Quarterly Report to the Community

May – July 2008

Editorial

The JANET Training team continues to deliver a portfolio of courses across the country. Fifteen courses were run this quarter, delivered in Manchester, Newcastle, Bristol, Glasgow, London and Birmingham. This has included runs of the new "Implementing Shibboleth at your Organisation" and "Introduction to the UK federation" courses, as well as various security courses, "Introduction to JANET" and "Basic Router Configuration".

The UK federation continues to grow, with 493 members at the end of July. This is a jump of 143 new members since the last quarter; an indication of the increased number of web resources available through the UK federation framework. Approximately 85% of HE institutions and 45% of FE institutions in the UK have now joined, and a number of Local Authorities and Regional Broadband Consortia are starting to roll out federated access management to their schools in time for the new academic year.

1 Introduction

This report broadly follows the sequence of the SLA (Service Level Agreement) between JANET(UK) and the funding bodies represented in JISC (Joint Information Systems Committee), for the financial year 1 November 2007 to 31 July 2008.

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

2. Support Services (SLA J2.4)

(a) Documentation

Documents published between May – July 2008

Newsletters	JANET News 4
Services	JANET Services
Technical	QoS Technical Guide

(b) Workshops and Conferences [more information]

JANET IPv6 Briefing - 11 June 2008

JANET(UK) held an IPv6 Briefing Event at the Lakeside Centre, Aston University in Birmingham on 11 June. This event was aimed at managers within the JANET community who are responsible for authorising and planning the deployment of network services on their organisation's infrastructure. A range of presentations were given to provide an insight into the state of IPv6 both within and outside JANET, and guidance on how to cope within a mixed IPv4/IPv6 environment; along with case studies on the planning and deployment of native IPv6 unicast and multicast services on a site and regional network.

Over 50 delegates attended the event and positive feedback was received. The presentations from the event can be found at: http://www.ja.net/services/events/2008/ipv6/programme.html

JANET Briefing Day - 16 June 2008

The JANET Briefing event was held at the Royal College of Physicians in London. The day consisted of a variety of speakers from both the community and the commercial sector.

Nick Shacklock from Becta began the event by explaining the challenges of delivering universal home access for parents and students. John Paschould followed this by discussing the management of identity and the provision of access to everything. Both the morning's speakers raised a number of questions from the audience.

Two talks on IPTV over JANET followed lunch. Gary Parker from Loughborough University described the recent use of IPTV over JANET to deliver a university rugby match to a wide audience; Simon Mulholland then described the experience of using IPTV at the University of Leeds.

The day finished with a talk on HP and the environment by Bruno Zago from HP and Chris Gabriel from Logicalis.

Feedback from the audience was positive on the variety of subjects covered during the day and they were keen to suggest subjects for future one day events.

(c) Network User Groups

The South East User Group met on 1 May. Roger Bolam gave a talk on the JANET Talk pilot and the services available.

(d) Security, Regulation and Policy [more information]

Advice on security and legal issues has been contributed to JANET activities in the areas of content filtering, e-mail protection, IP telephony, server certificates and federated access management. Possibilities for agreements between access management federations, to facilitate access by users in one federation to services in another, are being explored.

JANET(UK)'s one-day training course on Managing IT Security was presented in Newcastle and the course on Security Policies in London. In addition a new course, provisionally entitled "Computers, Privacy and the Law", is being developed following enquiries from several JANET-connected sites.

Discussions on copyright enforcement have taken place with the Federation Against Copyright Theft, representing the film industry, and the charity Film Education. JANET(UK) and the British Computer Society jointly organised a Thought Leadership Debate on responsibilities for improving Internet safety and we also participated in discussions of these issues at the UK Internet Governance Forum. Other meetings and conferences attended included the JANET Briefing day, the joint meeting of the Management Board and Permanent Stakeholders Group of the European Network and Information Security Agency (ENISA), the TERENA Networking Conference, and the annual conference of the Forum of Incident Response and Security Teams (FIRST).

3. IP Services (SLA J3)

3.1 IP Service (SLA J3.1)

This reporting period has seen a total of 38 new or enhanced customer connections completed and brought into use:

Further Education

- Aquinas College
- Brighton, Hove and Sussex Sixth Form College
- Brockenhurst College
- Cambridge Regional College
- Castle College
- Cheadle and Marple Sixth Form College
- Chichester College
- College of North East London
- Derwent College
- Eastleigh College
- Eccles College
- Fareham College
- Filton College
- Godalming College
- Guilford College of Further & Higher Education
- Itchen College
- Kingston Maurward College
- Milton Keynes College
- New College Nottingham
- Oldham College
- Oldham Sixth Form College
- Peter Symonds' College
- Queen Mary's College
- Reigate College
- Richard Huish College
- Sheffield Adult & Community Learning
- South Kent College
- South Leicestershire College
- South Tyneside Adult & Community Learning
- Southampton City College
- Stephenson College
- Swindon College
- Taunton's College
- Tresham Institute
- Warwickshire College
- Xaverian College

Higher Education

- Leeds Trinity and All Saints College

JISC

- British Universities Film and Video Council
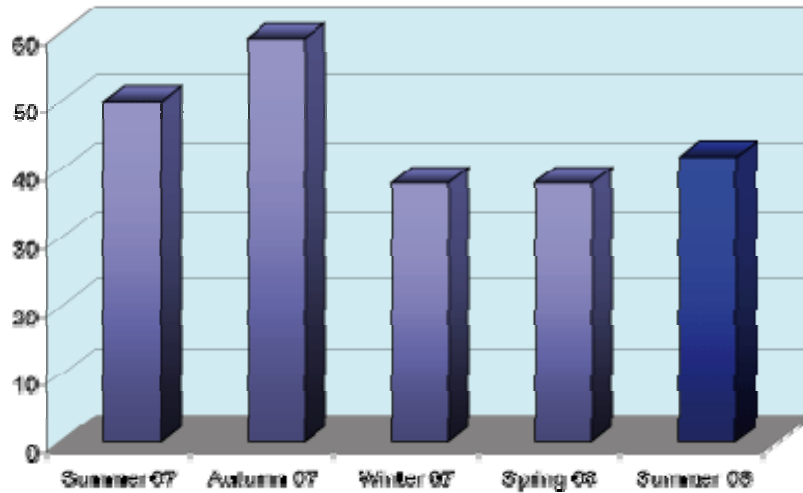- Medical research Council, Clinical Trials Unit

Self-funded

- Bristol City Council
- Specialist Computer Centres PLC

Scottish Executive Education

- Scottish Executive

New or enhanced customer connections

For information regarding current upgrades or connections, please contact the JANET Service Desk at: connect@ja.net

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

(b) FE

England
Following LSC's announcement of capital funding for upgrades to FE college connections beyond 10Mbit/s, JANET(UK) has commenced work on the project to implement upgrades for those colleges willing to fund the additional recurrent costs of such upgrades. Upgrades have so far been delivered to 119 colleges.

Wales
Migration of college connections to the new All-Wales Public Sector Network continued during the reporting period. To date, seventeen connections have been migrated to the new network.

(c) Core Network

The JANET core network has supported reliable JANET services well over the quarter despite a few fibre breaks and equipment failures. Traffic was able to re-route over other available paths in most cases, but one incident on 19-20 May meant EMBC was unavailable for 28.5 hours.

A 40Gbit/s trial on Ciena's second generation equipment was carried out early in June. Following the successful trial, the Telehouse and London C-PoP link has carried production traffic from 24 June. Upgrading the existing JANET core from 10Gbit/s to 40Gbit/s technology is underway; the first phase is expected to be completed by the end of September and the rest will be completed by the end of January 2009.

Core routers at our external gateways in Docklands were upgraded from T640 to T1600 at the end of July. This provides more capacity for hosting an increased number of 10Git/s ports for external connectivity as well as multiple 40Git/s ports for core link upgrade.

(d) External Network Access Provision and Transmission

**(i) Access to the European Research Network**

JANET access to European NRENs is via a 10Gbit/s connection to GÉANT from Telecity R-PoP with a 2.5Gbit/s backup connection from Telehouse® R-PoP. Peak traffic over the connection is normally around 2Gbit/s; however, it peaked at 5.03Gbit/s during this quarter. An upgrade of the backup link to 10Gbit/s is underway.
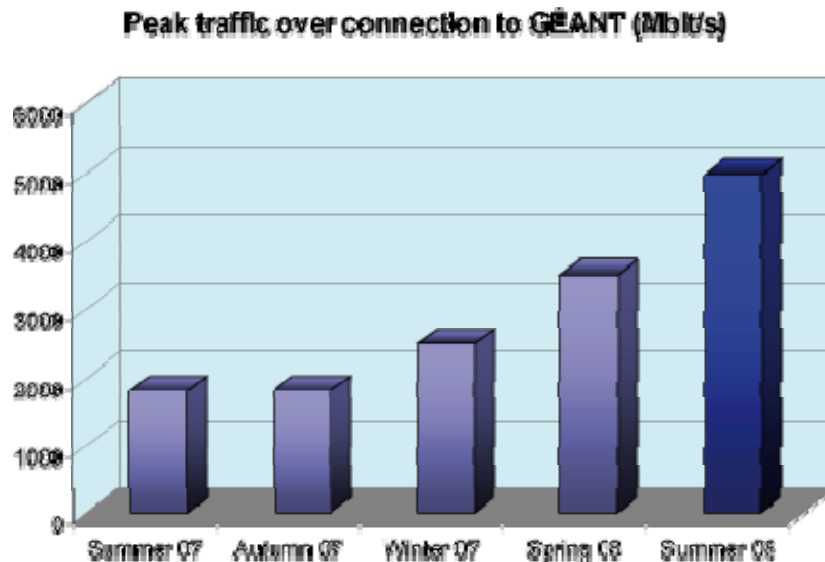
(ii) Access to the Global Internet

JANET access to the global Internet is via two global transit providers – TATA Communications (formally called VSNL) and TeliaSonera. Each company now provides four 10Gbit/s connection to two JANET PoPs at Telehouse® and Telecity in London. Aggregated peak traffic reached 9.5Gbit/s early in the quarter, reduced to 6Gbit/s by the end of the quarter.

