

UKERNA Quarterly Report to the JANET Community October 2003 to December 2003

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This report is produced and published by the United Kingdom Education and Research Networking Association (UKERNA) for use within the JANET Community. We welcome comments on all aspects of this document and on any other UKERNA publications. Please direct feedback or any complaints about the content to JANET Customer Service (JCS), at the contact address given.

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 service@janet.ac.uk

1 Introduction

This report broadly follows the sequence of the Service Level Agreement (SLA) between UKERNA and the funding bodies represented on the Joint Information Systems Committee (JISC), for the financial year 1 August 2003 to 31 July 2004.

The numbering follows that of the SLA, and apparent omissions reflect the fact that there is nothing to report at present.

This report covers the period October to December 2003 (Winter).

Electronic copies of UKERNA's Quarterly Reports to the JANET Community can be found at:
<http://www.ja.net/documents/quarterly.html>

2 Operational Services

2.1 Basic Internet Protocol (IP) Transmission Service

2.1.1 Access to Backbone

This reporting period has seen a total of 27 new or enhanced customer connections completed and brought into service:

- Aberdeenshire Council
- Argyll & Bute Council
- Barking College
- Barnet College
- Beaumont College
- Belfast e-Science Centre
- Bridge College
- British Geological Survey, Exeter
- Centre for Ecology and Hydrology (CEH) Lancaster
- Coleg Llysfasi
- Coleg Powys
- Derby College for Deaf People
- Doncaster College for the Deaf
- East Lothian Council
- City of Edinburgh Council
- Falkirk Council
- Gateway Sixth Form College
- Highland Council
- Linkage College
- Medical Research Council HQ
- Medical Research Council Technology
- Nash College of Further Education Centre
- North Lanarkshire Council
- Queen Alexandra College for the Blind
- Scottish Qualification Authority (Glasgow)
- Workers' Educational Association (Northern)
- Yale College

For information regarding current upgrades or connections, please contact JCS at:
connections@janet.ac.uk

A list of all primary sites connected to JANET may be found at:
<http://www.ja.net/janet-sites/>

2.1.1.1 Further Education (FE)

England

The rollout of connections to 31 Specialist Colleges has continued during this quarter, with 11 connections now ready for service.

Upgrades to JANET connections for FE Colleges is in planning with an implementation period April 2004 to April 2005. Upgrades are planned on a basis of traffic levels with a local review of proposals by Regional Network Operators (RNOs) and Regional Support Centres (RSCs).

Northern Ireland

College access circuits and the connection to SuperJANET continue to be extremely reliable. Most college connections are being used close to capacity during peak hours.

Scotland

The high bandwidth connections provided to all Scottish colleges continue to perform well.

Wales

Implementation of the North Wales Metropolitan Area Network (MAN) has been hampered by delays to circuit deliveries to some FE colleges. UKERNA has worked closely with the North Wales MAN and its supplier, and it is anticipated that the remaining connections will be completed in January 2004.

2.1.2 Core Network

The core network ran smoothly over the reporting period.

The London Core Point of Presence (C-PoP) to Telehouse® Regional Point of Presence (R-PoP) link and the Reading C-PoP to Telehouse® R-PoP link were both upgraded from 2.5Gbit/s to 10Gbit/s in December. This has provided sufficient capacity on a 10Gbit/s ring to carry all external traffic reliably.

There was a highly visible problem on a service router at the Reading C-PoP that took several JANET services down for over 16 hours in November.

Major outages are reported on the JANET web server at:
<http://www.ja.net/cgi-bin/index.pl/outages/>

2.1.3 IP Multicast

Over the last few months there appears to have been an increase in the number of problems encountered by users of IP Multicast, particularly in the use of AccessGRID videoconferencing. It is not clear if there is a single underlying cause or if the problems are individual in nature. The fundamental properties of multicast make it difficult, but not impossible, to troubleshoot, however, any troubleshooting has to take place when the problem is being experienced. In contrast to IP Unicast there is very little that can be done retrospectively to identify the source of problems, therefore all users who experience problems in using IP Multicast are encouraged to report them promptly through the normal channels.

UKERNA has provided funding and has been working with RNOs to deploy multicast beacons across JANET. These beacons report the availability of a multicast group to a central server, that in turn presents the results via a web interface. To date approximately 80% of RNOs have taken up the offer of funding and about half of these multicast beacons have now been deployed. Those deployed and operational can be seen at:
<http://ulcc.beacon.ja.net/rn/>

The central JANET beacon server has been configured to provide different views of multicast beacons. Currently there are three views of beacons; Regional Networks, AccessGRID and Global. Over the past few months there has been a steady increase in the number of AccessGRID beacons coming online. As these beacons come online and report to the central JANET beacon server they can provide a check of multicast connectivity to other parts of JANET. This view of multicast connectivity can help to determine where to start when trouble shooting problems. UKERNA would like to encourage all those

with AccessGRID facilities to run a multicast beacon, configured to report multicast connectivity to the JANET beacon server. Details of how to configure multicast beacons can be found at:
<http://ulcc.beacon.ja.net/>

2.2 External Network Access Provision and Transmission

2.2.1 Access within Europe

JANET access to European National Research and Education Networks (NRENs) is via a 2.5Gbit/s connection to the Gigabit European Academic Network (GÉANT) from Telecity. Traffic over the link peaked at around 350Mbit/s during the reporting period. A backup 2.5Gbit/s connection from Telehouse® to the GÉANT UK PoP was brought into service in early October.

Further information about GÉANT can be found at:
<http://www.dante.net/server.php?show=nav.007&>

2.2.2 Access to the North American Internet

JANET access to the global Internet is provided by Sprint® and Level3 Communications™ from Telehouse® and Telecity in London. This provides a highly resilient service. Aggregated peak traffic reduced to around 2Gbit/s over these connections due to the holiday season. The topology of current external connectivity can be found at:
<http://www.ja.net/topology/external.html>

2.2.3 Access to Abilene and ESnet

JANET private peerings with US research networks Abilene and ESnet are provided via GÉANT. The services have been stable throughout the reporting period. However, it was reported that latency on connectivity to the National Aeronautics and Space Administration (NASA) was intermittently unacceptable at the end of December. This has been under investigation.

2.2.4 Access to the UK's Internet Exchanges

The London InterNet eXchange (LINX™) is the facility that allows the transfer of traffic between Internet Service Providers (ISPs) within the UK. JANET access to the LINX™ is achieved via two GigaEthernet connections from Telehouse® and Telecity. During the reporting period, traffic peaked at around 850Mbit/s over the two connections and the service was reliable. However, there was a interface card on the LINX™ gateway at fault in December, that took one of the LINX™ connections down for 15 hours. Due to the resilience arrangement, the overall service was not affected.

