janet

Quarterly Report to the Community
November 2011–January 2012

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Key news in this report

- Janet is one of the many European and international eduroam operators to sign up to the global eduroam Compliance Statement. *See page 8.*

- The announcement that Janet is one of the funding channels for projects benefiting from the multi-million pound e-infrastructure investment package has led to an increase in applications and pre-applications for lightpath projects. *See page 12.*

- Janet-connected education and research organisations can access voice services without the need to purchase additional bandwidth. *See page 13.*

- Janet has begun a project investigating the area of platform assurance as a means of providing increased security and integrity for networks, and is currently gauging the FE/HE community's level of interest. *See page 15.*

2. CORE NETWORK

Connections

This reporting period has seen a total of 23 new or enhanced customer connections completed and brought into use:

Further Education

New

Esher College

Furness College

Lewisham College, Deptford Campus

Milton Keynes College, University Centre

New College Swindon

Modified

City of Wolverhampton College

Hertford Regional College

The College of West Anglia, King's Lynn Campus

The National Centre for Young People with Epilepsy × 2

Higher Education

New

Cardiff University

University of Oxford, The Kennedy Institute of Rheumatology

Modified

London Metropolitan University, Holloway Road

Royal College of Art

University of Wales, Newport

Research Councils

New

Natural Environment Research Council, Space Geodesy Facility

Modified

Natural Environment Research Council, British Geological Survey, Gilmerton

Natural Environment Research Council, Polaris House

Self-funded

New

The Quality Assurance Agency for Higher Education

Modified

Blackburn with Darwen Borough Council, North West Learning Grid

Leeds City Council, Learning Network

Royal Borough of Windsor and Maidenhead, York Stream House

Stockport Metropolitan Borough Council, North West Learning Grid
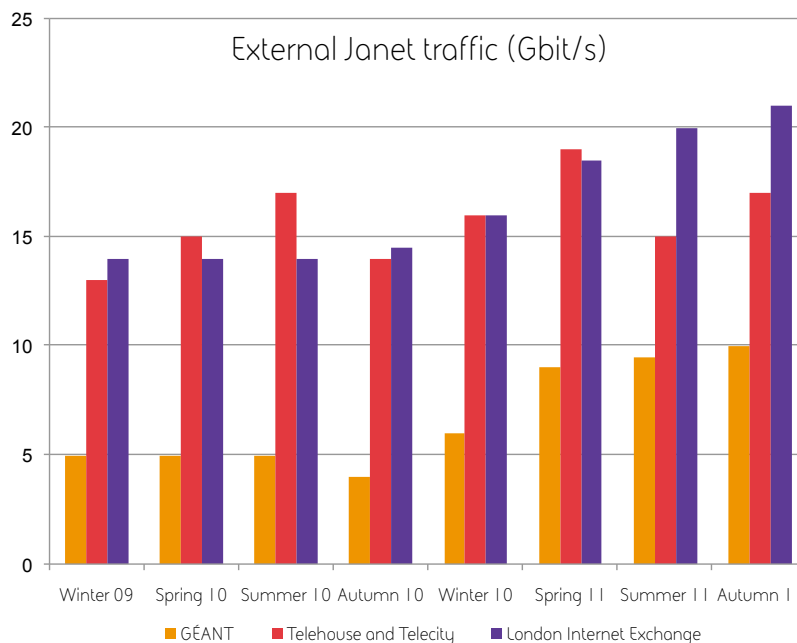
Further Education (FE)

Procurement has completed of a new network infrastructure in the south west of England, and of the network infrastructure in Fife and Tayside. In both cases new access circuits are being delivered to colleges for deployment in summer 2012.

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.

All aggregated external traffic peaked around 90Gbit/s this quarter. Peak traffic to the European Research Network was over 11Gbit/s; peak traffic to the global Internet was around 20Gbit/s; and peak traffic to the UK's internet exchanges was around 22Gbit/s.

A new public peering to IXLeeds has been established and Janet also had a number of private peerings with other networks. Details of Janet external connectivity can be viewed on http://www.ja.net/company/external-connectivity.html.


