janet

Quarterly Report to the Community

May–July 2011

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Key news in this report

- Users can now be nominated to control a conference live following the addition of new features to the booking service. This means that some of the more common issues can be fixed during the live conference. *See page 5*

- In July, demonstrating JANET(UK)'s commitment to maintain the highest of industry training standards and continually develop courses to meet customer needs, JANET Training was awarded Learning and Development Provider Accreditation by the prestigious IITT for its range of training courses. *See page 11*

- Two new laws relevant to JANET have come into force, on cookies and unintentional interception. *See page 12*

Mission

To provide outstanding and distinctive information and communication services to the UK's research, education, training and cultural communities.

Vision

Through JANET(UK)'s activities, everyone working and studying in the UK's research, education, training and cultural communities will have services that enable collaborative working and the acquisition and exchange of information, ideas and knowledge.

1. CORE NETWORK

Connections

This reporting period has seen a total of 29 new or enhanced customer connections completed and brought into use:

Further Education

New

- Bolton Sixth Form College
- Y Coleg Cymraeg Cenedlaethol

Modified

- Aylesbury College
- Bicton College
- City of Bradford Metropolitan District Council: Personal & Community Development
- Colchester Institute Enterprises Limited: The College at Braintree campus
- Coleg Elidyr
- Coleg Menai
- Coulsdon College
- Herefordshire College of Technology
- South Thames College
- Telford College of Arts and Technology
- Worthing Sixth Form College

Higher Education

New

- High Performance Computing Wales
- Newman University College

- University for the Creative Arts: Maidstone Campus
- University of Lancaster: The Work Foundation

Modified

- Bath Spa University
- Leeds College of Music
- University College Falmouth x 2

Research Councils

New

- Biotechnology and Biological Sciences Research Council: Animal Health Pirbright
- Natural Environment Research Council: BGS Keyworth x 2
- Natural Environment Research Council: North Star House

Self-funded

New

- West Sussex County Council

Modified

- St Peter's School
- Salford City Council
- University of Buckingham

A list of all primary sites connected to JANET may be found at: www.ja.net/services/connections/janet-sites/ For information regarding current upgrades or connections, please contact JANET Service Desk at: connect@ja.net or service@ja.net.

Further Education (FE)

England

JANET connections in Kent are being migrated to the Kent Public Service Network (KPSN). As of the end of July, all FE college connections are now provided via KPSN.

Core Network

The northern part of the core ring has had its capacity increased from 40Gbit/s to 80Gbit/s over the past quarter. Core links from Bristol to Reading and London have also had capacity doubled to 20Gbit/s.

External Network Access Provision and Transmission

JANET access to European NRENs is via a 10Gbit/s connection to GÉANT from the Telecity R-PoP with a 10Gbit/s backup connection from the Telehouse® R-PoP. Access to the global Internet is via two global transit providers, TiNET and TeliaSonera. Each supplier provides four 10Gbit/s connection to two JANET PoPs at Telehouse® and Telecity in London. Access to UK Internet exchanges is through LINX (London Internet Exchange), via four 10Gbit/s connections from the Telehouse® and Telecity PoP locations. There is also a 1Gbit/s public peering to MaNAP and another 1Gbit/s public peering to MCIX in Manchester.

Traffic load to GÉANT was mostly at a constant 6Gbit/s this quarter; however, there was a peak spark at 9.48Gbit/s in June and a few sparks at 7Gbits during June and July. Aggregated peak traffic to the global Internet was about 15Gbit/s in May, down to 9Gbit/s in July due to the holiday season. TiNet is also to provide 20Gbit/s global transit capacity from the JANET PoP at Telecity Manchester, which is expected to be in service in September. Aggregated public peering traffic during the reporting period to the LINX was around 20Gbit/s during May and 8Gbit/s during July, while to MaNAP and MCIX it was about 800Mbit/s.

An external gateway was established at Telecity Manchester, initially supporting private peering to Google and Akamai.The public peering to MaNAP is to be rehomed to Telecity Manchester and additional 1Gbit/s capacity will be provided from there.

External JANET traffic (Gbit/s)
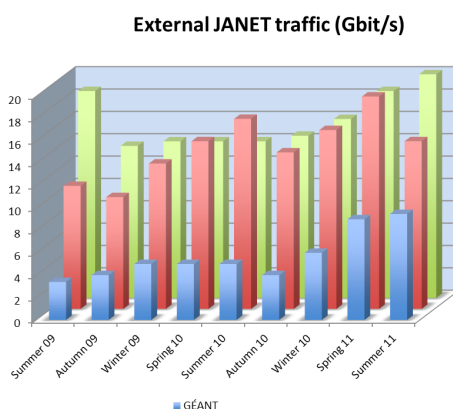
2. IP SERVICES

Electronic Mail Services

JANET Web Mail [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. The service currently has 20 active recorded clients.

One site joined the service during the reporting period. There are a total of 25 sites using the service.