JANET also peers with ISPs via the Manchester Network Access Point (MaNAP). There is a GigaEthernet connection to MaNAP's 10Gbit/s Network Two and a FastEthernet connection to MaNAP's 1Gbit/s Network one. Total traffic over the two peering connections peaked just above 60Mbit/s during the reporting period.

Two new private peerings via The Packet Exchange were established during the reporting period (see section 2.9.2). Total traffic over The Packet Exchange's 1Gbit/s connection is 100Mbit/s.

2.2.5 Access to the Chinese Education and Research Network (CERNET)

The 45Mbit/s peering connection between JANET and CERNET currently carries just over 10Mbit/s traffic. In November, a test was carried out for transitting traffic to GÉANT over this link for two weeks. The load immediately went up to 30Mbit/s.

More information on CERNET can be found at:
<http://www.edu.cn/HomePage/english/>

2.3 Fault Handling

2.3.1 Fault Reporting

The existing fault reporting mechanism remains unchanged. UKERNA's Reporting Problems webpage can be found at:
http://www.ja.net/reporting_prob.html

Announcements relating to major service outages can be found at:
<http://www.ja.net/cgi-bin/index.pl/outages/>

The JANET Operations Desk is the main point of contact for reporting faults related to SuperJANET. To provide continuity of services at all times UKERNA provides the following numbers for use by customers when calling from the UK:

Telephone: 0870 850 6672
Facsimile: 0870 850 6673
E-mail: operations@ja.net

2.3.2 Network Status Information

The network monitoring service, JANET Netsight, has been developed by UKERNA to provide an easy to understand view of the status and performance of JANET. The service comprises a number of UNIX[®] based machines deployed around the edge of the backbone that will in the long term provide an overview of all the JANET Regional Networks.

There are now 25 Netsight systems in place on the network, all managed by the RNOs. These systems are now monitoring all their respective regional connections. Individual connection details such as traffic, reliability and latency figures are available to those connections via a username and password.

The development of the Netsight system is very much a dynamic process with enhancements being incorporated continually. The Network Resource Group at UKERNA, which is responsible for the development of the monitoring system, maintains an internal and customer based wish list for desired improvements and enhancements. An internal committee reviews these quarterly.

Work has continued to make the Netsight facility available to the Regional Broadband Consortiums (RBCs) in England and the Scottish Schools Digital Network (SSDN). These Netsight systems are housed in London and Edinburgh respectively. The RBC connections that are currently connected and active can be found at:

<http://schools.netsight.ja.net/>

The SSDN connections that are currently connected and active can be found at:

<http://ssdn.netsight.ja.net/>

Some of the Reading C-PoP Co-Location Services are currently monitored and available on the Netsight system recently located in Reading University, that can be found at:

<http://reading.netsight.ja.net/>

The future will see Netsight being utilised further to provide a monitoring service to other developing services within JANET.

More details are available at:

<http://www.ja.net/services/netsight/>

2.4 Managed Router Service (MRS)

There has been no increase in the number of sites requesting the MRS during the quarter. There are currently 16 sites covered by MRS. UKERNA continues to progress service installation to sites that have registered for the service..

Further information can be found at:

http://www.ja.net/services/managed_router/

2.5 Naming and Addressing

2.5.1 Naming Domain Administration

UKERNA administers the domain name approval service for both the ac.uk and gov.uk second level domains, along with any modifications required to register entries in the Domain Name Server (DNS) for these domains. The procedure for gaining names in both domains is detailed at:
http://www.ja.net/documents/naming/names_ac_gov.html

The modifications procedure for domain names under ac.uk and gov.uk already registered in the DNS is available at:
http://www.ja.net/documents/naming/naming_mods.html

The rules on eligibility for registration under ac.uk can be found at:
<http://www.ja.net/documents/naming/ac.uk-naming-rules.html>

During the reporting period 599 requests for new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 110 per month, with an average of 69 modifications for each month.

The charge for a new name request is £94 including V.A.T. (including the first two year's maintenance charge). There is also a maintenance charge of £47 including V.A.T. for all modification requests, although this charge is not applicable to those organisations that remain connected to the JANET network. Further information on domain name charging can be found at:
http://www.ja.net/documents/naming/naming_mods.html#payment_charges/

2.5.2 Domain Name Service

The JANET DNS service continues to run reliably. Details are available at:
http://www.ja.net/documents/naming/naming_mods.html

2.5.3 Primary Nameserver Service

The operation of nameservers and the maintenance of DNS information is an essential infrastructure activity that some small organisations do not have the resources to perform themselves. UKERNA can provide a basic Primary Nameservers Service to support e-mail and web use by smaller or less experienced JANET customer organisations, publishing their zones on central name servers and allowing a restricted facility for requesting changes to resource records. The service provides high availability Primary and Secondary nameservers that satisfy DNS queries for the zone data they hold.

Two organisations registered to use the JANET Primary Nameservers Service during the reporting period. There are now a total of four using this service.
<http://www.ja.net/services/primaryname/>

2.5.4 Secondary Nameserver Service

The Secondary Nameservers Service is currently available without charge to any customer with a Primary Connection to JANET. Under this service UKERNA will arrange for a Secondary nameserver to be run on the customer's behalf at a remote site on JANET. By the end of this reporting period the number of organisations using the service had increased to 473. Further information about the service can be found at:
http://www.ja.net/services/secondary_nameserver.html

2.5.5 Domain Name Service Whois Service

The whois service was reachable without exception.

The whois server database of existing names in both the ac.uk and gov.uk domains is in place, and is now automated and operational. Organisations unsure of a domain name's availability for registration should contact JCS.

2.6 Supporting Infrastructure Services

2.6.1 Network Time Service

The JANET Network Time Service delivers a stable time reference to customer organisations using the Network Time Protocol (NTP) specified in Report for Comment (RFC) 1305. It consists of four stratum-1 servers located at London, Bristol, Manchester and Edinburgh. This mesh of communicating systems gets 'true time' from external references such as MSF time signals broadcast by the UK Time and Frequency Standard Station, and the Global Positioning System (GPS) satellite navigation system. The result is that clock settings across the whole mesh are very closely synchronised and a single rogue system with the wrong time will have very little effect. A synchronised time service is important for some services, such as distributed file systems.

Three more sites registered to use the JANET Network Time Service during the reporting period bringing the total to 116. Overall, it is a stable and well-used service.