Peak traffic over connections to Telehouse® and Telecity
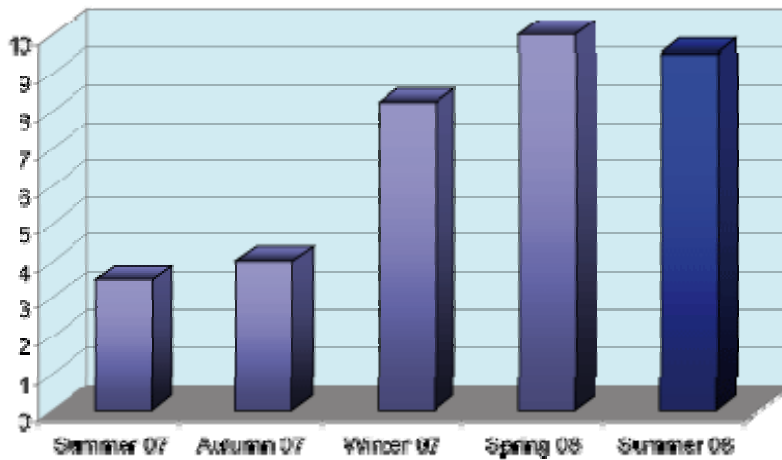
(iii) Access to the UK's Internet Exchanges

JANET access to the LINX (London Internet Exchange) is via four 10Gbit/s connections from the Telehouse® and Telecity PoP locations. Aggregated traffic peaked at 11.5Gbit/s and private peering with Google carried around 5Gbit/s traffic in May.

Peak traffic over connections to Linx
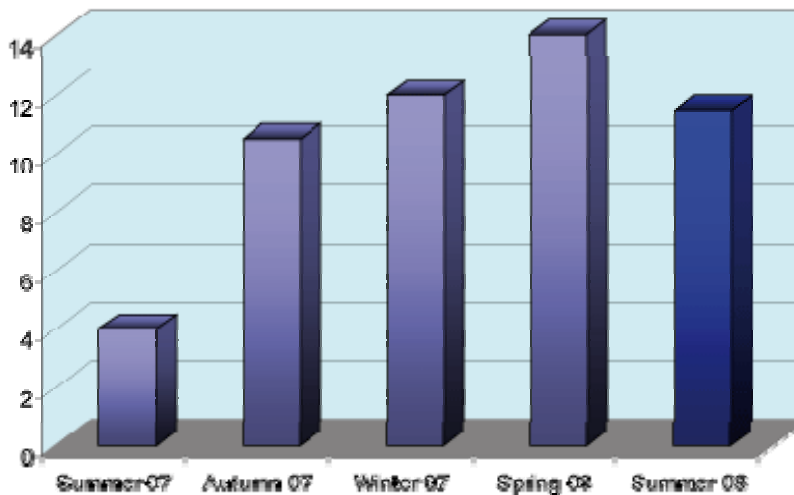
(iv) Access to CERNET

All traffic to CERNET is now via GÉANT. The service has been stable during the reporting period.

(v) Access to North American Research Internets

Services are provided via GÉANT and have been stable throughout the reporting period

(vi) Peer Networking Agreement Administration

| PUBLIC PEERING CONNECTIONS					
Connection point	**AS**	**ISP Name**	**Date of initial request**	**Date all info received**	**Date of accept/reject**
MANAP	41466	Transit2 Ltd	8/5/2008	4/6/2008	10/6/2008
LINX	29452	Secura Hosting	14/5/2008	14/5/2008	16/5/2008
LINX	9002	ReTN	19/5/2008	21/5/2008	23/5/2008
LINX	13680	HGTN	22/5/2006 27/5/2008	6/6/2008	10/6/2008
LINX	31641	Bytel Ltd	11/7/2008		

3.2 Fault Reporting (SLA J3.2)

The JANET Service Desk handles the fault reporting function. Fault reports should now be made to service@ja.net.

3.3 Management of Maintenance Activities (SLA J3.3)

During the reporting quarter there were a total of 13 planned maintenance sessions during which maintenance activities took place. Major activities included the following:

- New EastNet PoP at Benfleet commissioned
- New switches and associated uplink hardware installed at numerous PoPs within EastNet to support forthcoming site connections
- New routers deployed at Docklands for private peering connectivity
- New linecards installed at Reading, Warrington and Leeds to support upgraded connections
- Backbone Routers at Docklands upgraded.

Number of maintenance sessions
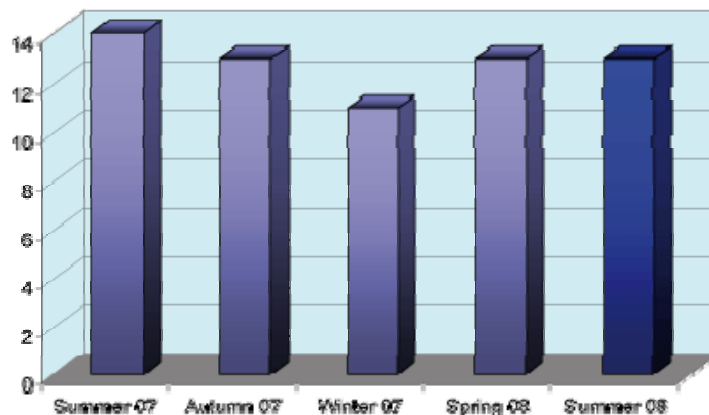
3.4 Network Status Information (SLA J3.4)

The original Netsight system still continues to provide a view of the status and performance of JANET. However work is progressing with the replacement Netsight system based on centralised hardware. Testing of the system has been completed and the first Regional Network Operator, AbMAN, has been transitioned to the new system. The new system will continue to be rolled out to end users during the second half of 2008.

3.5 Time Reference Service (SLA J3.5)

The JANET Network Time Service delivers a stable time reference to customer organisations using the Network Time Protocol (NTP) specified in RFC 1305. It consists of four "stratum-1" servers distributed across the JANET network, located at London, Bracknell, Manchester and Edinburgh. This mesh of communicating systems gets true time from external references such as MSF time signals broadcasted by the UK Time and Frequency Standard Station, and the GPS (Global Positioning System) 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.

Five more sites have registered to use the JANET NTP service during the reporting period. There are a total of 134 sites using the service. Overall, it is a stable and well-used service.

4 Application Services (SLA J4)

4.1 Videoconferencing Service (SLA J4.1) [more information]

The number of users of this service continues to grow steadily; currently 4155 of the registered venues are able to use the JANET Videoconferencing Service over IP (JVCS-IP) and 682 are able to use the service over ISDN (JVCS-ISDN). During the reporting period 70 conferences took place using ISDN only over 130 hours, 2260 conferences took place using IP over 2794 hours, and 1365 conferences took place using the IP/ISDN gateway over 2025 hours. The overall statistical trend indicates an increase in the use of videoconferencing, particularly IP videoconferencing.
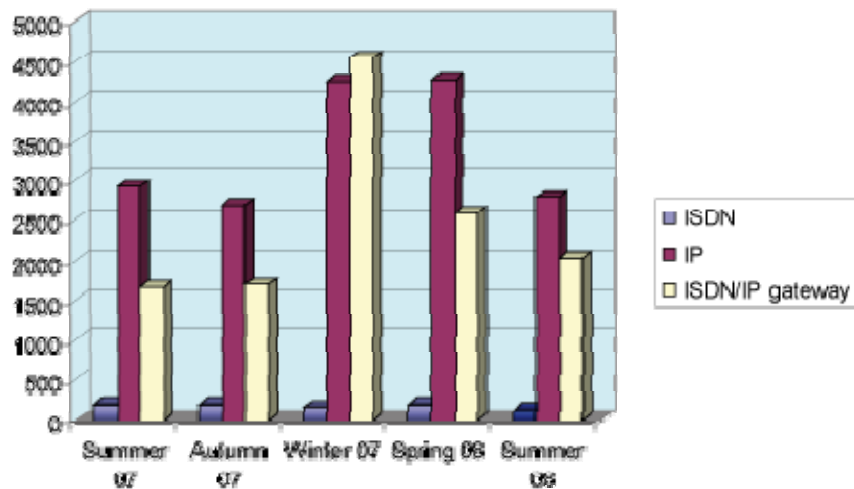
Number of venues registered to use JVCS
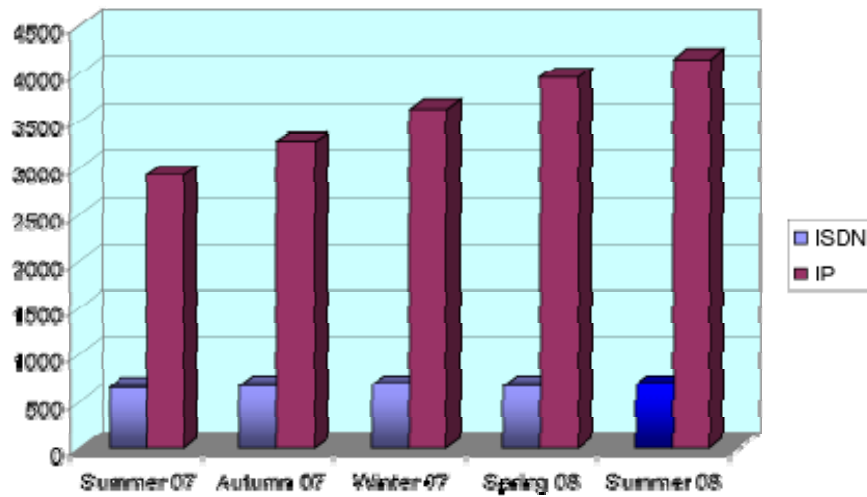
Number of videoconferences
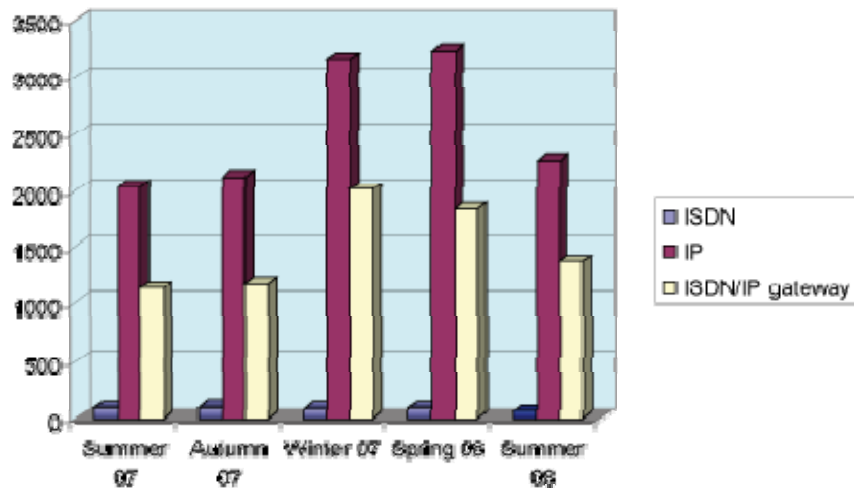
Number of videoconferencing hours over ISDN and IP