JANET Videoconferencing [more information]

To date, there are 7,720 users and 6,860 venues registered to use JANET Videoconferencing. During the last quarter this service was used for 4,679 videoconferences which took place over 7,155 hours. The number of conferences is comparable with the same period last year, with a downward trend towards the end of the summer term.
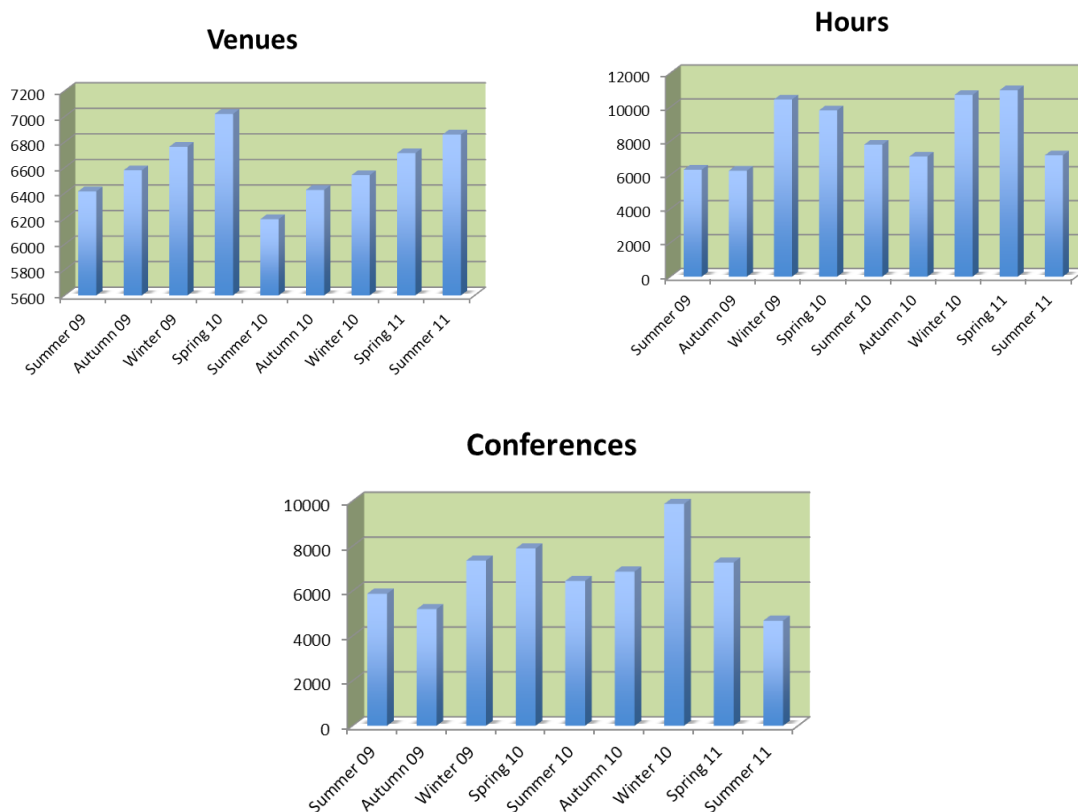
Online briefing [more information]

Community awareness of the JANET Videoconferencing service was enhanced when 65 participants attended an online briefing given by the Videoconferencing team on 9 June. The briefing covered how to register and book a conference using JANET Videoconferencing - through either a dedicated videoconferencing suite, or by using the desktop facility. Participants were given the opportunity to ask questions during the session. These ranged from issues relating to interoperability and the availability of a desktop client across operating systems, to queries about recording formats and processes. It was a very useful session and we hope this type of briefing can be repeated to promote other services available to the JANET community.

Conference management

Users can now be nominated to control a conference live following the addition of new features to the booking service. This means that some of the more common issues can be fixed from a laptop during the live conference. It is possible to use live thumbnail pictures to identify each site, or to mute the audio or video from sites individually. During the conference there is also the facility to change the screen layout for all sites, and also to add or remove sites.

It is also much easier to add telephone guests as JANET can now email them a number to call into a conference. Dial-in guests are provided with a conference PIN either to dial with the Conference address or to enter once they are connected to a holding page. It is no longer necessary to tell JANET the IP address or E.164 number of guest participants to a conference if they are dialling in.

## New JANET Videoconferencing Desktop Client

A new software PC client is being evaluated to replace the current version of JANET Desktop. This will offer improved functionality and greater reliability, and will allow users who access the Internet via a proxy to utilise this service.

Access Grid [more information]

The Access Grid® is an advanced videoconference system for people to meet in a virtual venue to use audio and video tools and other shared applications such as presentation software. The AGSC manages a range of facilities to support the use of Access Grid, including virtual venue services and bridging services. It also provides help, advice, guidance and training on deploying, using and managing Access Grid technologies.

To date, there are 784 registered users and 444 nodes. During the last quarter (May-July) this service was used for 1,435 sessions which took place over 1270 hours.

The graph below shows the total number of Access Grid conferences for the past twelve months.
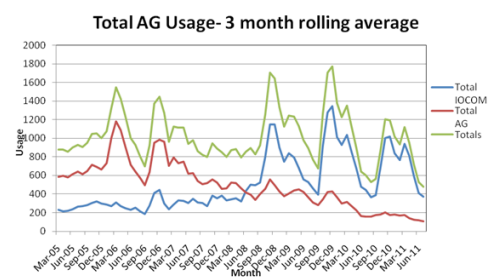
Relocation of Access Grid Support

The relocation of all support to the Edinburgh support centre took place as of 1 August. Thanks must go to Martin Turner, Fiona Cook and their team who have delivered a smooth transition to the support team at Edinburgh. The final handover, after training sessions, of support lines has been completed including transference of phone and email correspondence routes.

IOCOM Visimeet [more information]

In addition to the existing collaborative product from IOCOM, from 1 August an updated version called IOCOM Visimeet is available. This is an enhanced collaborative tool which offers interoperability with H.323 video, SIP and Access Grid technologies, featuring presence, chat, desktop or application sharing, and recording. The service is run from a server on the core JANET network, which enables JANET(UK) to offer a secure, reliable service to the community.

MAGIC [more information]

The phase 2 contract for MAGIC, which runs a wide range of postgraduate-level lecture courses in mathematics using Access Grid videoconferencing technology, has been agreed with the EPSRC research council in the form of a five year extension. A consortium of 19 universities is being put into place. MAGIC has held 8-900 sessions in the past two years, which accounts for 17% of Access Grid usage.