External Janet traffic (Gbit/s)

GÉANT · Telehouse and Telecity · London Internet Exchange

3. IP SERVICES

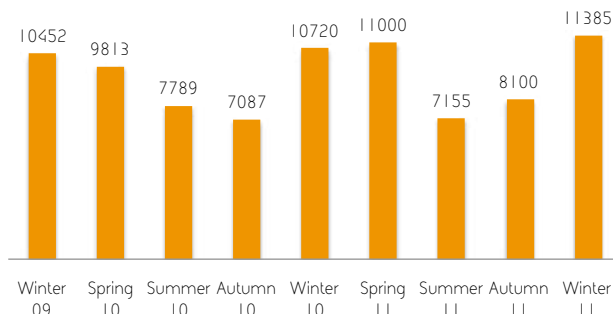## Janet Videoconferencing (more information)

The number of registered users continues to grow, with a total of 8,235 users and 7,115 venues now registered to use Janet Videoconferencing. During the last quarter this service was used for 7,239 videoconferences which took place over 11,385 hours. This marks an increase of over 35% in the number of conferences over the previous quarter, even though the latest quarter included the Christmas holidays.
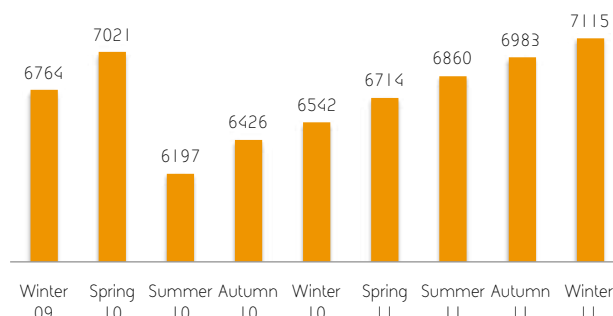
Conferences
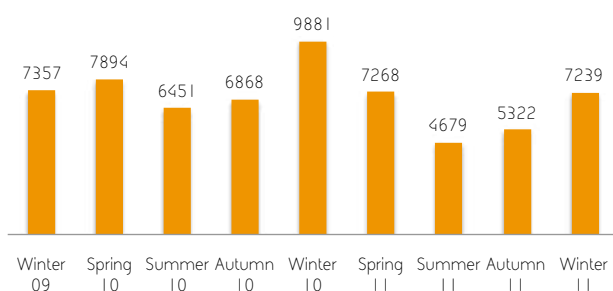
Note: Janet changed the way in which it analyses videoconferencing sessions – from Spring 2011, all QA sessions were removed from the calculation which were previously artificially inflating the figure.

Winter 09	Spring 10	Summer 10	Autumn 10	Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
7357	7894	6451	6868	9881	7268	4679	5322	7239

Hours

Winter 09	Spring 10	Summer 10	Autumn 10	Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
10452	9813	7789	7087	10720	11000	7155	8100	11385

Venues

Winter 09	Spring 10	Summer 10	Autumn 10	Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
6764	7021	6197	6426	6542	6714	6860	6983	7115

Videoconferencing User Group Meeting, 8–9 December

This event was held over one and a half days at Ravensbourne, London. On the first day a number of suppliers of videoconferencing equipment formed a small exhibition in the foyer of the venue. The sessions were streamed over Janet Videoconferencing. The event also hosted an Awards Ceremony, which was presented by Vanessa Pittard from the Department of Education. To see the presentations from the day, and the deserving award winners, visit: http://www.ja.net/services/events/2011/vcuser/details.html.

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 Access Grid Support Centre (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.

There are now 821 registered users of Access Grid and 295 nodes, from 98 organisations representing the Higher Education and research community. During the last quarter this service was used for 425 booked sessions – a marked increase on the previous quarter, despite the Christmas holidays. In addition, many conferences were held over EVO (3,531 meetings) and IOCOM (2,925 meetings).

To show the diversity of Access Grid, subject matter and groups taking part include particle physicists, an algebra seminar, and conferences discussing topics such as 'Our place in the universe', biodiversity, and nanoscience. This is in addition to the interviews and regular management meetings.

The graph below shows the trends in the total number of conferences for AG Collaboration which have taken place during the past years.

Total AG Usage - 3 month rolling average
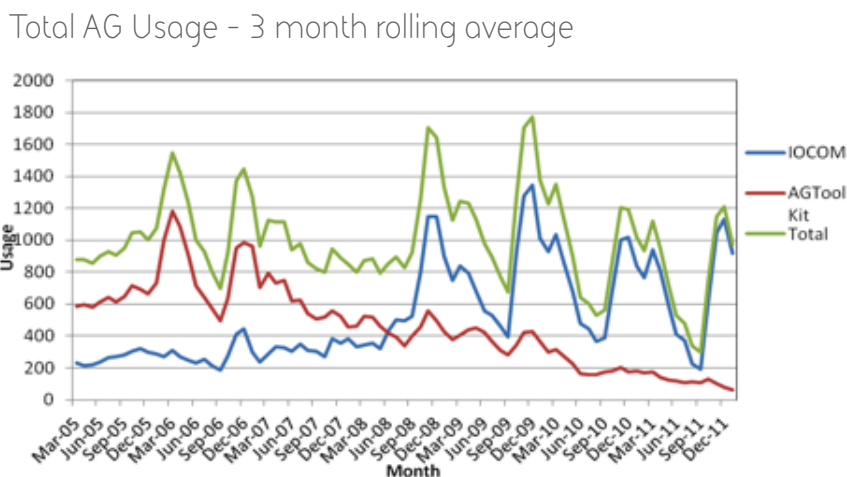
Nameserver services