(a) JVCS ([more information](#))

The procurement for supply and maintenance of JVCS core equipment was successfully concluded and new equipment is being deployed at two locations. It is expected to be operational in September 2008. As a result the JVCS capacity to bridge multi-points videoconferencing will be increased. The new core equipment also supports high-definition videoconferencing.
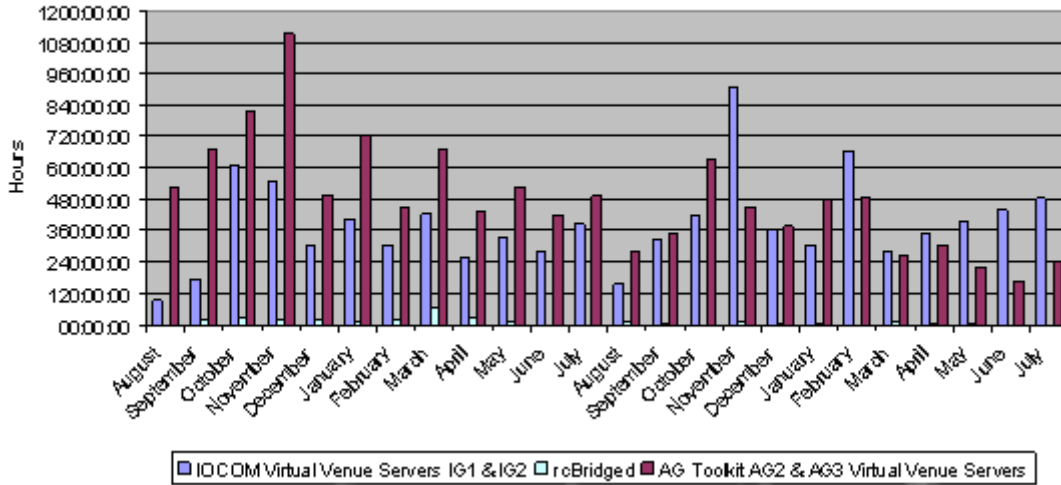
4.2 Access Grid Support Service (SLA J4.2) [[more information]](#)

The Access Grid® Support Centre continues to support the users of the Access Grid® within the UK academic network, with the aim of improving user experience through robust and resilient services. The AGSC would like to welcome a new manager to the team, Mohammed Din. Mohammed joined the team in June and has already proven himself as a valuable asset.
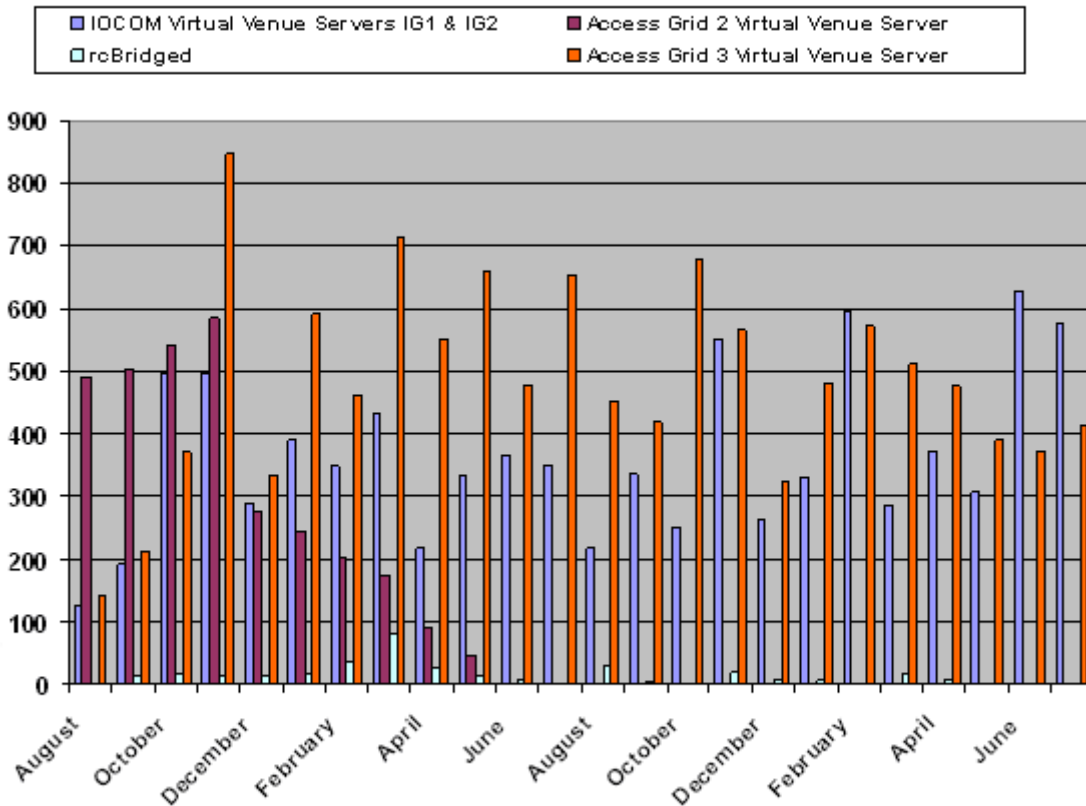
Server and Bridge Activity

The number of registered UK AG nodes currently stands at 307, including the UK Academic desktop nodes. The AGSC is planning a telephone initiative this summer to try and capture a clearer number of how many nodes the current registered organisations have.

Total Hours Used August 2006 to July 2008

Legend: IOCOM Virtual Venue Servers IG1 &IG2 ▢ rcBridged ■ AG Toolkit AG2 & AG3 Virtual Venue Servers

# of Uses by Type Aug 2006 to July 2008

Legend: ▢ IOCOM Virtual Venue Servers IG1 & IG2 ■ Access Grid 2 Virtual Venue Server ▢ rcBridged ■ Access Grid 3 Virtual Venue Server

The IOCOM servers were upgraded on 27 May to the newest version of the software. It has a friendlier user interface and provides simpler functionality.

Outreach

The AGSC team is continuing with the communications outreach programme. This sees them going out to sites using Access Grid (AG) to promote their service and investigate how AG is being used. The most recent visit was to the University of Birmingham to see its Visual and Spatial Technology Centre (VISTA) and how AG has been integrated into its high-end visualisation centre. Another member of the AGSC investigated the Great Western Research (GWR) initiative. This initiative has put several AG nodes into a number of universities with the aim to provide cutting-edge research collaboration and training in the South West of England. Articles on these visits will soon be available on our site at:
http://www.ja.net/services/video/agsc/AGSCHome/whatsnew.html

On 27 May a member of the AGSC team attended the AG Retreat which took place in Vancouver, Canada. This annual conference is a resounding success with the Access Grid community worldwide, with this year being no exception. AG users, administrators and developers came together from places across the globe.

A UK e-Science All Hands meeting is scheduled from 8-11 September at Edinburgh University. The AGSC will have a stand there to promote the use of Access Grid and put a face to the AGSC. We also hope to do some fact finding by finding out how institutions use AG and what interesting initiatives they may use it for.

There will be two new pages added to the site over the next month: 'Documentation' under 'Technical Information' and 'Case Studies' under 'What's New'. These new sections should be of interest to everyone in the community.

rcBridge & staticBridge

Both rcBridge and staticBridge services have been turned off. The lack of usage made the cost of upgrading both services to IPv6 prohibitive. Anyone who depended on either of these is welcome to ring the AGSC on 0161 275 5997 to discuss alternative options.

AG Web Hits

The numbers of web hits has stayed steady for the last few months, at around 23000 hits per month.