Details of the service are available at:

<http://www.ja.net/ntp/>

2.6.2 Co-ordination of Message Handling Services

The JANET Mailer Shield Pilot Service can help make the mail facilities of a JANET organisation more secure and robust, particularly where the organisation is small or its resources for managing e-mail are limited. In response to requests to develop a bulk mail filter, the pilot service was extended beyond its original end date of April 2003. During the trial period to date, no pilot site has suffered significant outages due to external hostility and no unauthorised mail has been relayed through the mail systems.

During this reporting period, four more organisations have joined the pilot service, bringing the total to 18 sites. In addition, another JANET Mailer Shield server was also installed at the Reading Co-location to provide service resilience. A questionnaire of existing clients was also undertaken, the initial analysis indicating a positive response to the service.

During the next reporting period the questionnaire will be fully reviewed and it is expected that the move to a production service will occur.

Details of this service can be found at:

http://www.ja.net/mail/mailer_shield/

2.7 Usenet News Distribution

2.7.1 Usenet News Backbone

The JANET Usenet News Service enables JANET customers to receive Usenet News feeds from a backbone of JANET News servers. The service is available free to all organisations with a Primary Connection to JANET, and can provide a full feed of all the newsgroups available worldwide, except for geographically limited hierarchies, and groups excluded because they have a record of containing illegal material. A customer organisation may choose to be provided with a News Feed that does not include all the newsgroups available.

The review of the report of the field trial of the News Cache Service has been completed. The conclusions of the review were that hardware used in the second phase of the trial is reliable enough to be used for an operational service. A service requirement will be developed in the next quarter.

There are currently two ways of receiving Usenet News over JANET, the JANET News Feed Service and the JANET News Reader Service. The documentation is linked from:

<http://www.ja.net/usenet/>

2.7.2 JANET News Feed Service

The News Feed Service continues to function well. In the reporting period, one new site has joined the service and one has partially transferred to the Reader Service. There are now 92 sites connected to the service.

During 2004, four new Co-location based News Feed servers will replace the current six organisation based servers.

More information is available at:
<http://www.ja.net/usenet/feed.html>

2.7.3 JANET News Reader Service

One site has joined the News Reader Service during the reporting period, bringing the number of connected sites to 42. The service is documented at:
<http://www.ja.net/usenet/reader/reader.html>

2.8 Videoconferencing Services

2.8.1 JANET Videoconferencing Service (JVCS)

The JVCS provides support for point-to-point and multipoint videoconferencing over IP and Integrated Service Digital Network (ISDN), as well as gatewaying between videoconferencing technologies.

Major issues were encountered with version 5.1.0 Multipoint Control Unit (MCU) software during testing. These have been resolved in collaboration with suppliers and manufactures. The new software and some new hardware have been deployed across the service MCUs, enhancing the quality of transcoded conferences by reducing latency. Work continues to resolve minor software issues.

There are 354 videoconferencing venues registered to use the JVCS-ISDN and a further 199 venues registered to use JVCS-IP. During the reporting period 906 conferences using ISDN took place over 2307 hours. In addition 1089 conferences took place using IP and the IP/ISDN gateway over 2719 hours. The overall statistical trend indicates an increase in the use of videoconferencing, particularly IP videoconferencing.

Further information about the JVCS can be found at:
<http://www.jvcs.video.ja.net/>

2.8.1.1 JANET Videoconferencing Booking Service

The JANET Videoconferencing Booking Service enables users at registered sites to book videoconferences and schedule the use of central JVCS resources. The work to make functional enhancements and improvements to the user interface has been completed. Supporting users documentation for users is being written and plans are being put in place for the transition to the new interface, that will be launched on 2 February 2004.

2.8.1.2 Welsh Video Network

The Welsh Video Network (WVN) Support Centre provides a single point of contact for support and maintenance for over 90 videoconferencing studios across the FE and Higher Education (HE) sectors in Wales. Version 5.3 Coder/Decoder (CODEC) software testing begun, and some minor issues have been found, that have been reported to Polycom®.

The first edition of the WVN Newsletter was published on 5 November. It is available in both Welsh and English.

A page of links has been added to the WVN web site at:
<http://www.wvn.ac.uk/vcinaction.htm>

The page provides information about organisations that have videoconferencing equipment and are interested in conferencing and collaboration.

Further information about the Welsh Video Network can be found at:
<http://www.wvn.ac.uk/>

2.8.2 Video Technology Advisory Service (VTAS)

This UKERNA service provides unbiased technical advice to JANET -connected FE, HE and Research organisations. It has maintained its schedule of product evaluations, most recently examining the Tandberg 6000. The evaluation reports, together with the testing schedule and previous evaluation reports, can be found at:

<http://www.video.ja.net/evaluation/>

One of the aims of the advisory service is to develop documentation of interest to the JANET community, and a number of new documents have been commissioned and are currently under development.

Further details about the service can be found on the VTAS Web pages at:

<http://www.video.ja.net/>

2.9 Administrative Services

2.9.1 Connection Administration

UKERNA is responsible for administering the procedure for the approval and commissioning of new and upgraded connections to JANET. This involves liaising with customers to report progress on these connections. All sites connected to JANET must adhere to the JANET Connection Policy that can be found at:

http://www.ja.net/documents/connection_policy.pdf

Requests for new or enhanced JANET connections should be made via JCS (see Section 3.2.1).

A list of organisations connecting to JANET during the reporting period is provided in section 2.1.1.

For information regarding current upgrades or connections, contact JCS at:

connections@janet.ac.uk or service@janet.ac.uk

2.9.2 Peer Networking Agreement Administration

Peering agreements with the following companies were reached and implemented during the reporting period:

LINX™ Peering (London)

- ntl Group Ltd
- Rackspace™ Managed Hosting Limited

MaNAP Peering (Manchester)

- ntl Group Ltd
- Peerex Ltd

Private Peering

- ntl Group Ltd

2.9.3 Licence Administration

During the reporting period JCS has not issued any new Sponsored Connection licences or Proxy Connection licences.

The Sponsored Connection process has undergone a complete overhaul and the changes were implemented from 1 August 2003 for new connections. For existing Sponsored Connections the new licence fees will come into force from 1 August 2004.

Further information about Sponsored and Proxy Connections can be found at:
http://www.ja.net/connect/types_connect.html

2.10 Operational Support Services

2.10.1 Management of Maintenance Activities

There were a total of 11 At Risk sessions for the reporting period during which planned work and maintenance activities took place including:

- Internal Operating System (IOS) upgrades
- Line card installations to accommodate new connections and network upgrades

Further information can be found at:
<http://www.ja.net/services/at-risk.html>

2.11 Bandwidth Management Advisory Service (BMAS)

BMAS provides advice and guidance to JANET organisations on issues relating to the management of bandwidth. BMAS continues to raise awareness of the services offered to the UK education and research community, particularly the FE sector. This has been done by attendance at a number of RSCs and other events, including a Streaming Seminar held in November 2003, and maintaining a specific web site for BMAS.