Janet 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

Five more organisations registered during the reporting period to use the Janet Primary Nameserver service. There are now a total of 137 users of the service of which 125 are reportable to 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 remained at 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. A guaranteed resolver service means that an organisation's website will always be readable even if the organisation is unavailable, and the service is handled on the organisation's behalf by experienced staff.

Five sites joined during the reporting period, taking the total number of users up to 134 of which 120 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.

Usage and uptake of the service continues to be satisfying, with participating organisations now numbering 169. During January a return to the pre-Christmas levels of inter-institution roaming by users was seen, reflecting an ever increasing population of users benefitting from eduroam whether in term time or during vacations.

Technical news this quarter includes an upgrade of the national RADIUS servers to Radiator 4.9, and further enhancements to the Support Server that enable administrators at participating organisations to have greater control over their RADIUS server peering with the national Janet proxy servers.

eduroam Compliance Statement

In November and December 2011, the national eduroam operators (ROs) in Australia, Canada, Japan and the United States and the confederation of national ROs in Europe signed a statement of compliance with technical and organisational eduroam standards. The eduroam Compliance Statement, which was finalised by the Global eduroam Governance Committee earlier in the year, opens up the opportunity for further geographic expansion of eduroam while maintaining a high and consistent standard of service. Authorisation by the GeGC to operate the eduroam service is dependent on compliance with these standards. The GeGC is now seeking further signatures from ROs, in Asia, Africa and Latin America. In order to ensure interoperability between eduroam regions, all eduroam ROs will be notified when organisations sign the statement and are officially recognised as ROs by the GeGC, or if there are any changes in service. They will also be consulted by the GeGC about any future developments or changes in the standards.

The GeGC currently comprises seven senior representatives of ROs in North America, Asia-Pacific and Europe. GeGC members are appointed by TERENA on the basis of nominations from their regional confederation or regional groups of ROs.

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.

Two sites joined during the reporting period and two elected to be removed as their organisations had developed to the point of no longer requiring the service, bringing the total number of sites using the service to 76.

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.

One more site registered to use the Janet NTP service during the reporting period, making a total of 278 sites using the service. Overall, the service is stable and well-used.

4. BROKERAGE

Much of this quarter was spent developing a cloud and data centre procurement framework that will identify eight of the world s leading cloud suppliers who can best serve the needs of the Janet community. It will save institutions time and money by carrying out a large amount of procurement work on their behalf.

Janet Brokerage and Eduserv came together to offer a free year of cloud computing to one lucky research bidder back in Autumn 2011. The competition received wide-spread online coverage and was awarded to a student from the University of Oxford looking at exploiting the information available in tweets.

A series of online briefings aimed at giving institutions on the network the information they need to move their institutions to the cloud were well attended throughout the quarter. Topics included the role of Janet Brokerage, cloud email, cloud security and institutional considerations for moving to cloud. Following the positive feedback from the briefings, the Brokerage team will shortly be announcing a new series of bi-monthly online cloud briefings to continue to inform the community on developments.

5. SERVICES

Connection Services Administration

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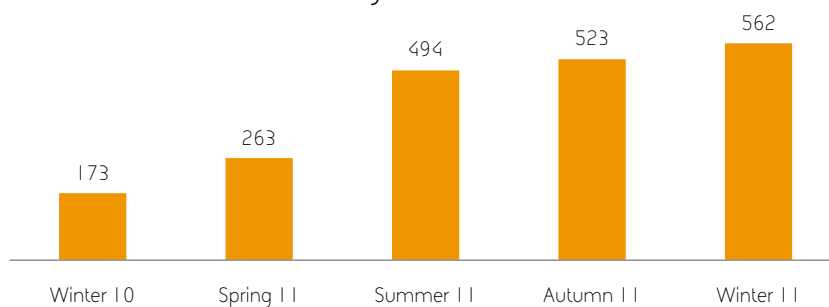
Requests for new or enhanced Janet connections should be made via the Janet Service Desk.