AGSC Web Hits 2006/07/08
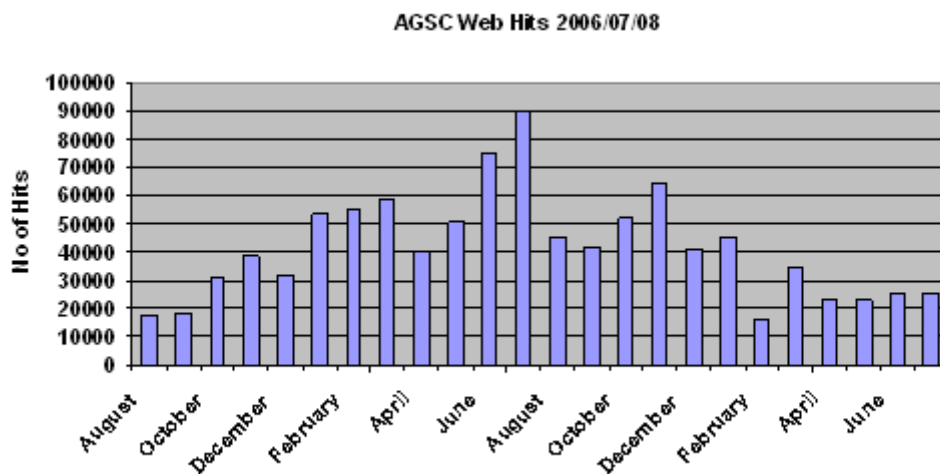
QA Testing

AG Check is now live. An alert went out to the AG community last month announcing the

availability of AG Check for all users. This will allow AG users to perform an automated quality assurance test without having to organise a QA test with the AGSC. This will not replace Operator assisted testing but will enable users to perform checks on any changes they have made while the changes are being made. It is still recommended, if a node is altered or upgraded, that users arrange a full QA test with the AGSC for live feedback. Information about AG Check was delivered at the AG Retreat and can be seen at http://www.ja.net/services/video/agsc/AGSCHome/whatsnew.html.

EVO (Enabling Virtual Organizations)
On 11 July there was a new release of ViEVO (EVO's video tool) for Windows. Functionality has been enhanced and the interface has a softer look and feel. Along with this new release, users may notice some of the components have also been upgraded. More information on these changes can be found here.
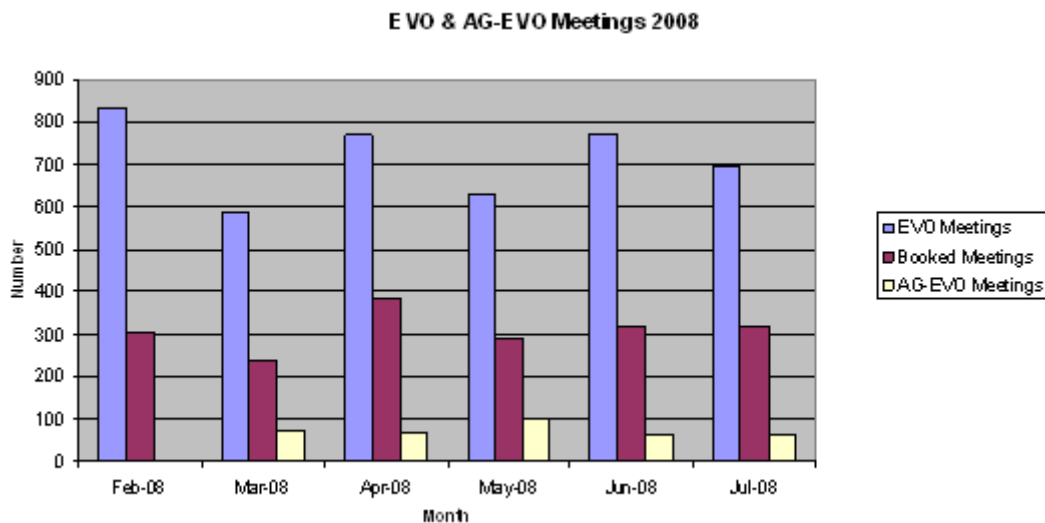
The above graph shows the number of regular EVO meetings, the number of these meetings that were Booked Meetings and AG-EVO bridged meetings. (The AG-EVO bridged venues are defined as permanent venues on the EVO-AG gateway reflector, so booking is not possible.)

4.3 Usenet News Service (SLA J4.3) [more information]

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 customer 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 which does not include all the newsgroups available.

The current JANET Usenet News Service will continue to offer two ways of receiving News over JANET.

4.3.1 News Feed Service (SLA J4.1) [more information]

The News Feed Service continues to function well. There are 26 client sites connected to the service and most are taking a full News feed.

4.3.2 News Reader Service (SLA J4.1) [**more information**]

Five more organisations have joined the News Reader Service during the reporting period. There remain 87 sites connected to the Service.

4.4 Electronic Mail Services (SLA J4.4)

4.4.1 Mailer Shield (SLA J4.4.1) [**more information**]

The JANET Mailer Shield 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. Since the full production service successfully started on 1 August 2004, no outages have been suffered.

No more organisations have joined this service during this reporting period. The number of recorded clients of the service remains at 28.

4.4.2 E-mail Advice and Testing Service (SLA J4.4.2) [**more information**]

The E-mail Advice and Testing System is what used to be known as the Spam-relay Tester And Notification system (STAN). The system provides mail protection to JANET customers and continues to run reliably and effectively.

4.4.3 E-mail Abuse Protection Service (SLA J4.4.3) [**more information**]

The Mail Abuse Prevention system (MAPS) RBL+ (Real-time Blackhole List) provides mail protection for JANET customers, and is available for query by any JANET user. The service continues to run effectively and reliably.

4.4.4 Electronic Mailing List Service (SLA J4.4.4) [**more information**]

JISCmail provides an electronic mailing list service to the UK Education and Research community. The service uses the web and e-mail to enable list members to send messages to each other and share information.

4.4.5 Web Mail Service (SLA J4.4.5) [**more information**]

The JANET Web Mail Service is an e-mail service provided to JANET organisations that do not have the resources to support one themselves. It uses a standard web browser for administration and sending and receiving e-mail from any computer with Internet access. The mail is stored and processed on a central Web Mail server. The service is available to the Specialist College and PCDL sectors. JANET has extended the provision to the wider JANET community as a chargeable service.

During the reporting period no new sites have joined the service. There are a total of 35 sites using the service.

4.5 JANET Web Site (SLA J4.5)

A total of 6,395,330 requests to the server were successfully handled this quarter.

Number of requests to the web server
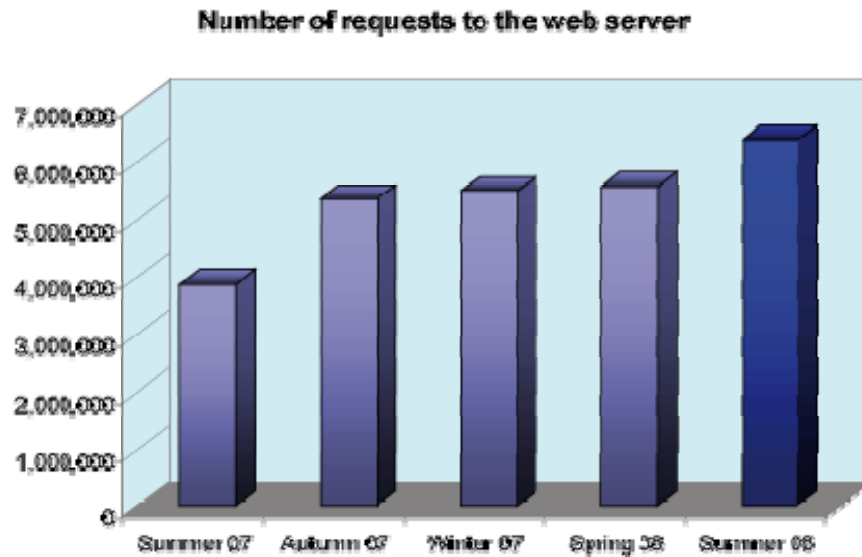
4.6 Nameserver Services (SLA J4.6)

4.6.1 Second Level Domain Service (SLA J4.6.1)

There were no reported problems with whois.ja.net during this quarter.
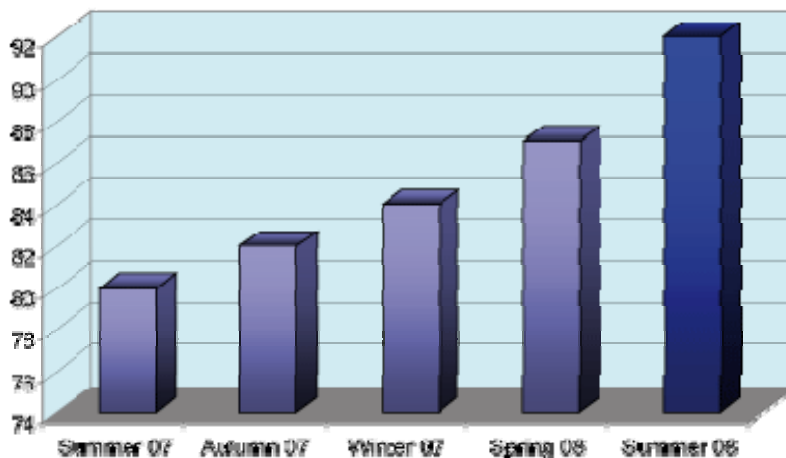
DNS (Servers)
The JANET DNS service continued to run reliably with no problems encountered during this quarter.

4.6.2 Primary Nameserver Service (SLA J4.6.2) [more information]

The operation of nameservers and maintenance of DNS information is an essential infrastructure activity that some small organisations do not have the resources to perform themselves. JANET can provide a basic primary nameserver service to support e-mail and web use by smaller or less experienced JANET customer organisations, publishing their zones on central nameservers 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.