Nameserver services

JANET(UK) is responsible for the administration and registration of ac.uk and gov.uk domain names. This includes setting policy and guidelines and approving ac.uk domains, as well as the name submission and registration procedures for both ac.uk and gov.uk domains.

Primary Nameserver Service [more information]

The operation of nameservers and maintenance of DNS information is an essential infrastructure activity. JANET can provide a basic primary nameserver service for smaller or less experienced customer organisations that do not have the resources to perform one themselves. Staff and resources are freed for other functions and the service is run for your organisation by a technically experienced third party

Two more organisations registered during the reporting period to use the JANET Primary Nameserver service. There are now a total of 125 users of the service of which 116 are reportable to the JISC.

Secondary Nameserver Service [more information]

The service provides an off-site nameserver as a backup to the primary nameservers at JANET-connected organisations. It is available to all organisations with a JANET Primary Connection.

There have been no breaks of service within this quarterly period. At the end of this reporting period the number of organisations using this service had increased to 533.

Off-site Resolver Service [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). A guaranteed resolver service means that an organisation's website will always be readable even if for some reason the organisation is unavailable, and the service is handled on the organisation's behalf by experienced staff.

Seven sites joined during the reporting period, taking the total number of users up to 131 of which 113 are reportable to the JISC.

Roaming Service [more information]

The eduroam service offered by JANET gives users network logon and Internet access at any eduroam-enabled site using their own username and password. Visitors to JANET sites experience quick, simply authenticated and secure access to the JANET-connected guest network services provided by the visited organisation and, at minimal cost, participating organisations can offer secure JANET-connected guest network services.

Uptake continues to be satisfying, with participating organisations now numbering 145. A new peak of nearly 57,000 uniquely identified devices using the service were counted during July, reflecting an ever increasing population of users benefitting from eduroam, whether in term or outside.

During this quarter the robustness of the infrastructure was improved to prevent service degradation by poorly performing RADIUS servers at participating organisations. The national RADIUS servers have also been upgraded to operate in multi-threading mode. These measures became necessary because of the relentless increase in the authentication traffic being handled by the service.

A flowchart has been released to help technical support staff troubleshoot their RADIUS implementations and the new 'Implementing eduroam at your Organisation' training course has proved to be a great success; all sessions have been fully booked.

Following a pre-conference eduroam audit and service enhancement, eduroam performed flawlessly at Networkshop. Of particular note is the fact that RADIUS authentication traffic between Hertfordshire and the national RADIUS proxy servers was transported by RADSEC – a more secure form of RADIUS over TLS and TCP. RADSEC uses TCP rather than RADIUS's original UDP which means that the reliability of RADIUS communications is improved, and added benefits include encryption of the username and the elimination of the possibility of spoofing the RADIUS server handling authentication traffic. As RADSEC becomes more widely supported by RADIUS platforms, JANET(UK) will make the option of using it available to a wider range of eduroam participants in the UK.

UK Access Management Federation [more information]

The federation provides a framework for organisations in the education and research sector to allow controlled access to licensed material and network-based resources, while also protecting personal data associated with their users.

Membership of the UK federation

At the end of July there were 876 members in the UK federation, made up of organisations from UK education sectors and of commercial organisations providing online services to these sectors.

Web based services

Web hosting service [more information]

The JANET Web Hosting service provides space on central web servers for JANET customer organisations with primary connections that do not have the resources to support hosting themselves.

Three sites joined the service during the reporting period and a few elected to be removed, bringing the total number of sites using the service to 75.

Web filtering service [more information]

The JANET Web Filtering service provides 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.

One organisation joined the service and several organisations that were not actively using the service were removed. A few organisations have elected to have two filtering accounts. There are currently 71 individual organisations using the service.

Network Time Service

The JANET Network Time Service delivers a stable time reference to customer organisations so 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 services such as distributed file systems.

Five more sites registered to use the JANET NTP service during the reporting period. There are a total of 276 sites using the service. Overall, it is a stable and well-used service.

3. SERVICES

Connection Services Administration

JANET(UK) administers 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.

Requests for new or enhanced JANET connections should be made via the JANET Service Desk.

A list of all primary sites connected to JANET may be found at: www.ja.net/services/janet-sites/ For information regarding current upgrades or connections, please contact JANET Service Desk at: connect@ja.net or service@ja.net.

Domain Name Service Administration

JANET(UK) is responsible for the administration and registration of domain names under the ac.uk and gov. uk domains.
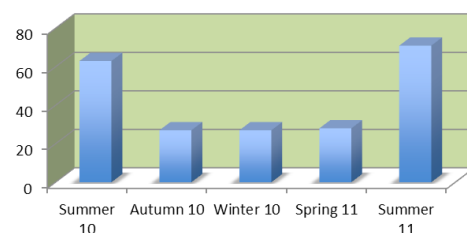
During the reporting period a total number of 494 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 71 per month, with an average of 93 modifications for each month.