Details of BMAS can be found at:
<http://www.bmas.ja.net/>

2.12 Multi-site Connectivity Advisory Service (MCAS)

This service provides a means for the JISC community, particularly FE colleges, to obtain advice on Local Area Network (LAN)/Wide Area Network (WAN) multi-site connectivity issues beyond the main JANET connection. It complements the service already provided directly to FE colleges by the RSCs. It also provides support for the JANET link, general networking advice and additional resources specialising in multi-site network connectivity issues.

The JANET helpdesk has received a number of enquiries for MCAS and it has provided advice ranging from help in resolving problems accessing certain websites to satellite based remote access. The service has recently become more involved in supporting Adult and Community Learning (ACL) organisations.

The case study writing initiative is ongoing and progress is being made in the preparation of some interesting reports.

The introduction to MCAS presentation given to the RSC North West has been added to the MCAS website home page.

Contacts continue to be established with a number of suppliers and the information store of potential providers of services and expertise is growing. During the next quarter, a comprehensive supplier list will be developed.

Work has been progressing on a telecommunications company services availability map of the UK. This will assist organisations looking for circuit costs in identifying which telcos are available in any given area. Once sufficient data has been gathered, this will be published on the website.

This is an interesting time for MCAS as the service tackles the production of documents, deals with a range of enquiries and further promotes the service through the web and forthcoming presentations at RSC technical forums.

Further information about MCAS can be found at:

<http://www.ja.net/mcas/>

3 Information and Support Services

3.1 Network Information Service

The JANET/UKERNA web server continues to perform well.

Any comments or suggestions on the web server structure and page appearance will be gratefully received and should be directed in the first instance to JCS at:

service@janet.ac.uk

3.2 JANET Customer Service (JCS)

This provides the primary point of contact for all enquiries concerning JANET services and requests for information. Contact information is provided below.

The number of enquiries received and logged by JCS in this reporting period was 1823. As in previous quarters, a large proportion of these queries related to DNS, requests for new Primary Connections, Sponsored and Proxy Connections, General Enquiries and JANET Access/Connection.

A total of six complaints were received in this reporting period. Of these three are currently awaiting final resolution.

3.2.1 Contact Information

The Service is staffed from 08.00 to 18.00 Monday to Friday, with voice-mail available for calls outside these hours and if staff are temporarily unable to answer a call.

There are no UK wide public holidays in the next quarter.

The service will be staffed from 08.00 to 16.00 only on Friday 2 April due to a UKERNA wide event being held.

Enquiries may be made by e-mail, telephone, fax, post, or in person as follows:

E-mail: service@janet.ac.uk

Tel: 0870 850 2212

Fax: 0870 850 2213

Post: JANET Customer Service, UKERNA, Atlas Centre, Chilton, Didcot, Oxon, OX11 0QS.

3.3 Documentation

Unless otherwise stated, paper copies of these documents can be obtained from JCS, but please note that some documents are now produced primarily for publication on the web and are better read online. If an electronic version of a document is available, the URL is given.

UKERNA welcomes feedback from the community on the usefulness of all documentation produced and encourages suggestions as to which areas require additional documentation.

Comments should be sent by e-mail to:

service@janet.ac.uk

During the reporting period, UKERNA produced the following documents.

Factsheets

Wireless Security

PB/INFO/040 (03/11)

<http://www.ja.net/documents/factsheets/wireless-security.pdf>

Newsletters

UKERNA News 25 (December 2003)

http://www.ja.net/documents/UKERNA_News/2003/December/NEWS25.pdf

Service Documentation

Evaluation of ISDN/IP Videoconferencing Equipment version 1.1

GD/VTAS/012

<http://www.video.ja.net/evaluation/>

Reports

UKERNA Quarterly Report to the JANET Community

Autumn 2003

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

Annual Report 2002-2003

<http://www.ja.net/documents/annual/report2002-2003.pdf>

Guidance Notes

Effective Incident Response

GD/NOTE/009 (03/09)

<http://www.ja.net/documents/incident-response.pdf>

Pamphlets

JANET Netsight

PB/SERV/007 (03/09)

3.4 Technical Updating for the UKERNA Community

3.4.1 Workshops and Conferences

Association of Colleges (AoC) Annual Conference, 11-13 November 2003, International Convention Centre, Birmingham.

UKERNA was represented by a number of delegates and had exhibition space at this event. The conference is one of the most important events in the FE calendar and was attended by over 700 Principals and Senior Managers from the sector.

The programme reflected the high profile of the audience with Alan Johnson, Minister of State for Lifelong Learning and Ivan Lewis, Parliamentary Under Secretary of State for Skills and Vocational Education, both taking the podium.

The annual Beacon awards were presented by David Oyelowo who also received an AoC Gold Award.

It was also the first conference for Dr. John Brennan in his new role as Chief Executive for the AoC. Mark Haysom, the newly appointed Chief Executive at the Learning and Skills Council (LSC) used the opportunity to address the sector. With £6 billion at his disposal the audience were keen to hear what he had to say, and the promise to listen and cut out bureaucracy the message was welcomed.

Computer Emergency Response Team (CERT) Conference, 4 December 2003, Leicester

The purpose of the conference was to bring together the JANET security community to discuss security issues, common interests and new products and applications within the security environment. The conference was open to all JANET -CERT security contacts and was attended by over 100 delegates. Speakers were a mixture of JANET security constituents and security vendors and the following topics were covered: CERT System update, JANET-CERT Security Situation Update, Enterprise Firewalls, Child Pornography Issues, Detection and Mitigation of Disk Operating System (DOS) attacks (Arbor

Networks) and The National High Tech Crime Unit. The next meeting will probably be held in Northern Ireland in May/June.

Networking Strategy Workshop, 10 - 11 December 2003, Cardiff.

The Networking Strategy workshop is a joint JISC / UKERNA event aimed at the managerial contact at JANET connected organisations. On the first day the programme covered SuperJANET5 followed by talks on widening participation in both the UK and Europe on the second morning.

The feedback from the delegates is very positive with them all finding the talks informative and at an opportune time to feedback into the connected organisations.

Details of the programme and the presentations can be found at:

<http://www.ja.net/conferences/strategy/2003/>

3.4.2 Training Courses

Eight Training Courses were delivered during the reporting period:

A Technical Overview course, a Transmission Control Protocol (TCP)/IP course, a Security course and a Router Configuration course were delivered in the week starting 6 October at the Queen's University of Belfast.

The TCP/IP course was new to UKERNA's portfolio at this time.