Five organisations registered with us during the reporting period to use the JANET Primary Nameserver service. There are now a total of 92 users of the service.
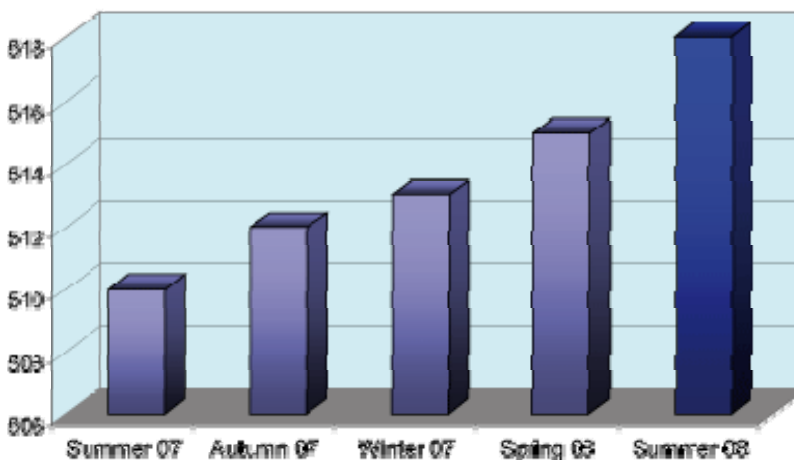
Number of organisations using the Primary Nameserver service

4.6.3 Secondary Nameserver Service (SLA J4.6.3) [more information]

At the end of this reporting period the number of organisations using this service has increased to 518.

Number of organisations using the Secondary Nameserver service

4.6.4 Off-site Resolver Service (SLA J4.6.4) [more information]

Resolvers are part of the DNS functions that query nameservers for IP addresses. JANET organisations with very small networks will find it useful to use the off-site resolver set up for their benefit by JANET(UK). The service continues to run reliably and effectively.

Six sites joined during the reporting period, taking the total number of users up to 91.

4.7 Managed Router Service (SLA J4.7) [more information]

Nothing to report.

4.8 Web-Based Services (SLA J4.8)

4.8.1 Web Hosting Service (SLA J4.8.1) [more information]

The JANET Web Hosting service is intended to provide space on central web servers for JANET customer organisations with Primary Connections that do not have the resources to support hosting themselves. It is aimed at the Specialist College and ACL sectors, although other eligible organisations may use the service as a contingency as a chargeable service.

Four sites have joined the service during the reporting period, bringing the total number of sites using the service to 70.

4.8.2 Web Filtering Service (SLA J4.8.2) [more information]

The JANET Web Filtering service is intended to provide web filtering for JANET customer organisations with Primary Connections that do not have the resources to support it themselves, or organisations with certain specific needs. The service lets each organisation manage its own list of blocked or permitted URLs by filtering in accordance with the local policy of the organisation, and tailor these filters to its exact needs, giving protection against access to inappropriate content on the Internet.

Four sites joined the service during the reporting period, bringing the total number of users to 93.

4.9 JANET Roaming Service (SLA J4.9) [more information]

JANET Roaming enables JANET-connected organisations to offer high quality network services for visitors by providing authenticated logon without IT Support workload. Visitors to JANET sites can experience quick, simply authenticated and secure access to the JANET-connected guest network services provided by the visited organisation. Visitors utilise a single username and password, the same as on their home network, for all sites they visit and do not need to refer to the IT department of the visited organisation on each occasion. This saves time and expense for both the visitor and the host organisation and enables the host to provide an enhanced and highly valued service to visitors.

A national infrastructure of RADIUS servers, deployed and maintained by JANET(UK), supports the exchange of user credentials between participating organisations and enables the service to function. There is also a JANET Roaming technical support function comprising a dedicated web site and support staff. Uptake continues to be promising, with the number of participating organisations now at 92 and a large volume of authentication traffic being seen.

The programme to enable the service to support IPv6 is near completion, the monitoring system for the national RADIUS servers has been developed and closer integration with the eduroam participant database is being developed. Enhanced information about participating sites has already been made available on the JANET Roaming web pages.

Documentation produced in the quarter includes a case study on FreeRADIUS 2.0.2 at Sussex University, detailing their implementation of 802.1x. This has been published at an opportune time

following the release of version 2 in January and coinciding with summer upgrade programmes, which many organisations embark on during the holiday period.

4.10 UK Access Management Federation [more information]

At the end of July there were 493 members in the UK federation. This is a jump of 143 new members since the last quarter; an indication of the increased number of web resources available through the UK federation framework. Approximately 85% of HE institutions and 45% of FE institutions in the UK have now joined the UK federation. A number of Local Authorities and RBCs are starting to roll out federated access management to their schools in time for the new academic year.

Across all sectors, educational institutions are utilising other benefits of federated access management and are beginning to share their own resources through the framework to help deliver better learning resources to students and staff.
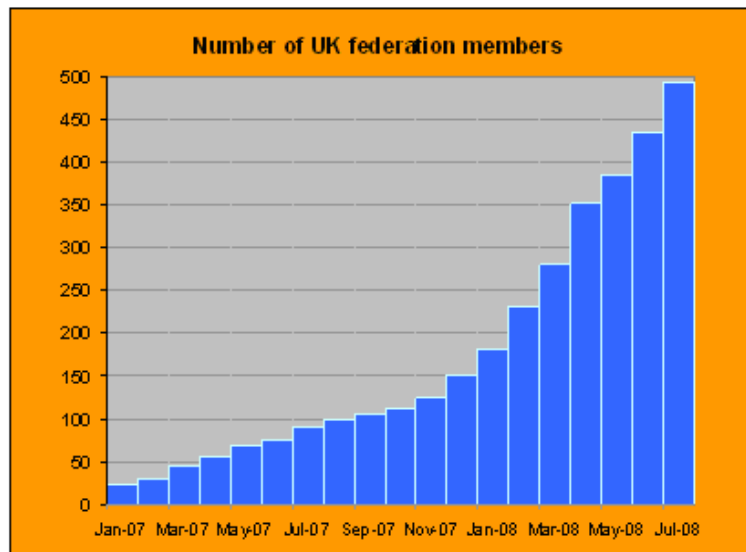
5 Technology Advisory Services (SLA J5)

5.1 Bandwidth Management Advisory Service (BMAS) (SLA J5.1) [more information]

The JANET Bandwidth Management Advisory Service provides advice and guidance to JANET organisations on a wide range of issues relating to management of network traffic and produces technical literature on the subject. The service is supported by experts from the community. The number of enquiries handled by the advisory function has been low but the extensive web site contains a wealth of information and continues to be popular with the community.

5.2 Multi-site Connectivity Advisory Service (MCAS) (SLA J5.2) [more information]

The JANET Multi-site Connectivity Advisory Service provides advice and guidance and produces technical literature on a wide range of issues relating to inter-site network inter-connection. A number of enquiries for the service, which is provided free of charge, were received during the quarter. Enquiries have been mainly on the topic of options for multiple campus site inter-connections. The web site, which provides wide-ranging information for the community, remains popular and the MCAS service continues to serve all sectors of the JANET community.

5.3 Video Technology Advisory Service (VTAS) (SLA J5.3) [more information]

The Video Technology Advisory Service provides a helpdesk supported by videoconferencing experts for issue resolution, product evaluations and documentation on all aspects of videoconferencing. The use of VTAS is free of charge to organisations who qualify to use JVCS.

There are currently three evaluations in the pipeline for this next quarter: the Sony PCS-XG80, Tandberg Edge and Tandberg FieldView. The FieldView is a fully integrated, portable, wireless handheld video device that can be used anywhere in an organisation. The Tandberg Edge was evaluated in December 2006, but with it coming on in leaps and bounds VTAS advisors think it is worth looking at again.

Previous evaluation reports, an overview document and an outline of the testing schedule when available can be found at: http://www.ja.net/services/video/vtas/evaluation/

5.4 Voice Advisory Service (VAS) (SLA J5.4) [more information]

The JANET Voice Advisory Service provides advice and guidance on all aspects of voice over networks technology, focusing on Voice over IP (VoIP) and IP Telephony. The service is supported by experts from the community and provides a free of charge enquiry answering service together with a consultancy arrangement facility for more in-depth investigations. The service is proving popular and has received enquiries during the quarter regarding replacement of PBXs with IP telephony systems, Skype, ENUM and JANET Talk.

5.5 Wireless Technology Advisory Service (WTAS) (SLA J5.5) [more information]

The JANET Wireless Technology Advisory Service provides advice and guidance on all aspects of wireless networks technology. Typical areas in which the service is able to provide independent technical support to organisations include security techniques, surveying and monitoring, WLAN management, standards and technologies, and user support models. The service is supported by experts from the community and provides a free of charge enquiry answering service, together with a consultancy arrangement facility for more in-depth investigations. The service is proving popular and has attracted a number of enquiries regarding VLAN implementation with 802.1x and RADIUS during the quarter.

6. Training Services (SLA J.6)

The Training team continues to deliver a portfolio of courses across the country. Fifteen courses were run this quarter, delivered in Manchester, Newcastle, Bristol, Glasgow, London and Birmingham. This has included runs of the new "Implementing Shibboleth at your Organisation" and "Introduction to the UK federation" courses as well as various security courses, "Introduction to JANET" and "Basic Router Configuration".

The schedule for the Autumn is busy, including the popular videoconferencing courses, and we hope to pilot several new courses during this period. We are also hoping to schedule some courses in Northern Ireland. The JANET Training schedule is available on the web site. Additional dates and courses are added when available. The schedule for the next quarter can be found at: http://www.ja.net/services/training/schedule/by-date.html

The development of EdLab®, our online learning and collaboration facility, is continuing and we have now launched online course support for many of the courses. Pre-course support includes information about the course and the trainer, what to expect and pre-course information and activities. After the course delegates have access to all the course materials, including activities used in the course, additional resources and subject tests. Discussion forums and other tools are available to continue class discussion and collaboration. Roll out of online course support for all courses will be completed by the end of September. In conjunction with this a new Trainers area has been developed in EdLab®, giving Trainers access to course materials and resources and supporting them in developing course content.