Figures in all three categories follow the usual pattern of a dip during the winter quarter, which includes a very quiet period leading up to Christmas, the week between Christmas and New Year, and even the first week or so of January. Figures for the summer period are generally expected to be high as many organisations take the opportunity given by the summer break to update infrastructure and make changes to their networks that would not otherwise be simple to do under normal operating conditions.
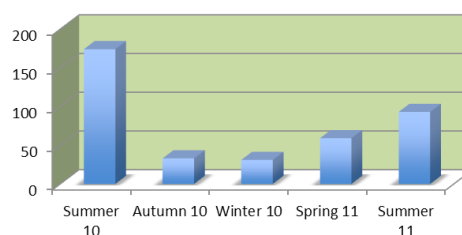
Requests for new or modified domain name registrations
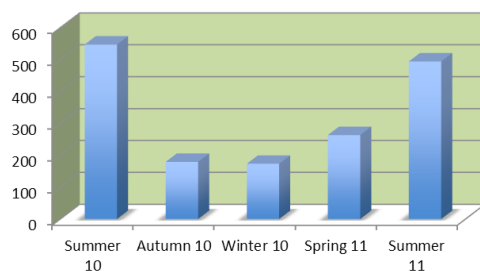
Average Rate of Monthly Applications for new Domain Names

Averate rate of Monthly Applications for Modified Domain Names

IP Address Assignment

Every organisation that wishes to send and receive e-mail, or gain access to the Internet, needs a globally unique address known as an IP address. JANET provides IP addresses for use with a Primary or Sponsored connection.

During the reporting period, 26 applications were received and completed, including 10 applications for IPv6 address space.

JANET Certificate Service [more information]

The JANET Certificate Service provides a rapid certificate issuing system for all .ac.uk and gov.uk domains, along with the ability to monitor and manage new certificates that are issued.

By the end of this reporting period a total of 14,438 certificates had been issued under the new automated system, which is an increase of 2,698 since the last quarterly report. Take-up is expected to continue at this rate as more organisations begin to use this free system, and as certificates acquired under the old system expire and need replacing.

Certificates issues by JANET Certificate Service
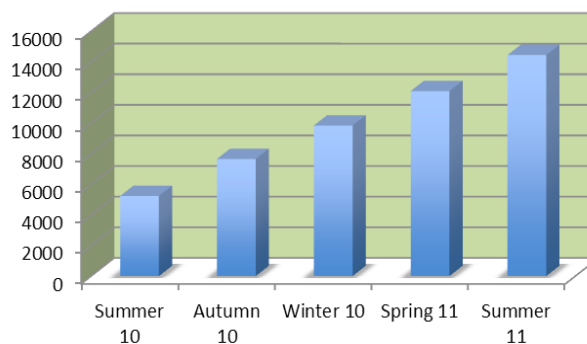
JANET Service Desk [more information]

JANET Service Desk provides the primary point of contact for all enquiries concerning JANET services and requests for information. Any requests or enquiries can be sent to: service@ja.net.

During this reporting period the total number of enquiries received was 2,029. Most of these queries related to the Domain Name registration service, requests for JANET connections, and applications or queries relating to other JANET services.

Two complaints were received. Dialogue has remained open for one of these complaints during this reporting period

Technology Advisory Services [more information]

VTAS [more information]

The Radvision Scopia VC240 evaluation report has been published on the web site.

The Lifesize LG Executive desktop system is currently being evaluated and the Avermedia AVerComm H300 will be evaluated in week commencing 26 September. A lot of interest has already been expressed in this low cost system and in seeing how it performs.

The following echo cancellation equipment was evaluated and details published on the web site in the last quarter:

- Yamaha PJP-10UR

- Spreed USB conference speaker microphone

- US Robotics USB Internet speakerphone

The echo cancellation evaluations are particularly useful in assisting organisations on low budgets to participate in videoconferences, without the need for room equipment.

The full set of echo cancellation products has been marked out of 35 according to set-up procedure, value for money and connectivity, and includes helpful comments like 'suitable for 1-8 people in a small room.'

Evaluation reports for echo cancellation equipment and room systems can be seen under 'Product Evaluations' on the service home page.

WTAS [more information]

During the last quarter two short papers were published on the web site:

- Guide to surveying buildings for wireless networks

- Deployment issues in making the transition from 802.11a/g to 802.11n

These can be viewed on the service home page.

Training

Sixteen courses were delivered in this period, with delegate feedback remaining consistently high.

In July, demonstrating JANET(UK)'s commitment to maintain the highest of industry training standards and continually develop courses to meet customer needs, JANET Training was awarded Learning and Development Provider Accreditation by the prestigious IITT for its range of training courses. The team were particularly commended on the high quality learning materials produced, and the thorough development and review procedures for courses. Our accreditation project is continuing with looking at learner accreditation options for individual courses.

The course schedule for 2012 is currently under development and all course details are available at www.ja.net/training.

4. SECURITY & REGULATION

CSIRT [more information]

In conjunction with members of the security services at Reading University and the University of Oxford, CSIRT held a very successful web cast event pertinent to Intrusion Detection Systems and their use. As mentioned in the last quarter's report to the community, the webcast events are proving to be a very successful and well supported method of sharing information and engaging in discussion with minimum disruption to the working day for most participants.

The May to July quarter has seen the usual levels of scanning for vulnerabilities in systems and password management, with numbers of reported compromised systems remaining at a fairly steady level.

Reports of potential copyright infringements remain at a lower figure than previous months, which follows the normal season trend for this time of the year.

Security, Regulation and Policy [more information]

Two new laws relevant to JANET have come into force, on cookies and unintentional interception. Both appear to create problems of interpretation. In future users will have to give consent before cookies are stored in their web browsers but it is not clear what form that consent might take, while the actions that might constitute "unintentional interception" are also unclear. A new interpretation of interception of stored communications has been suggested which would remove the distinction between the treatment of read and unread e-mails. Articles on the possible effect of these changes have been published on the JANET Legal and Regulatory Blog.