A TCP/IP course, a Security course, a Logfiles and Intrusion Detection course and a Router Configuration course were delivered in the week starting 24 November at Birkbeck College London. This was the first time UKERNA had delivered the Logfiles and Intrusion Detection course.

Details of future courses and a timetable can be found at:

<http://www.ja.net/training/>

3.5 Network User Groups

JANET User Groups represent the views and needs of all users, both to the bodies that fund JANET and to the providers of the network. The JANET User Groups include those representing geographical regions, those representing particular interest groups and the National User Group. User Group meetings are usually held two or three times a year. UKERNA sends representatives to these meetings, as this is a good way of disseminating information concerning the latest changes and developments, as well as distributing recent publications. The meetings also provide a forum for informal technical help, and discussion with people doing similar jobs. Organisations should ensure that they are represented at their regional User Group, and that appropriate people know about the various affiliated groups, details of which can be found at:

<http://www.ja.net/usergroups/>

The number of user groups has reduced as a result of decisions made at previous meetings, but work is taking place to resurrect meetings in the north of the country.

During the reporting period UKERNA staff attended meetings of the South East and London JANET User Group, the South West England Regional Network (SWERN) User Group and the JANET National User Group (JNUG).

UKERNA also attends the Universities and Colleges Information Systems Association (UCISA) Networking Group meeting which did not meet during this period.

Further details about UCISA can be found at:

<http://www.ucisa.ac.uk/>

4 Security Services

4.1 Security Monitoring and Information Dissemination

4.1.1 Incident Response and Abuse Handling Overview

The beginning of the quarter was still being dominated by Natchi/Blaster infestations that started to decline during the middle of November but have maintained a steady infection rate since then. Many of these infections were started because sites allowed infected machines such as laptops onto their clean networks. Another form of infection was machines that had been switched on after the summer break. These machines became quickly infected or already infected machines started new infestations. It is important that machines that have been switched off or unused can still be a threat as they are often unpatched and contain vulnerable older versions of software. CERT also recommends operating Media Access Control (MAC) address filtering.

The team has also observed a growth in activity surrounding the Microsoft® – Remote Procedure Call (MS-RPC) exploits and a slight increase in Microsoft®-Structured Query Language (MS-SQL) Server compromises. A marked increase in Spam abuse continues to be prevalent with both misconfigured mail servers and trojaned machines being responsible. There are also significant levels of spam purporting to be relayed through UKERNA's customers, when they were not actually involved at all.

The number of JANET machines seen to be scanning has been relatively low compared to other similar networks. The most notable security development on JANET has been the increase in scanning on TCP port 6129. This port is the default for the DameWare Mini Remote Control service, that has a buffer overflow vulnerability that can be exploited to give remote access. There have been a high number of these scans though UKERNA has not seen many machines that have actually been compromised, this exploit does not affect machines running DameWare 3.73. JANET-CERT recommend that vulnerable systems should be patched to this version as soon as possible.

4.1.2 Distribution of Advice to Customer Organisations

The team has distributed seven advisories over the period, that highlighted a local root exploit for the LINUX® Kernel and the Heap overflow in rsync < 2.5.7. Microsoft®'s Internet Explorer also had a problem with its URL display and vulnerabilities in the CISCO® PIX and Firewall Service Module (FWSM) was also highlighted.

The CERT Web pages are due for a major review starting in January 2004 so only minor changes have been made during this period, but new instructions for CERT contacts is an important inclusion.

4.1.3 Customer Education

During this period the team has carried out a number presentations. It has again been active carrying out a great deal of work with the RSCs including a presentation on General Security at the Conference for Specialist Colleges and at the meeting of RSC Eastern. A team member advised the EC on the problems of Unsolicited Bulk E-Mail (UBE). A presentation on current trends and current security situations was given at Ireland's National Educational and Research Network (HEANet) conference. The second JANET -CERT Security Conference was held in Leicester and many favourable comments were received.

4.1.4 Representing JANET within Security-related Forums

In Europe during this period in Europe, the team has continued to provide information to the EC on UBE. The European Computer Security Incident Response Team (eCSIRT) project was completed on 31 December, and technical meetings in London and Madrid, setting out testing criteria for the exchange of Incident Object Description and Exchange Format (IODEF), alerting messages and Statistics were attended. At home, the team has continued to be involved in the re-write of the Internet Watch Foundation (IWF) constitution through the constitutional change sub-committee, and attended the IWF Funding council meeting. A member of the team attended the schools meeting at the Local Education Authority (LEA) in Oxford. This has resulted in the team being heavily involved in the writing of the security section of the schools connection requirements document.

4.1.5 eCSIRT

Exchanges of information were completed between all partners in plain text and using Border Gateway Protocol (BGP) signing to confirm message authenticity. The final statistics were completed and the website finalised. Finally a test of the in-and out-of-band security alerting system was carried out with all partners, with mixed success. Further work was carried out and all bugs now appear to be fixed. It is anticipated that some of these services may be taken on by the Task Force-Computer Security Incident Response Team (TF-CSIRT). A presentation has been prepared for the meeting in January.

5 Other UKERNA Activities

5.1 TERENA

TERENA was formed in October 1994 by the merger of the Réseaux Associés pour la Recherche Européenne (RARE) and the European Academic and Research Network '...to promote and participate in the development of a high quality international information and telecommunications infrastructure for the benefit of research and education'. TERENA carries out technical activities and provides a platform for discussion to encourage the development of a high-quality computer-networking infrastructure for the European research community.

5.1.1 Mobility Task Force (TF-Mobility)

The TF-Mobility group met on 22 September in Berlin. The morning session of the meeting focused on a detailed review of the current deliverable (Deliverable G: The selection of an Inter-NREN roaming solution based on the previous deliverables). Additional work was agreed to provide a better description of national Virtual Private Network (VPN) solutions. The group agreed that the overall conclusion of this deliverable was that there was no single solution that was capable of meeting all of the TF-Mobility requirements for Inter-NREN roaming. As a result of this, the group decided to work towards the development of an infrastructure to support the three national roaming solutions (802.1X, web-based, VPN). The group agreed to document details about how one or more infrastructure(s) could support these national roaming solutions and interoperability between them. Interoperability scenarios were also discussed and documented.

The afternoon session of the meeting focused on the next deliverable (Deliverable H: To design a test bed and test plan based on the roaming concepts selected from Deliverable G) with discussions on how to further expand the RADIUS Proxy Hierarchy to other NRENs, the need for participation guidelines and standard user@realm formats for compatibility and scalability of the hierarchy. There were discussions about the proposed controlled address space for VPN gateways, some members believed that a feasibility study was necessary to understand the solution followed by some small scale proof of concept testing.