Registration for EdLab® is available at http://www.ja.net/training/edlab.

7. Administration Services (SLA J7)

7.1 JANET Service Desk (SLA J7.1) [more information]

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

During this reporting period a total of 2742 enquiries were received. Most of these related to the Domain Name registration service, requests for JANET connections, and applications or queries relating to other JANET services.

Two complaints were received, both of which have been successfully concluded in this reporting period.

Number of enquiries to JANET Service Desk
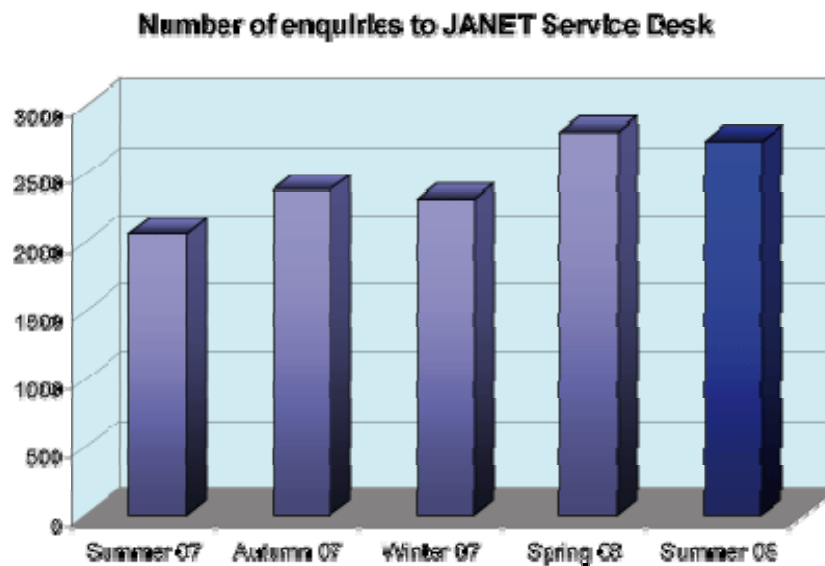
7.2 Connection Services Administration (SLA J7.2)

JANET(UK) is responsible for administering the procedure for the approval and commissioning of new and upgraded connections to the JANET network. This involves liaising with customers to report progress on their new or upgraded connections. All sites connected to JANET must adhere to the JANET Connection Policy that can be found at:
http://www.ja.net/documents/publications/policy/connection-policy.pdf

Requests for new or enhanced JANET connections should be made via the JANET Service Desk (see Section 3.2).

A list of organisations connected to JANET during the reporting period is provided in section 3.1. For information regarding current upgrades or connections, contact JSD at connect@ja.net or service@ja.net.

7.3 Licence Administration (SLA J7.3)

Over the past three months 5 new Sponsored Connection Licences and 2 new Proxy Connection Licences have been issued.

7.4 Domain Name Service Administration (SLA J7.4)

7.4.1 Domain Name Registration Service (SLA J7.4.1)

During the reporting period a total number of 640 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 81 per month, with an average of 126 modifications for each month.

Average rate of monthly applications for modified domain names
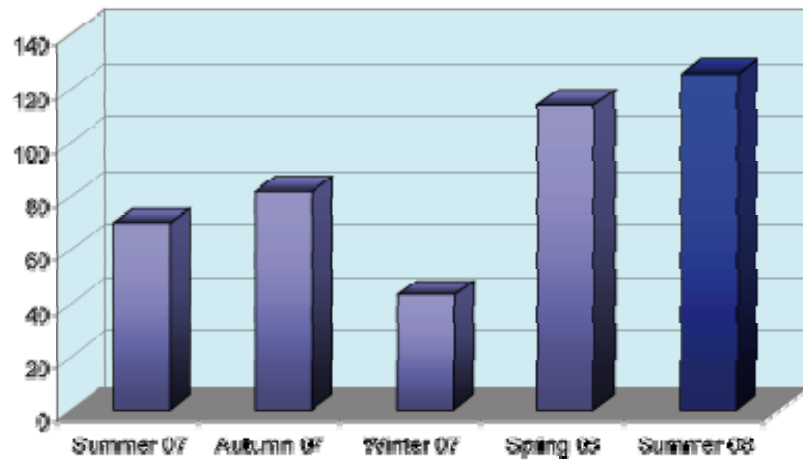
7.5 IP Address Assignment (SLA J7.5)
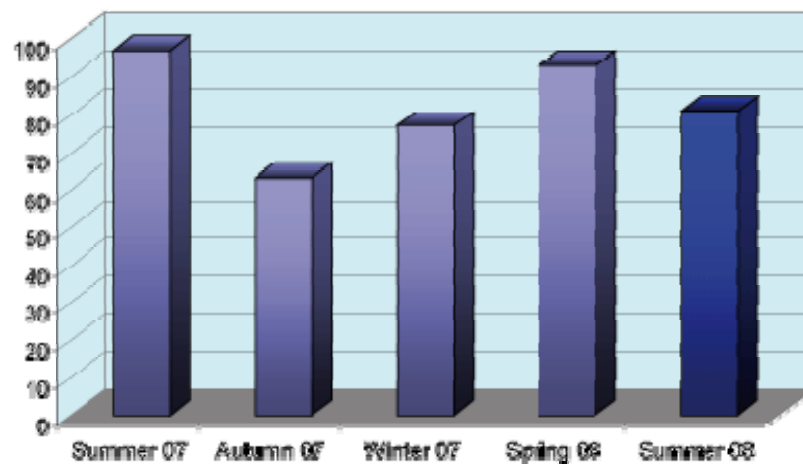
During the reporting period 20 applications were received and completed.

7.6 urn:mace:ac.uk Namespace Administration (SLA J7.6)

There were no new applications during this quarter.

7.7 Server Certificate Service

In this reporting period the number of Server Certificate requests increased by 1399 to 5724 in this quarter.

8. Security Services (SLA J8)

May 2008

Some of the hardware on the JANET infrastructure was upgraded to enable an improvement in the collection of Netflow data, thus allowing JANET CSIRT to continue the development of Netflow data analysis to provide a more proactive service towards the detection of possible harmful or otherwise unwanted traffic on JANET.

There was a spate of SSH attacks (port 22). These would likely be from UNIX machines running SSH that have weak user account passwords. In most incidents the machine involved was a temporary test machine where the site had not taken the same level of effort to secure it as they would a production system. Of course, the attacker does not care if it is a production system or not ...

Other common ports in this month's reports were 445, 135 and 139 which are MS Windows' LAN services.

Unsolicited Bulk E-mail from JANET continues to persist at the usual levels.

June 2008

In June 2008 JANET CSIRT was informed by a non-JANET agency of a potential compromise of a web site management engine being utilised by a number of JANET organisations. JANET CSIRT worked with the agency and the affected JANET connections to resolve this issued where required.

A JANET site suffered a particularly large and concerted DDOS attack on their main web site; however the local management and security measures were set up well enough to enable the protection of the servers involved and the maintenance of the service.

July 2008

The usual levels of scanning that attempts to detect vulnerable systems continue to be recorded by the team along with the common attempts to defraud by the use of phishing scams. Also, the levels of web abuse complaints remain steady.

This month saw two major incidents involving organisations at all levels across JANET.

A recent vulnerability in Debian's openssl package, which could lead to the generation of weak cryptographic material, had led to a number of certificates with easily guessable keys being used in the UK Federation. An external report led us to detect a number of vulnerable certificates that had been passed through the JANET Service Certificate Service process. Affected sites were contacted and asked to submit new certificates.

Flaws in the DNS protocol, and its common implementations, were found which allowed a DNS cache poisoning attack to take place more quickly than previously thought. Updates for most DNS implementations were released simultaneously and JANET CSIRT sent an announcement to the community. An external report brought a number of vulnerable DNS servers on JANET to our attention. The affected sites were contacted and asked to investigate.

9. Development

9.1 Federated Access Management [more information]

9.1.1 UK federation Development

Membership of the UK federation continues to grow, which is reported in detail in section 4.10 of this report.

Two training courses covering federated access management are now available. For further details of the courses on offer and for booking information please see
http://www.ja.net/services/training/schedule/by-date.html

A series of regional briefing events has been planned, to be based around group discussion sessions, as held at Brighton in April 2008. More details can be found at
http://www.ja.net/services/events/calendar-2008.html

9.1.2 Federation Enabled JANET Services [more information]

Discussions are ongoing on how best to provide future JANET services in a federated manner. Planning to provide provision of federated access to existing services, where applicable, is also ongoing.

9.1.3 Shibboleth on Windows [more information]

A beta version of the Shibboleth on Windows installer has now been released and can be found on the internet2 web site. Participation in the trials has been widened. The test sites are now concentrating on producing documentation and case studies.

9.1.4 WAYF Interface Development

Nothing to report.

9.1.5 Expert Group on Portal Design

Nothing to report.

9.2 Roaming & Mobility [more information]

9.2.1 802.1x Supplicant [more information]

The latest release of the supplicant (v2.1.3.342) is now available with a number of additional features and an improved GUI.

JANET(UK)'s role within the OpenSEA Alliance has now been firmly established with a member on the Project Management Committee and the board. Our lead site now has direct communication with the Project Management Committee which allows problems to be identified, verified and resolved quickly.

Reports from the JANET community show a significant increase in the number of student machines running Vista. In addition, Microsoft has recently announced that Windows XP will no

longer be available for sale from 30 June 2008. The OpenSEA Alliance has responded to this by raising the priority of a Vista version of the supplicant, as can be seen on their development roadmap. The work of porting the supplicant has been outsourced to Mindtree, a global IT and R&D Services Company co-headquartered in the US and India. The expected time to delivery is 12 to 17 weeks which places availability of Supplicant support for Vista around November 2008.