While amending the Defamation Act, the Ministry of Justice has consulted on whether current law on the liability of intermediaries is satisfactory. JANET(UK)'s response pointed out that the law is not clear whether web hosts can check content provided by third parties (including students) without acquiring liability for them. Recent UK and EU cases appear to have narrowed the scope for such self-policing significantly. We also asked that any new rules on dealing with complaints of defamation or other civil wrongs should take into account that universities and colleges – unlike ISPs – are required to balance complaints against their statutory duty to promote free speech.

Discussions have also taken place with Ofcom on deployment of DNSSec and with Nominet on dealing with domains that are involved in criminal activity. A report on approaches to enforcing copyright law online has been published by the Internet Society. Projects have begun on legal issues around sharing of information between incident response teams (with ENISA and TERENA's CSIRT Task Force) and on approaches to attribute release among federated access management systems (with eduGAIN and REFEDs). A paper comparing the European Data Protection Directive and the US Family Education Rights and Privacy Act has been published by TERENA.

An invited talk to Swedish University CIOs on security issues of cloud computing and a plenary talk on NREN communities were given at the TERENA Networking Conference. JANET(UK)'s course on Computers, Privacy and the Law was presented twice, in Oxford and Manchester, and the course on Managing IT Security three times, in Manchester and Newcastle.

Information about all these activities can be found on the Legal and Regulatory Blog.

5. DEVELOPMENT

Project Moonshot [more information]

Almost all of the core software components of the Moonshot software architecture are now complete. This has permitted some successful testing of the technology between organisations across the JANET RADIUS infrastructure.

The standardisation process is proceeding on schedule. The project participated in a number of working group meetings at the 81st IETF meeting in Quebec City. Interest in the technology within the IETF community remains high; the project was highlighted by the Internet Society as one of the 'hot topics' for IETF 81, and the meetings were very well attended.

The project continues to reach out to potential user communities. The e-Science community is showing particular interest, as demonstrated by a well-attended workshop in July to discuss the suitability of the Moonshot technology for their use cases. The e-Science community confirmed that the technology seems to meet its needs and a number of sites volunteered to participate in testing.

Planning has started for a Technical Pilot with the goal of better understanding the operational and deployment implications of the technology. This pilot is expected to start in October.

Roaming & Mobility [more information]

802.1X Supplicant [more information]

With the imminent release of version 3.0, the objectives of JANET(UK)'s engagement with the OpenSEA Alliance have been met; namely, the availability of a fully featured supplicant that runs on current releases of the major operating systems and covers the principal education use cases. Therefore, JANET(UK) will not be renewing its participation in the Alliance in future.

DOT1X Special Interest Group

The 802.1X SIG continues to guide JANET(UK) strategy in a complex and rapidly-evolving technology area. Group membership has remained stable over the last quarter, and the meetings have been reconstituted to be held at participant campuses rather than in a fixed London venue in order to share the travel load of attendance.

eduroam Development [more information]

eduroam continues to be the strategic route to the delivery of a mobile broadband experience to the JANET community. Designs for a pilot extension to the service to the NHS have been completed and numerous other projects are in progress. The overall goals of the eduroam programme are to address increased reliability, a further improved user experience, and broadening coverage and eligibility to participate.

Network Access [more information]

Mobile Broadband

JANET 3G is now live and available to the JANET community. The service offers 3G data SIMs in various contract and 'pay as you use' options, and may be bundled with dongle and MiFi hardware.

Southampton Group Design Project – porting of eduroam application

> The 11/12 GDP activity will focus on porting the iOS eduroam companion applications to other platforms, and structuring the code to be amenable to wider community contributions.

Network Engineering [more information]

IPv6

> JANET(UK) has organised an IPv6 workshop, to be held at Loughborough University on 7 December. This workshop is intended for ICT technical staff and will deal with the options, procedures, problems and pitfalls for deploying IPv6 at JANET-connected organisation sites. A speaker has been confirmed from Microsoft who will be presenting their IPv6 support roadmap.

> In addition, we are in the process of arranging an IPv6 online briefing for senior ICT managers/ directors to discuss the business need for IPv6 deployment. This briefing will last 20-30 minutes and the date is being finalised. It will probably occur sometime in late October or November.

Automated Provisioning

> JANET(UK) is continuing to investigate solutions for enabling automated provisioning of network capacity in dynamic response to both short- and long-lived requests from the JANET community.

> The first production release of the Autobahn provisioning system has been installed and debugged on the JANET local testbed, built on Juniper switches with the help from Autobahn developers. The next step will be trialling of Autobahn with Juniper Technology Proxy, locally initially and then in the multi-domain environment with the GÉANT Bandwidth on Demand trial partners.

Video [more information]

Ultra High Definition [more information]

> The final Lightpath for this project has been given approval and is currently on schedule to be ordered and tested. This will allow all three sites across the UK to stream and receive Ultra High Definition content. Discussions for the showcasing of this technology are also underway, and should provide an exciting demonstration.

> Collaboration with the BBC and NHK is progressing, with JANET(UK) currently looking into infrastructure for BBC selected locations. Testing between the BBC and NHK is also continuing, with JANET's help, in the run-up to the 2012 Olympics.

Content Providers [more information]

> JANET(UK) has produced a document on Supporting Video Content Development which describes several new areas of activity towards the development of the use of national and international videoconferencing. A successful pilot on creating international videoconference partnerships between schools in London and New York was promoted at the Internet2 conference and numerous new US contacts were gathered for future partnerships.

Videoconferencing [more information]

> JANET(UK) has developed the JANET Videoconferencing Booking Service in three areas in the last reporting period:

> - Significant improvements have been designed, produced and launched to increase password security for all users of the Booking Service.

- The SIP Trial has been completed and has been launched as a service feature, enabling users to register SIP endpoints and dial SIP endpoints.