The remainder of the meeting was spent discussing what happens to the TF-Mobility group when it ends in Mid 2004. An end of task force report was discussed but no agreement was reached. References were also made about continuing this work as part of a GÉANT2 Joint Research Activity.

Since the TF-Mobility meeting, a further draft of deliverable G has been rewritten and circulated for comments. The final version was completed at the end of December 2003. Work is currently underway at several NRENs to test the RADIUS Proxy Hierarchy and Controlled Address Space for VPN Gateways solutions. Work is also ongoing to test interoperability between national roaming solutions.

Further information about the TERENA Mobility Task Force can be found at:
<http://www.terena.nl/tech/mobility/>

The TERENA Mobility Task Force terms of reference are available at:
<http://www.terena.nl/tech/task-forces/tf-mobility/docs/MobilityToF.pdf>

5.1.2 Task Force-Computer Security Incident Response Team (TF-CSIRT)

The TF-CSIRT has not met during this period, but a Working Group (WG) to extend Request Tracker Incident Response (RTIR) has been initiated and the first meeting will take place in January 2004. The JANET-CERT Manager will chair this meeting. Further information can be found at:

<http://www.terena.nl/tech/task-forces/tf-csirt/>

5.1.3 Task Force-Next Generation Networking (TF-NGN)

UKERNA will be attending the next meeting of TF-NGN, that is scheduled for 22-23 of January 2004. Topics on the agenda include Internet Protocol version 6 (IPv6), performance monitoring, optical networking and progress reports covering the GÉANT network..

Further details about the TF-NGN activities can be found at:

<http://www.dante.net/tf-ngn/>

5.1.4 Task Force-Public Relations (TF-PR)

The PeaR European Press Agency for NRENs pilot was launched during the period and has received regular contributions from participating NRENs. The next meeting of the group will take place in March, where a review of deliverables and progress made to date will be discussed.

Further information on the TF-PR activities can be found at:

<http://www.terena.nl/news/pr/>

5.1.5 TERENA Networking Conference

Several UKERNA staff and members of the UK academic community are members of the TERENA programme committee for the 2004 European Networking Conference that will be held in Rhodes, Greece from 7-10 June 2004.

The 'Call for Papers' for this conference can be found at:

<http://www.terena.nl/conferences/tnc2004/programme/>

The programme for this event should be finalised during January.

Delegates can book for this conference in February 2004.

5.1.6 TERENA General Assembly

The TERENA General Assembly met in Copenhagen on the 23-24 October 2003. The meeting was hosted by the Danish networking organisation (UNI-C).

The meeting began with a series of interesting presentations on the work of the various TERENA working groups. After the normal business of the General Assembly, the attendees had an impromptu talk on the Danish Schools network that showed how one NREN was connecting schools and the services that were provided. The General Assembly was followed by a series of talks on the acquisition, funding and use of dark fibre by a number of NRENs within Europe.

5.1.7 TERENA Compendium

The 2003 version of the TERENA Compendium can be found at:

<http://www.terena.nl/compendium/>

Printed copies are available from the TERENA Secretariat at:

secretariat@terena.nl

Work on the 2004 version of the TERENA Compendium will begin shortly.

5.2 GÉANT and Delivery of Advanced Networking Technology to Europe (DANTE)

GÉANT is the pan-European research and education network that connects over 3000 research and education organisations in over 30 countries. It connects many of NRENs in Europe. DANTE is the company, formed in 1993, that is responsible for developing and operating GÉANT.

The NREN Policy Committee (NREN-PC), working through an agreed editorial panel, has been spending much time developing a proposal (named the GN2 project) to obtain the funding for a successor network to replace GÉANT and for funding additional development activities. The proposal (that has requested funding of 100 million Euros from the European Commission) was submitted to the European Commission in October. UKERNA has been involved in developing the proposal along with several other NRENs. A notice inviting expressions of interest for supplying GN2 infrastructure was published in the European Commission Official Journal on 11 December 2003. The closing date for receiving Expressions of Interest was 8 January 2004

Currently the main issues for DANTE are the negotiations of the details concerning the proposal to develop and fund the GN2 project with the European Commission, the modification of the NREN consortium agreement to accommodate the necessary changes for the GN2 project and the subsequent procurement of a new pan European network backbone.

On 17 December 2003, UKERNA attended a GÉANT2 JRA5 mobility meeting to agree on activities and resources to extend the work of the TF-Mobility group after Mid 2004. The roaming activity is likely to be broadened to include roaming to new technology networks such as General Packet Radio Services (GPRS) and Universal Mobile Telecommunications System (UMTS) and will integrate with authentication and authorisation infrastructures with the aim of moving towards a Single Sign On environment (where a user can access one or more network or middleware applications from a sign authentication and authorisation solution). The JRA5 proposal for this work is due to be completed and submitted to the European Commission in January 2004.

As part of the GÉANT2 project, DANTE have initiated a programme of activities that are either service or research related. One of the activity areas in which UKERNA is involved in is the deployment of Quality of Service (QoS), in particular the IP Premium service, across GÉANT2 and NRENs. Some of the areas that will be addressed within this project include: the automation (semi and full) of service provisioning; and how the service will be provided to end users via the NRENs.

UKERNA participated in a kick-off meeting that took place at the DANTE office in Cambridge on 27 November 2003. The aim of the meeting was to understand the aims of the project and for the partners to agree on the sub activities of this project. UKERNA will participate in several sub activities that were identified at the meeting on a self-funded basis and share the experience gained from the UKERNA QoS project with this project.

5.3 Development Activities

5.3.1 Broadband Network Development

5.3.1.1 Welsh Video Network (WVN)

Information about the WVN can be found at:
<http://www.wvn.ac.uk/>

5.3.2 UKLight

The UKLight procurement was concluded in December and a contract has been placed with Level 3 Communications™ for the provision of two 10Gbit/s circuits, one from London to NetherLight in Amsterdam, the Netherlands and one from London to StarLIGHTSM Chicago, USA. These circuits will be delivered at the end of February 2004. Pinacl, part of Tyco Electronics, has been selected as the preferred supplier for Synchronous Digital Hierarchy (SDH) multiplexing equipment, subject to contract negotiations.

Due to the successful acquisition of the international circuits at 10Gbit/s, and the consequent potential for end-to-end experiments at 10Gbit/s there has been a shift in emphasis towards ethernet switching equipment that is capable of true line-speed switching at this rate in addition to the 1Gbit/s requirements. The solutions offered during the procurement were not suitable for this and the broad requirements for ethernet switching will be reconsidered over the next few weeks.

An event was held on 3-4 November in Manchester to publicise the UKLight facility, to explain how it relates to its international peers and to describe how projects would be funded and supported. Further discussions in workshop format were held on the second day to better understand the requirements and possibilities for the dark fibre component of UKLight which is still to be procured.