9.2.2 Eduroam Confederation Policy [more information]

JANET(UK) has received the new Eduroam Confederation Policy. It is anticipated that the company will formally sign up to the new policy over the coming months.

9.3 Network Access [more information]

9.3.1 Mobile IP [more information]

The trial programme is approaching midpoint review. The first deliverable, a testing platform, has been available for community download since May, and feedback is being collated for release of a revised version. The project was promoted at the TERENA Networking Conference and generated interest from a number of other NRENs.

9.3.2 Local-Loop Unbundling [more information]

The project continues to track the changing needs of the community in this area. A Call for Interest targeting Regional Network Operators and JANET-connected organisations has been issued.

9.3.3 Location Aware Wireless Infrastructure

The programme approaches its midpoint review. Sites within the trial have been sharing early results (product comparisons and a mapping application) which will be published in the final deliverable documents. Location awareness has been proposed as an activity for the TF-Mobility group to extend these activities to a European scale (see 11 below).

9.3.4 Wireless Advisory Group

Insomuch as 802.11-based wireless is now well established as a core technology across the sector, the role of the WAG in advising on strategy in this area has been successfully concluded. The group of advisors is being retained as a special interest group to maintain a watch on future strategic wireless technologies (WiMAX, UWB, LTE etc.). This reporting line will be removed from future quarterly reports.

9.4 Network Engineering

9.4.1 IP QoS

The JANET QoS Technical Guide has been published on the website (http://www.ja.net/documents/publications/technical-guides/qos-tg.pdf) and a paper version has been circulated to the JANET community. This document completed the set of guidance documents produced by the JANET QoS Development project participants, to help the JANET community with their understanding in the QoS area and the steps required for deployment.

9.4.2 IPv6

Both IPv6 unicast and IPv6 multicast have been included within the wider JANET Service Level Agreement 2008/09. Work is continuing to enable IPv6 support within JANET production services.

On 11 June 2008, JANET(UK) held an IPv6 Briefing Event at the Lakeside Centre, Aston University in Birmingham. This event was aimed at managers within the JANET community who are responsible for authorising and planning the deployment of network services on their organisation's infrastructure. A range of presentations were given to provide an insight into the state of IPv6 both within and outside JANET, and guidance on how to cope within a mixed IPv4/IPv6 environment, along with case studies on the planning and deployment of native IPv6 unicast and multicast services on a site and regional network. Over 50 delegates attended the event and positive feedback was received. The presentations from the event can be found at: http://www.ja.net/services/events/2008/ipv6/programme.html

9.4.3 IP Multicast

Nothing to report.

9.5 Voice [more information]

9.5.1 JANET Talk [more information]

JANET Talk is a rich voice and collaboration tool for use within the JANET community providing applications such as voice, video, shared whiteboard, chat and application sharing. Contracts have been signed with Verizon Business to provide the core infrastructure equipment for JANET Talk.

JANET Talk trial sites are now provisioned and ready to participate. It is expected that all trial sites will be making use of the system in time for the start of the new academic year. The trial will provide JANET(UK) with feedback enabling a clear future sustainability model for JANET Talk to be developed post October 2008.

9.5.2 JANET Voice Advisory Group (VAG) [more information]

The Voice Advisory Group continues to ensure that JANET's voice activities are relevant and appropriate. The results of a recent ENUM market research activity proved to be positive, and as a result JANET(UK) are now building up a business case with a view to operating as an ENUM registrar on behalf of the JANET community.

9.6 Video [more information]

9.6.1 IPTV (Internet Television) [more information]

Early work is underway with the BBC to understand how its content may be better provided on JANET.

9.6.2 Content Providers

Work continues with a number of content providers including JISC, IET, OSTN, INUK and SUB TV. Activities in this area are focused on understanding how these and other services and

provisions may be suitable for deployment in the JANET environment. Early work to understand the potential for a JANET-based content sharing portal is also underway.

9.6.3 JANET Videoconferencing Services Equipment Re-procurement [more information]

JANET(UK) has completed a procurement for core videoconferencing infrastructure equipment to replace the current infrastructure deployed for the JANET Videoconferencing Service. The new equipment will be installed during August, with a view to integrating the new equipment during Q4 2008.

9.6.4 Ultra High Definition [more information]

Video technology has progressed in recent years, with high definition becoming an international standard. Ultra high bandwidth video and audio technology has begun to be used within the broadcast and research industries worldwide.

Early work is in progress to explore ultra high definition video technology and its potential use in the JANET community.

9.7 Measurement & Monitoring [more information]

9.7.1 Netsight [more information]

The phased rollout of the new Netsight system has commenced within JANET(UK) and a small group of Regional Network Operators. Those involved will be contacted to co-ordinate the transition between the old Netsight system and the new. For a short time both systems will run in parallel to smooth the transition process.

9.7.2 Research [more information]

Nothing to report.

9.7.3 Schools

JANET(UK) is in the early stages of a joint project with Becta to define the requirements for gathering network measurement information from schools networks. A small pilot group of Regional Broadband Consortia and Local Authorities is being formed to work with Becta and JANET(UK) on a simple proof of concept for the technology and initial requirements.

9.8 Support for Research [more information]

9.8.1 JANET Aurora [more information]

The majority of the service management circuits are now working following resolution of a problem attributed to incompatibilities between particular firmware versions running in the equipment at opposite ends of the links. Work continues with BT to resolve the final problem which is of a different nature.

9.8.2 JANET Lightpath [more information]

Discussions continue with a project which has requested lightpaths to North Wales. The PSBA network in Wales is one option but this is not yet ready to offer this kind of service, although this position is expected to change later this year. An initiative of the Welsh Assembly Government called Fibrespeed looks like it might provide another mechanism to deliver these paths, but further work is needed to understand the infrastructure and its business models. The Fibrespeed project is installing dark fibre to 14 business parks in North Wales, and the Fibrespeed operating company will act as a wholesaler to a tier of service providers who will offer a range of services to customers.

Technical options are being examined with a view to re-engineering the Time Division Multiplexing part of the JANET Lightpath service with packet based technology. This includes closer examination of both MPLS and Carrier Ethernet technologies.

9.9 Optical Networks [more information]

9.9.1 Technology Tracking

Discussions with vendors continue for both Carrier Ethernet and optical transmission equipment.

9.10 International Collaboration [more information]

Funding has been made available to support small-scale, relatively short-term activities to encourage the JANET community to get involved in collaborative work within the international community. The work would need to be relevant to the JANET development programme, but funding could be allocated for a number of activities.

9.11 Schools Services [more information]

9.11.1 Content Access

JANET(UK) continues to work closely with the NEN (National Education Network) providers in England, LTS (Learning and Teaching Scotland), C2K (Curriculum 2000) in Northern Ireland, and the local authorities NGfL Cymru and DCELLS (Department for Children, Education, Lifelong Learning & Skills) in Wales, to enable access to high quality content for schools interconnected to the JANET network.

The CAS (Content Access Service) continues to provide UK-wide access to licensed online educational content such as Audio Network and the National Archives Learning Curve. The JANET Technical Advisory Group maintains, manages and supports the Content Access Registry of IP addresses. A Content Management Group involving representatives from Regional Broadband Consortia, Becta and JANET(UK) continues to oversee the development of the CAS.

The Schools Strategy Group has contributed to the development of an outline business case for an NEN Digital Resource Delivery Service.

9.11.2 Videoconferencing

By the end of July 2008 the total number of schools sector endpoints registered with JVCS was almost 3400 (as compared with just over 2300 at the end of July 2007), with almost 2000 videoconferences undertaken this quarter. Over 85% of the conferences have been for teaching,

tutorials and related activities; other purposes include administrative meetings, system testing and quality assurance.
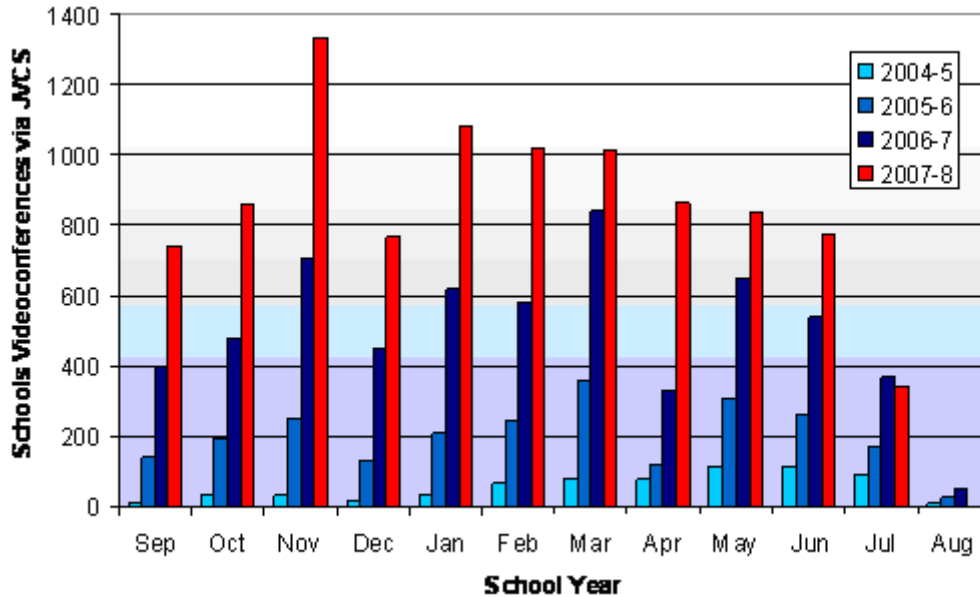
The take-up of videoconferencing by schools continues to grow. The change in distribution of usage during March-April in 2008, as compared with previous years, appears to be a direct result of the staggered arrangements for the 2008 Easter school holidays. The total for July 2008 is similar to July 2007, although the reason for this is not yet clear.