- A Desktop Video review has produced a second stage report of 26 Desktop video clients, including testing on mobile devices. The final report will include an investigation of the two solutions to enable Skype interoperability for JANET videoconferences (The Skystone Bridge and Blue Jeans Networks).

Measurement & Monitoring [more information]

Capacity Planning Tool

The Strategic Technologies department is designing and developing a new Capacity Planning Tool to be used by the Network Projects and Planning Group. The system architecture, hardware design and specification were finalised in the previous quarter. The hardware has arrived and is currently being installed by NOC engineers.

Flow Monitoring

The previous quarter saw the commencement of an investigation into the feasibility of capturing unsampled flow data at the network edges rather than relying on highly sampled data from the backbone routers. Capturing unsampled flow data would be extremely beneficial in terms of intrusion/threat detection and traffic analysis. Since this strategy could well involve enabling flow exporting on customer equipment, JANET(UK) is looking into the possibility of providing a traffic reporting service to JANET-connected organisations as part of that agreement.

Support for Research [more information]

JANET Aurora [more information]

Discussions between all interested parties continue into August 2011 regarding future funding of the JANET Aurora facility.

Optical Networks [more information]

Technology Tracking

Ethernet transport service monitoring and assurance technologies have been investigated, in particular those described in ITU-T Y.1731 'OAM functions and mechanisms for Ethernet based networks' and ITU-T Y.1564 'Ethernet service activation test methodology'.

The investigation of Y.1731 technology had been carried out by using Y.1731 probe switches from Overture and CyPortal software from Cyan Optics. CyPortal is a cloud-based web service that allows visualisation of throughput and performance Y.1731 data. The trial is being conducted in the context of the GEANT JRA1 Task1 Ethernet OAM activity and involves other four NRENs. It is described in more detail in the section on European Activities.

Meetings with several vendors were organised to trial the new Y.1564 methodology. The lab trial of SunRise TxR tester, which supports Y.1564, was carried out in August; the results will be reported.

Carrier Ethernet [more information]

The Carrier Ethernet project has concluded. All project reports will be made publicly available on the JANET website in due course.

6. COMMUNITY UPDATE

Documentation

Documents published between May-July 2011

Services	[Services booklet 2011](#)

East of England

JANET had a presence at a number of events run by the Association of Colleges, JISC Regional Support Centres in the East Midlands and Eastern England during this quarter.

Scotland

JANET(UK) has been working with customers and FaTMAN to gather their requirements for networking within the Fife and Tayside area. A procurement was launched in June and the approved supplier should be announced in August.

The first JANET Scotland Briefing day was held in the University of Edinburgh on 9 June 2011, attracting 65 delegates on the day with a further 15 joining via videostreaming. There were keynote speeches from Mark Toole, (University of Stirling, member of the JISC Infrastructure and Resources Committee), Bob Day (Chief Technology Officer from JANET(UK)), Dan Perry (Head, Strategic Business from JANET(UK)), Shirley Wood (Head of Customer Services from JANET(UK)), Stuart Campbell (from Learning and Teaching Scotland), and David Beards (Scottish Funding Council).

Topics covered in this event included networking in Scotland, business and community engagement, data centre and cloud services brokerage, and an update on the backbone upgrade. This event received favourable feedback and it is hoped that we can build on this and make this an annual occurrence.

A new national body, Education Scotland, came into being on 1 July 2011, responsible for supporting quality and improvement in learning and teaching from early years to adult and community learning. It brings the expertise of Learning and Teaching Scotland together with Her Majesty's Inspectors of Education in Scotland.

The JISC RSC Scotland was launched on 1 August, providing a single RSC service across Scotland. Up until now, the JISC RSC service in Scotland has been provided out of two separate centres within the central belt; one hosted by Edinburgh's Telford College and serving the North and East of Scotland, and one hosted by the University of Glasgow serving the South and West. This new RSC Scotland service is renewed for a further period of three years, following consultation with the sector and a competitive tender held within the sector.

The Higher Education Information Directors Scotland (HEIDS) group has recently completed a feasibility study into the greater adoption of IT shared services in Scotland. This SFC-funded study resulted in the publication of a report on Above Campus IT Services for Universities and Colleges. HEIDS hopes that this report will take forward the development of shared services in Scotland but also help to inform the discussions on the evolution of shared IT services in the sector in the UK as a whole.

Another eagerly awaited report published in July was the "Review of ICT Infrastructure in the Public Sector in Scotland" by John McClelland CBE, Chair of the Scottish Funding Council which reviewed the strategic management of investment in Scottish public sector information and

communication technology infrastructure, reporting on how best to deliver improved value for money and support multi-agency working and shared services.

Scotland briefing day

JANET held a successful briefing day for customers in Scotland at the University of Edinburgh. Mark Toole, University of Stirling, began the day looking at the challenges facing the education and research community in Scotland as well as the rest of the UK. Talks on progress with the JANET upgrade, business and community engagement, data centre brokerage, regional and public sector networks and the Scottish PSN ensured that the delegates received a wealth of information. The day finished with an update on Scottish Funding Council activities by David Beards. Feedback from the event has been positive and plans are in progress for a more technical event in Glasgow later in the year.

Northern Ireland

JANET(UK) exhibited at the LSDA NI Annual Conference held in May in Armagh. The theme for the 2011 conference was 'Tools for Organisational Improvement', recognising that these are difficult times for both the public and private sector, and the importance of finding innovative solutions to help make the most out of available resources.

The conference attracted a large number of delegates, mainly from further education colleges within Northern Ireland, but also from Scotland, Wales and England. The delegates heard presentations by speakers from South West College, Westminster Kingsway College, the Institute of Leadership and Management, the OECD, BT Global Services and Microsoft Ireland.

