise from statutory requirements or generally accepted Internet practice.*

5.6 Traffic Growth & Non-London Access

The capacity of the facilities acquired must be sufficient to support the needs of those using JANET. A key requirement is that UKERNA has the flexibility to specify and have implemented, at acceptable cost, such changes in capacity as are rendered necessary by growth in user demand during the term of the contract, even if these changes are only put in place for a few months at the end of the contract period.

- IR24 The supplier shall specify the mechanism through which UKERNA will be able to implement changes to the capacity of the service provided, the capacity changes that will be available to UKERNA, and an indication of the lead times that can be expected for such changes to be implemented, as and when required, together with any minimum service period.*

JANET is pursuing the policy of not being reliant where reasonably possible on any single location for resilience purposes. UKERNA is interested in knowing the options available for having at least one global transit connection to its backbone at a location other than the two London PoPs stated. For this to be practical such connections should be to supplier PoPs which have paths to the global Internet that are not dependent on London infrastructure.

IR25 The supplier shall provide details of other Points of Presence in the UK which JANET may connect to that have a path to the global Internet independent of London.

5.7 Fault Management

To provide a high degree of availability for JANET services, it is essential that faults are detected, reported and resolved in the shortest possible time. UKERNA requires the supplier to provide a single point of contact for fault management and help desk staff who will manage effectively all reported problems at any time of the day or night, throughout the year.

MR26 The supplier shall provide UKERNA operations staff with a means of reporting problems with the service supplied. This reporting system shall be available 24 hours a day, 365 days of a year. The minimum requirement is that it should be possible to report a fault by telephone and that this report be acknowledged and that fault resolution shall commence within 15 minute of the call being placed.

MR27 The supplier shall provide monthly reports (by email to a nominated address) on its fault management performance, including as a minimum the number and nature of the faults incurred during the period, and the time to restore service after each fault was reported.

5.8 Maintenance

UKERNA appreciates that is sometimes necessary for a service provider to perform maintenance on equipment or cables in the network. However, we wish to ensure that the amount of disruption caused by maintenance is minimised and that the supplier provides sufficient notice when maintenance is necessary. JANET uses a published maintenance window between 07:00 and 09:00 (UK time) on a Tuesday morning. We will expect the supplier as a matter of normal procedure to fit into this window its own maintenance work on the facilities supplied.

Where it becomes necessary to perform emergency maintenance outside the window, the supplier shall be expected to provide UKERNA operations staff with the maximum amount of notice possible, before commencing work. UKERNA expects that the amount of maintenance shall be minimal.

MR28 A minimum of 14 days' notice shall be given before any maintenance is undertaken, whether or not it is planned to fall within this period. The total amount of scheduled outage utilised in any one year shall not exceed 0.15% of the total service time (i.e. approximately one hour per month).

IR29 The supplier shall give details of the mechanisms by which routine maintenance will be carried out, the times at which such sessions will normally be scheduled, and shall indicate how its proposal fits in with the above requirement on notice and service outage.

5.9 Safety

IR30 Suppliers must 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

In view of the rapid changes in the marketplace at the current time, UKERNA envisages an initial two-year contract term, with the possibility of extension based on a market and technology review for further years on an annual basis up to a maximum of another three years.

6.2 Payment Regime

The supplier will invoice UKERNA at intervals of 30 days in arrears.

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.

MR31 Suppliers must highlight any information that is either commercially sensitive or confidential in nature and reasons for the sensitivity should be given.

MR32 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. DETAILS OF LOCATIONS

Telehouse

Docklands

Telehouse International CE Ltd

Coriander Avenue

London

E14 2AA.

Rack Number: TFM15, Suite K, RackA1

Telecity

8-9 Harbour Exchange

London

E14 9GB

Rack Number: Room 1S