5.3.3 Content Delivery Infrastructure (CDI) Project

Phase 2 testing is due to complete in January 2004. During phase 2 a number of alternative content delivery platforms have been trialled, including products from Kasenna™, and Apple®'s Darwin. A report on the second phase of the CDI trial will be published in Q1 2004.

Based upon the findings of the JANET CDI trial throughout 2003, UKERNA is now proposing to form a CDI Architecture Group, the aim of which is to create an architectural framework for content delivery on JANET. The group will consist of representation from a number of key stakeholders within the JANET community. It is planned that its report will be published later this year.

UKERNA continue to work with the Managing Agent and Advisory Service (MAAS), the JISC Committee for the Information Environment (JCIE) and the British Universities Film and Video Council (BUFVC).

Further information can be found at:
<http://www.ja.net/development/content/>

5.3.4 Co-location Services Development

Work continues on commissioning the third co-location facility at Chilton, to complement the two existing facilities in Reading and Leeds. There has been a steady growth in the number and type of service making use of the co-location facilities on JANET. This growth includes both JANET services and other third party service providers that wish to provide high quality services to JANET users.

Further information about the co-location service can be found at:
<http://www.ja.net/co-location/>

5.3.5 Internet2

UKERNA attended the Internet2 members meeting that took place on 13-16 October 2003 in Indianapolis. An update on the work of the JANET Wireless Advisory Group (WAG) and the TERENA Mobility Taskforce was presented. Details can be found at:

<http://international.internet2.edu/resources/events/2003/Fall03ITF1-Sankar.ppt>

International participation in the mobility area was also encouraged.

UKERNA was also involved in discussions that have led to the establishment of an Internet2 Security At Line Speed (SALSA) group that is looking at how the Internet2 community could be involved in developing roaming solutions for network access via their network authentication and authorisation area.

5.3.6 Quality of Service (QoS)

5.3.6.1 JANET QoS Development Project

During the last quarter, further configurations on the JANET core and backbone routers were carried out, in order to enable the queuing of traffic marked with different priority settings. The configuration is due to be completed by Q1 of 2004.

During the QoS partner meeting, that was held on 23 October 2003 via videoconference, the testing phase that is due to be initiated during the end of Q1 of 2004 was discussed in detail. The first draft of the QoS test plan was circulated, prior to the meeting.

During November and December 2003, the QoS test plan was discussed in detail with the test leaders over several videoconference meetings. The three application test leaders are: University of Southampton (AccessGRID and Less than Best Effort (LBE) testing), University of Wales Swansea (IP Videoconference testing) and the University of Manchester (Voice over IP VoIP testing). In particular, test categories (local tests and testing on the production network) and the monitoring requirement were finalised at these meetings. The description of each type of the test will be provided within the QoS testplan document, that is due to be completed by end January 2004. The final version of the QoS Test Plan will be published on the JANET website.

Further details of the JANET QoS Development Project can be found at:
<http://www.ja.net/development/qos/>

5.3.7 Internet Protocol version 6 (IPv6)

The JANET IPv6 Experimental Service has been running for some time now and applications continue to be received from the JANET community to use the service and to request IPv6 address space.

Details about the JANET IPv6 Experimental Service can be found at:
<http://www.ja.net/development/ipv6/>

The rollout of IPv6 / IPv4 dual stack across SuperJANET continues. An implementation plan showing the status of the deployment can be found at:

<http://www.ja.net/development/ipv6/statustable.html>

During the last quarter it was found that some of the Backbone Access Routers (BARs) needed hardware and/or software upgrades, until the upgrade has taken place dual stack cannot be installed on these routers. During the next few months, UKERNA will be looking to carry out the necessary upgrades on these routers to allow dual stack to be enabled.

UKERNA is a partner in the European Commission funded project, 6NET, begun in January 2002. The aim of this project is to establish a pan-European native IPv6 network to gain practical experience of managing and implementing an IPv6 network. UKERNA has installed and commissioned the 6NET infrastructure in the UK to provide IPv6 connectivity to UK universities that are participating in this project (University College London, University of Southampton and Lancaster University). During the last quarter, UKERNA agreed to work with Lancaster University to produce a deliverable that addresses IPv6 QoS. Work towards producing this deliverable will commence in 2004.

Further details about the 6NET project can be found at:
<http://www.6net.org/>

5.3.8 e-Science/Grid

UKERNA was invited to attend meetings of the Medical Research Council (MRC) Informatics Advisory Group that will assess and select project applications for the latest round of MRC e-Science funding. To date this has involved representation at an initial shortlisting meeting and a subsequent workshop for the principal investigators of the shortlisted projects.

UKERNA also attended a meeting called by the e-Science core-programme to discuss inter-working between the grid infrastructure being implemented as a national facility with JISC funded equipment

and the evolving Particle Physics grid. Topics included software version issues, service quality and Grid operations.

5.3.8.1 E-Science Videoconferencing Project

The procurement for the UK e-Science Videoconferencing Centre is progressing with a decision expected on the successful bidder by the middle of January. The Centre will offer a limited service from March 2004 until the end of May 2004 and a full service from then onwards.

The three studies being undertaken by the University of Manchester are progressing.

An open invitation to tender for a number of other study areas defined in the report 'Multi-Site Videoconferencing for the UK e-Science Programme' was issued in October 2003. As a result of the responses received to the invitation to tender a number of studies are about to be commissioned by UKERNA.

5.3.9 SuperJANET Development Network

To support the development activities and the requirements of the research community, a flexible network development infrastructure that is separate from the production network has been deployed and is fully operational. A guide that provides information on the facilities being offered by this network, and a user guide for those development projects that have arranged time to use the development network can be found at:

http://www.ja.net/development/SJ4Dev_Network.html

During the last quarter, UKERNA purchased and installed equipment to provide alternative (out-of-band) access to the development network that is via the JANET production network. Should the dedicated links to the core development network routers fail, then the out-of-band access will be available. During the next quarter, UKERNA will be configuring the equipment to provide this access.

5.3.10 JISC Authentication, Authorisation and Accounting (AAA) Programme

The majority of the projects have now been completed and are producing final reports. The three remaining projects still have more than a year to run and programme management has now been handed to the JISC Executive. UKERNA will continue to be involved in the JISC's strategy to implement an appropriate national AAA service to support the JISC services and the community.

5.4 Pilot and Trial Services

5.4.1 JANET Satellite Pilot

Four two-way satellite services (Gilat™ 180, Gilat™ 360E, Broadband Interactive, Hughes Network Systems™ Enterprise satellite service package solution DW5000-2048) are operational.