West Midlands and South West

At meetings with IT staff at universities, further education colleges, local authorities and other JANET-connected organisations, the Customer Engagement Manager discussed future requirements for bandwidth and the need for resilient connections. Discussions also centred around JANET services, whether full use was being made of all the services being offered, and how JANET can meet the needs of the areas represented. These have been fed back to JANET(UK).

South East

The Customer Engagement Manager has continued to be involved in the KentMAN/KPSN project and the SE7 group of councils, as well as new engagements with Oxfordshire County Council, Buckinghamshire County Council, and Windsor & Maidenhead Council.

A great deal of interest continues to be shown in the JANET(UK) BCE developments, the JANET Brokerage service and the JANET 3G service.

London

The Customer Engagement Manager for London was appointed on 1 March 2011 and has undertaken a range of customer visits in order to gather requirements for the network and services, as well as help to inform a customer engagement strategy for the region.

With the successful migration of the London network to the JANET infrastructure, the Customer Engagement Manager has been talking to representatives of established groups concerned with network services within the London community with a view to finding ways in which JANET(UK) can be involved to aid their work. As a result of this work invitations have been received to join

groups representing all sectors, including IT Director and technical group forums, and Sixth Form College IT Managers.

Thirty delegates from the community attended a Customer Networking Event for our London customers on 11 August and received updates on future strategy for the London network, business and community engagement and the JANET Brokerage service. The delegates also had the opportunity to hear from Raghu Vydyanath, Director of ISS at London Metropolitan University.

The feedback from the event was very positive, with many calling for more similar events in the future. The Customer Engagement Manager will continue to work with the community over the provision of timely and appropriate events and activities.

Network User Groups

The SWERN User Group met on 25 May at the University of the West of England and was well attended. A major subject for discussion was the procurement of a new SWERN network, to come into service in early 2012 with all connections to be moved by July 2012.

The South East User Group met on 7 June at 100 Grays Inn Road. The meeting began with a talk on CSIRT activities by James Davis which generated a great deal of discussion.

NHS/HE Connectivity Project [more information]

N3 JANET Gateway Phase II

This project is now fully underway. Updates to the various deliverables are:

Baseline (Deliverable) 1: bi-directional service, to support inbound sessions initiated by users in JANET accessing services on N3

Deliverable 2 (sharing/ exchange of information between computers in NHS and academic networks initiated in either direction) is looking at a possible SSL VPN solution at the Gateway: a technical design is being developed.

Deliverable 3 (integrate the NHS (N3) and academic (JANET) video services (England)): the scope of this is currently being reviewed for some proof of concept tests. It is also noted that the new N3 videoconference service is due to allow guests "from the internet" to join conferences soon.

Deliverable 4 (secure e-mail or wider secure data transfer solution between the NHS and academic networks): three main options have been identified and these will be explored further through the development of a proof of concept proposal.

Deliverable 5 (support for eduroam in NHS networks): implementation of proof of concept testing is expected to be complete in November.

Deliverable 6 (federated access to web based resources in a pilot community): a proof of concept proposal is under development.

NHS-HE Connectivity Best Practice Working Group

The working group is preparing case studies and example policies and procedures from local NHS-HE connectivity initiatives. It hopes to release the first set of resources in early October 2011.

NHS-HE Forum

The next NHS-HE Forum is on 29 November 2011 in London. A Scotland NHS-HE Forum is taking place before that on 20 September 2011 at Edinburgh University.

Schools

Connectivity

The NEN Services Group continues to work closely with the Customer Engagement team and a number of NEN Providers to explore new approaches to regional networking.

The NEN has provided valuable input in the pilot and subsequent launch of the JANET Certificate Service to schools, and during the transition of the UK Access Management Federation operation to JISC Collections.

Videoconferencing

Schools have continued to benefit from the variety of conferences and content available through JANET. Over 2,250 videoconferences were undertaken this quarter of which the majority (1,533) continue to be for teaching, tutorials and related educational activities. Other purposes include administrative meetings, system testing and quality assurance.

There were approximately 1,100 conferences using national content providers and there have been some additions to the content provider portfolio. The British Library is in the process of being included as a content provider, as is Enable-Me, an organisation working with disabled people. This is so that schools can make contacts with the Enable Me project (www.enablemeproject. org.uk/). JANET is loaning some videoconferencing equipment to the project for a period of three months.

The Natural History Museum has taken part in a videoconference with various schools. A video of this event is at: webmedia.company.ja.net/content/flash/shared/captivate/jvcs_ naturalhistorymuseum/jvcs_naturalhistorymuseum.htm

By the end of July 2011 JANET Videoconferencing had managed almost 55,600 school videoconferences and the total number of schools sector endpoints registered was over 4,600, as compared with just over 4,300 at the end of July 2010.

The graph below shows the number of videoconferences by purpose, and how the use has grown and changed over the years.
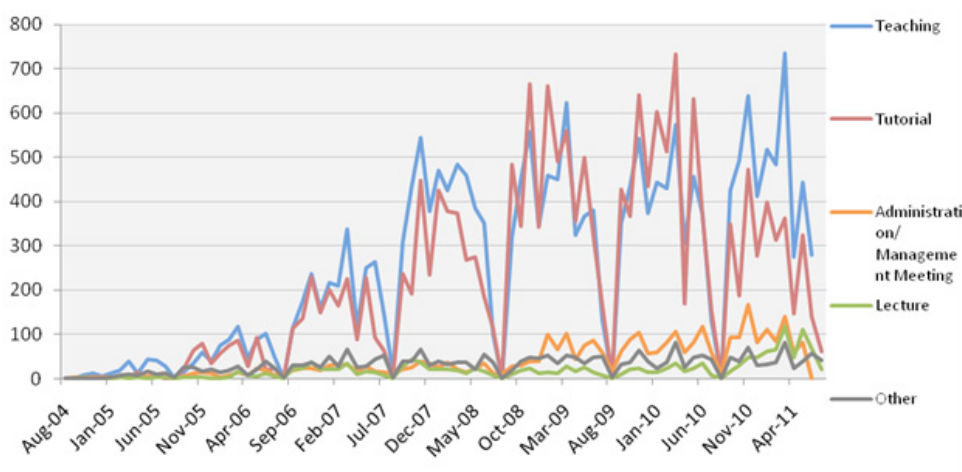
7. EUROPEAN ACTIVITIES