9.11.3 Collaboration [more information]

The JANET Collaborate pilot was completed in July 2008 and a full report is in preparation. The prototype continues to be used by over 1000 members from the FE, Schools and Content Providers communities. Feedback on the usability and suitability of the prototype has been gathered via a survey and nine case studies.

10. Community Update

(a) FE Liaison

The FE Account Manager for England and Wales visited Bexhill College, Brighton Hove & Sussex Sixth Form College, East Durham & Houghall Community College, Hastings College, Moulton College and Sussex Downs College. He also attended the Becta Stakeholder Advisory Group meeting, the Introduction to JANET Course in Bristol and the JANET Briefing Day, as well as the RSC EM Summer Conference, the RSC NW Summer Conference, the RSC SW Summer Conference, the RSC Wales Annual Conference and the RSC YH Summer Conference.

(b) FE Colleges

An FE College is considering moving most of its servers to a third party commercial provider who will then offer thin client delivery to managed desktops and wifi enabled laptops in the College. The provider is discussing similar arrangements with other Colleges and this model may be able to offer cost effective third party shared services across the sector.

(c) Schools

Nothing to report.

(d) Specialist Colleges

The FE Account Manager attended the Specialist Colleges Advisory Group Meeting.

(e) PCDL (Personal and Community Development Learning)

Meetings have been held with City of Peterborough, Medway, Hertfordshire, Bedford, Bedfordshire, Northumberland, Derby City and Kent local authorities to discuss future requirements and upgrades. An event for local authorities in the East Midlands entitled Innovate08 was focused on how the local authorities in this region have a wish to work together more collaboratively and how that may be achieved using the regional infrastructure.

Swarthmore College in Leeds delivers PCDL and has recently been awarded capital funding from NIACE (National Institute for Adult and Continuing Education). It is now seeking JANET connectivity though YHMAN.

The National Film & Television School in Beaconsfield offers graduate qualifications in media production and is looking at the feasibility of a JANET primary connection.

(f) Scotland

SSDN: Several meetings have taken place with the team at LTS to discuss the requirements and process for reprocurement of the SSDN network.

Improvement Services: A meeting took place to discuss the role of Improvement Services in Scotland and how JANET(UK) may be able to assist them.

APUC (Advanced Procurement for Universities and Colleges) held a presentation at the RSC in South and West Scotland. Three speakers from APUC gave presentations on the work they do. This was attended by IT Managers from 10 West of Scotland Colleges and the RSC, and the Account Manager for JANET(UK).

ASCOL Conference: JANET(UK) sponsored a stand at the Association of Scotland's Colleges Annual Conference held in St Andrews on 5-6 June. This event was attended by FE Principals and members of Boards of Management for Scottish FE colleges. One hundred delegates attended and the meeting was addressed by Alex Salmond, the First Minister for Scotland.

(g) Northern Ireland

Preparations are underway to find suitable venues in Belfast to run JANET Training Courses for organisations in Northern Ireland.

(h) NHS/HE Connectivity Project [more information]

NHS JANET Gateway Early Adopter Project

The N3 JANET Gateway infrastructure has been in place since 9 November 2007. The University of Edinburgh became the first Scottish early adopter of the N3 JANET Gateway this quarter, bringing the total of early adopters of the N3 JANET Gateway to 5 communities. The aim of the Edinburgh early adopter is to improve access to the Medical School's Virtual Learning Environment and library services by students on clinical placement in NHS Lothian and elsewhere in Scotland. It will also help NHS-based staff working with the University.

The major new feature of this early adopter is that it needed to be approved by NHS Scotland nationally and particularly NHS Lothian locally. There was strong support to proceed.

At the end of July the University of York was also about to become an early adopter, with the firewall changes made and just the routing to be altered.

The inclusion of H.323 videoconferencing between University and NHS sites through JVCS has continued to be difficult to finalise. However a two-way test videoconference across the Gateway firewall to an N3 end point was achieved for the first time on 31 July.

Early Adopter N3 JANET Gateway to Continue

The early adopter N3 JANET Gateway will continue for at least a further year after the initial one year contract which ends in October. This will give further time for gaining other early adopter experience, especially where the sessions are initiated in JANET; and also for the creation of the joint business case with NHS Connecting for Health for a long term solution that is resilient and responsive. There have been positive discussions with Connecting for Health about this.

NHS HE Forum News

The latest and fourteenth NHS-HE Forum took place on 14 May in London and the presentations are at http://www.nhs-he.org.uk/14-may-2008.html. One of the highlights was hearing Professor Sir Alex Markham explain NHS Connecting for Health's Research Capability Programme, which aims to provide tools to allow improved access the NHS data for clinical research purposes, in support of Best Research for Best Health. Ian McKinnell from the National Library for Health in

England also explained how he plans to consider the use of UK Access Management Federation and SAML-based access management during the lifetime of their current contract for Athens.

At the end of the Forum, Ted Woodhouse, on behalf of everyone involved, formally thanked Professor Roland Rosner, who retires at the end of September from UCL, for his contribution so far to the NHS-HE Forum as instigator and then chair of the Forum since 2001.

(i) Research Councils

MRC
The National Institute for Medical Research is looking at options for an upgrade to 10 or 100Mbit/s and back-up connection.

NERC
The Proudman Oceanographic Laboratory is looking at options for an upgrade to 1Gbit/s or 10Gbit/s. Quotes have been provided for the British Geological Survey in Northern Ireland, which is seeking new 10Mbit/s provision as current connectivity via its present provider is not sufficient.

(j) Libraries, Museums and Archives

London Transport Museum and Imperial war Museum were visited this quarter.

The account manager attended the annual conference of the Museums Computer Group at Leicester University. A presentation by Flickr (www.flickr.com/commons) showing how four major organisations in the US were putting up digital images of their collection on this site attracted a lot of interest. Presentations by eight attendees of a previous day's "Mashups", showing how data and images could be quickly and easily gathered from the web, offered some imaginative uses of technology.

A JISC Strategic Content Alliance Forum meeting and the Coalition for Networked Information conference were attended.

11. European Activities

(a) TF-Mobility

TF-Mobility is being re-chartered to incorporate a wider network access remit. JANET(UK) has engaged with this group to promote the exploration of location based services on a European level. Materials have been submitted towards the charter draft, and at the last meeting it was voted that this subject area can be incorporated within future activities of the group.

(b) TF-NGN

Nothing to report.

(c) TF-PR

Nothing to report.

(d) TERENA Networking Conference [more information]

Over 500 people attended the 2008 TERENA Networking Conference in Brugges (Belgium) from 19- 22 May. There were many pre-conference events taking place, such as task force events, so many people were in Brugges the previous weekend.

The conference began on the Monday afternoon with an opening talk by Paul Van Binst about the evolution of research networks. Paul is the Director of Service Télématique et Communication at the University of Brussels. It was a thought provoking introduction to the conference.

Tuesday morning began with a talk by Josh Howlett (JANET(UK)) on "Why the Identity Messy-system sucks and how to fix it". This talk was followed by Steve Hanna from Juniper on "Network Access Control and Beyond". The plenary session on the Wednesday began with Tim Robinson from Network North West who spoke about "Where is our journey taking us? (An environment in support of student learners)". Tim was followed by Richard Katz from Educause speaking on Reflections on Higher Education in the Global Context. The conference finished with a talk by Huib-Jan Van Langevelde, Director of JIVE, the Joint Institute for Very Long Baseline Interferometry in Europe.

Catering for the wide variety of people attending, four parallel streams ran throughout the conference covering a wide range of subjects such as identity management, monitoring the network, campus networking issues, medical applications, IPTV, malicious traffic, Grid applications, security, P2P, PKI, Lightpaths and Roaming. All the sessions were streamed to the Internet, so anyone who wanted to attend two sessions at the same time could watch the video stream of the second session later.

The city of Brugges is a wonderful place to hold a conference as everything is within walking distance. The Oud Sint-Jan Conference Centre hosted the conference, situated next to one of the many canals in Brugges. The conference dinner was held at the Belfry in the market square. The delegates were entertained at the dinner by a variety of entertainers from medieval times which fitted the surroundings of the Belfry hall.

(e) TERENA General Assembly

The TERENA General Assembly was held in Brugges straight after the TERENA Conference. It covered the normal business of the meeting such as the administrative matters of the TERENA Secretariat; the TERENA Technical Programme, which is very varied; and the wide range of events hosted by TERENA. The meeting also spent time discussing the future GEANT3 proposal which is due to be sent to the EU later this year.

The next TERENA General Assembly will be held in Sofia, Bulgaria in October.

(f) TERENA Compendium

TERENA has collected the data for the Compendium 2008. Work is now taking place on the interpretation and presentation of the data. A final copy of the document is expected to be produced by the end of September 2008.

(g) Mobility Group - JRA5

Nothing to report.

(h) QoS Project - Service Activity 3

Nothing to report.

(i) GEANT 2 - Service Activity 3

JANET(UK) participated in the GEANT2 Technical Workshop which was held in Berlin on 23-27 June. The GN2 SA3 meeting was dedicated to the PERT (Performance Enhancement and Response Team) activity: SWITCH provided a reported on its experience in this area and it was stressed that the main goal for the future Federated PERT would be the consolidation of expertise within NRENs in the network performance area.

Further Information

Further information on any aspect of this report can be obtained through JANET(UK)'s general enquiry point, the JANET Service Desk. This is staffed from 08.00 to 18.00 Monday to Friday, with voicemail available for calls outside these hours or if staff are temporarily unable to answer a call.

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

E-mail: service@ja.net
Telephone: 0870 850 2212
Fax: 0870 850 2213
Post: JANET Service Desk, Lumen House, Library Avenue, Harwell Science & Innovation Campus, Didcot, Oxon OX11 0SG

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