UKERNA and JISC held a satellite triallist meeting on 29 October 2003 at the University of Warwick where the satellite project team and satellite triallists met to discuss and share their experiences and thoughts on the trial service. It was a successful event with useful feedback received from the triallists. Presentations and meeting minutes from the day are available at:

http://www.ja.net/development/network_access/satellite/trial.html

Gilat™ 180 sites have experienced poor satellite services, as a result of discussions with DC Sat.Net (UKERNA's supplier for SATLYNX products), all Gilat™ 180 platforms will be replaced by Gilat™ 360E's as the 360E is a newer platform on a new network with more bandwidth and functionality. UKERNA and the Independent Evaluation Team will monitor the performance of the 360E to assess the level of improvement compared to the Gilat™ 180.

UKERNA will continue to monitor the satellite connections for all Broadband Interactive (BBI) and Gilat™ sites until May 2004. Satellite monitoring results up to November 2003 are available at:

http://www.ja.net/development/network_access/satellite/activity1/results.html

Further information about the Satellite trial can be found at:
http://www.ja.net/development/network_access/satellite/trial.html

http://www.ja.net/development/network_access/adsl/JANETADSLTrial_EndofTrialr.pdf

5.4.2 JANET Asymmetric Digital Subscriber Line (ADSL) Trial

The ADSL trial service connecting off-campus learning centres directly to the JANET network ended in June 2003. Many trial sites have decided to end their ADSL connection and take up a new ADSL connection with a commercial ISP at the start of the next academic year. Some have already migrated to commercial ISPs.

The JANET ADSL trial report is available at:

http://www.ja.net/development/network_access/adsl/JANETADSLTrial_EndofTrialr.pdf

5.4.3 Higher Quality Videoconferencing

The Higher Quality Videoconferencing Project is being undertaken to assess the feasibility of running MPEG based high bandwidth videoconferencing applications on JANET.

UKERNA are currently in the process of configuring the hardware components of the MPEG CODECs procured.

5.4.4 Conferencing on Demand

The aim of this project is to assess the feasibility of providing self controlled MCU resources for the JANET community. The MCU and scheduling equipment used to support the project has now been installed and configured.

Testing of both the Conferencing on Demand interface, and underlying infrastructure is now well underway, and both UKERNA and the JANET videoconferencing management centre are working closely with the manufacturer to ensure suitability for deployment on JANET.

It is planned that the Conferencing on Demand project will initiate a pilot phase in early Q2 2004.

5.4.5 Automated Quality Assurance (QA) Testing

The aim of the automated QA project is to investigate the feasibility of providing an audio and video on line videoconferencing QA tool for the JANET community. The video and audio analysis equipment is installed and configured, and initial testing is underway.

UKERNA is working with the JANET Videoconferencing Management Centre to configure the central control equipment, and to facilitate the production of a pre-recorded audio and video script. It is anticipated that a review of this project will be undertaken in April 2004, at which point a decision will be made with a view to initiating a pilot automated QA service.

This project has encountered a number of issues, relating to the insolvency of the equipment supplier.

5.4.6 Voice over Internet Protocol (VoIP)

As reported in the previous quarterly report UKERNA is currently carrying out a trial of VoIP using Cisco® Call Manager on a Cisco® Media Convergence Server with a range of Cisco® and Polycom® IP telephones including the Cisco® 7960G, Cisco® 7905G and Polycom® SoundPoint IP 500.

A number of organisations across JANET that are to be taking part in the trial have received phones. Some testing has already taken place within UKERNA and increased testing is to continue over the next few months.

5.4.7 Widening Access

5.5 Further Education (FE) Liaison

The project to provide JANET connections to Specialist Colleges funded by the LSC continues to proceed, with a target installation date of March 2004. Several College installations have incurred significant additional installation costs and a number are looking to upgrade from proposed 256kbit/s connections. A national web filtering service is to be provided for use by Specialist Colleges and is due to go live as connections are made.

The initiative to connect ACL is also moving forward with plans to connect an early adopters group of 20 Local Authorities by April. Discussions are taking place with some RBCs about enabling the most appropriate connections to be made. Circuit bandwidth and permissible use has been clarified. A JANET badged web based e-mail trial for up to 10,000 learners has been procured and due to start trials with Buckinghamshire County Council during February. Further work to identify and provide JANET connections for other Local Authority ACL providers is under way.

Upgrades to JANET connections for FE Colleges is in planning with an implementation period April 2004 to April 2005. Upgrades are planned on a basis of traffic levels with a local review of proposals by RNOs and RSCs.

An infrastructure mapping exercise is to take a 'snapshot' of connectivity, broadband and internet access in the Post 16 education sector, across England. This includes ACL, FE Colleges, Specialist Colleges, schools sixth forms and LearnDirect/UKOnline provision. The mapping will lead to improvements in optimising connectivity for post 16 education and will identify potential strategies to enable connection to all provision. It will inform the process of planning connectivity through JANET for ACL

5.6 Study Groups

5.6.1. Wireless Advisory Group (WAG)

The JANET Wireless Advisory Group met for the third time on 4 December 2003 at Bristol University. At the meeting, the group action plan was reviewed and subsequently approved. A new website structure to support the various work activity areas was also agreed. Many WAG members agreed to attend and speak at the JANET Wireless Event that is scheduled for 26 February 2003. An approach to build and test Location Independent Networking was discussed and approved.

The meeting also gave representatives the opportunity to present details of specific wireless work where The University of Bristol demonstrated the roaming capabilities of the 'Roamnode' solution and two wireless groups from Bristol also discussed Wireless networking issues. The group also provided valuable feedback on the draft text for the Call For Wireless Networking Case Studies.

Since the third WAG meeting, the JANET Wireless Event programme and booking form has been made available online and event details publicised on a variety of mailing lists. Full details about this event are available at:

<http://www.ja.net/conferences/wireless/feb-04/>

An open call for Wireless Case Studies has also been publicised on several mailing lists. Full details are available at:

http://www.ja.net/development/network_access/wireless/wag/opencall.html

The JANET WAG webpage is available at:

http://www.ja.net/development/network_access/wireless/wag/wag.html

6 UKERNA

6.1 UKERNA Staff

The following staff changes were recorded during the reporting period.

Leavers

- Janice Granger, 5 December 2003
- Jane Carne, 7 November 2003
- Simon Baker, 24 October 2003

New Staff

- Hilary Baxter, Business Director, 24 November 2003
- Victor Olifer, Network Development Project Manager, 4 November 2003

7 Further Information

Further information on any aspect of this report can be obtained through UKERNA's general enquiry point, JCS. They can be contacted using e-mail at: service@janet.ac.uk

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