GÉANT3 activity

(a) TF-Mobility & Network Middleware

We are working within TF-MNM to encourage a widening of eligibility for eduroam participation, to encompass publicly funded bodies (government and health) and charitable organisations.

(b) GÉANT 3 - Service Activity 3 Leadership

The GÉANT eduGAIN service reached production status in this reporting period, following a successful pilot service in the preceding six months in which 13 of the 19 eligible federations within the GÉANT service area participated (the target was 5 federations). The pilot federations are now transitioning across to the production service; this process is likely to be complete by the end of the following quarter. Development work will continue to extend the scope of the service, primarily to the e-Science communities and other internal GÉANT services. The service is becoming of significant and growing interest to NRENs and other stakeholders, both within the GÉANT service area and in other world regions.

The GÉANT eduPKI service reached production status in the preceding report period, but uptake of its first product (the 'eduroam Trust Profile') only began in this period. The eduPKI Task has also made good progress in defining the requirements of other potential customers within the project, including GÉANT's Multi-Domain Network Services (within SA2) and the GÉANT eduGAIN service.

The eduCONF Task was reconstituted in this reporting period with the objective of implementing the service described in the eduCONF Business Case, which was approved in the preceding reporting quarter. Most of the effort in this period was directed towards recruitment and planning. The GÉANT eduroam service continued production operations. The task continues to be focused primarily on the ongoing enhancements to the monitoring service, and the development of the planned service policy update.

The SA3 Tasks joined JRA3 at a joint workshop hosted by the Foundation for National Scientific Computing (FCCN) in June. This provided an opportunity for face-to-face discussions around a number of important issues. The implications of the European data protection directive continued to generate a considerable amount of discussion within the eduGAIN Task. The project obtained the services of a lawyer specialising in European data protection law. While there are still no clear answers, this has nonetheless been useful: it seems increasingly likely that a reasonable strategy for moving forwards will be found.

(c) GÉANT 3 - JRA1 Task 1 "Carrier Class Transport Network Technologies"

Trials of the carrier class transport network technologies have been carried out by NRENs contributing into the JRA1 Task1. JANET(UK) is leading the Ethernet OAM trial for which the multi-domain testbed consisting of six sites were created. These sites are: Lumen House (JANET), Essex University (JANET), Prague (CESNET), Amsterdam (SURFnet), Copenhagen (NORDUnet), and Poznan (PSNC). Connections between sites were established and monitored using Overture ISG24 switches as Y.1731 probes. CyPortal software from Cyan Optics was used to visualise Y.1731 data collected from ISG24 probes. The results of the testing of the basic Y.1731 functions of IDSG24 probes and CyPortal were positive; more sophisticated features will be tested in August-September 2011.

TERENA General Assembly

The TERENA General Assembly was hosted by CESNET in Prague on 19 and 20 May. Pierre Bruyère was elected President of TERENA for a three-year term of office, succeeding Janne Kanner, who had decided not to run for re-election. Marko Bonač was elected to serve as Treasurer for the remaining year of Pierre Bruyère's original term. Agathoclis Stylianou was re-elected as a member at large of the TERENA Executive Committee for a second three-year term of office.

Guest speaker Claudio Allocchio described how GARR (the Italian NREN) offers services to special user communities such as the arts and medical sectors, and works with those sectors to develop new applications. On the second day, Lars Skogan gave a summary of joint procurements of hardware, software and services for Norwegian universities that have been organised by UNINETT, while Jan Bakker (SURFdiensten) presented how his organisation procures software and other products for researchers, teachers and students in the Dutch education sector. These presentations generated significant discussion in the meeting.

Janne Kanner gave an overview of the most important results of a community satisfaction survey that was carried out by the TERENA Secretariat towards the end of 2010. The response rate had been high, and the survey showed an overwhelming positive appreciation by the community of all of TERENA's activities.

The full agenda of the GA meeting and slides of the presentations can be found at www.terena. org/about/ga/ga35/GA35info.html.

TERENA Networking Conference [more information]

The TERENA Networking Conference 2011 was hosted by CESNET in Prague on 16-19 May. The event set a number of records: it brought together 525 conference participants and featured 129 speakers in 32 conference sessions, with a record number of side meetings, workshops, BoF sessions and demonstrations. The streaming of the conference received more than 8,000 visits from 56 countries. The WLAN/eduroam provision at the conference counted more than 10,000 successful authentications from almost 900 different devices.

The full programme of the conference, including the agendas of the side meetings as well as recordings and slides of the presentations in the conference sessions can be found on the conference website.

8. FURTHER INFORMATION

JANET(UK) manages the operation and development of JANET, the United Kingdom's education and research network, on behalf of the combined UK Higher and Further Education Funding Councils represented by JISC (Joint Information Systems Committee).

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 07.00 to 23.59 Monday to Friday, with voicemail available for calls outside these hours or if staff are temporarily unable to answer a call.

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