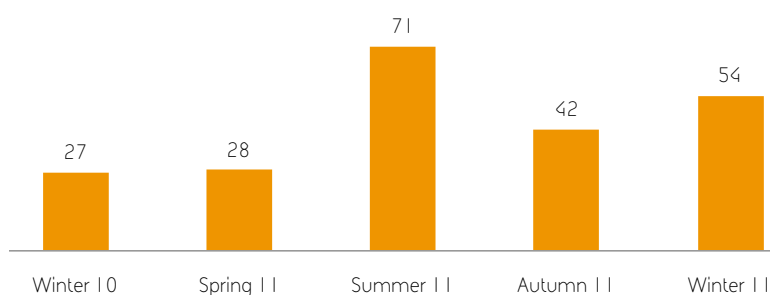### Domain Name Service Administration

Janet 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 562 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 54 per month, with an average of 134 modifications for each month.

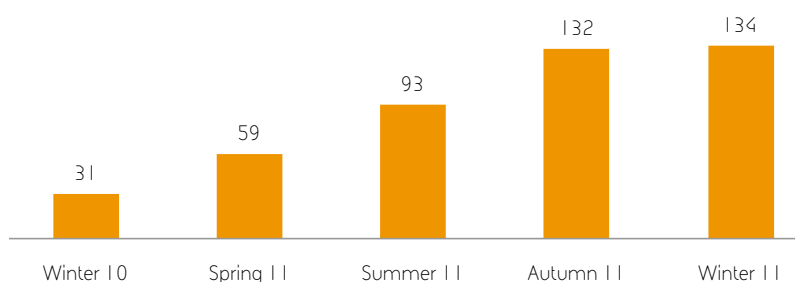**Requests for new or modified domain name registrations**

Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
173	263	494	523	562

Average rate of monthly applications for new domain names

Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
27	28	71	42	54

Average rate of monthly applications for modified domain names

Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
31	59	93	132	134

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.

Fifteen applications were completed and received during the reporting period, including one application 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 19,246 certificates had been issued under the new automated system, which is an increase of 2,222 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 issued by Janet Certificate Service

Winter 10	Spring 11	Summer 11	Autumn 11	Winter 11
9,836	12,085	14,438	17,024	19,246
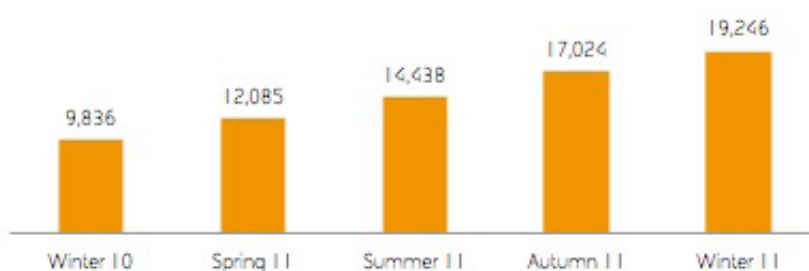
Janet Lightpath (more information)

Janet Lightpath is a centrally managed service that helps support large research projects on the Janet network by providing end-to-end connectivity. It includes the UKLight service for fine-grained circuit provision and extends it to include whole wavelengths across the Janet optical transmission infrastructure. The service is available to any eligible organisation with a primary connection to Janet, subject to capacity and budget considerations.

The announcement that Janet is one of the funding channels for projects benefiting from the multi-million pound e-infrastructure investment package has led to an increase in applications and pre-applications for lightpath projects since the latter part of the last quarter of 2011. This trend is expected to continue into the next quarter. Since November 2011 Janet has received 14 new enquiries for either 1Gbit/s or 10Gbit/s lightpaths compared with the receipt of nine enquiries in the previous six months.

This quarter has also seen the provision of two out of the three GEYSERS (Generalised Architecture for Dynamic Infrastructure Services) 1Gbit/s lightpaths from the University of Essex to Poland and the Netherlands (the third, yet to be provisioned, is to Spain). This is an EU-funded project. GEYSERS' vision is to provide a new architecture to optical infrastructure providers and network operators to enhance their traditional business operations.

Additionally the University of Edinburgh has a follow-up project, PRACE, reusing the 10Gbit/s lightpath from the now superceded DEISA project. PRACE is the European Research Infrastructure, part funded by the European Union, which provides Europe-wide access to leading edge High Performance Computing (HPC) resources. Its purpose is to enable scientific discovery across a broad spectrum of science and technology, by enhancing and reinforcing European HPC capabilities.

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 a total of 1,811 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.

Five complaints were received and three were successfully resolved to customer satisfaction, dialogue has remained open for two of these complaints during this reporting period.

Technology Advisory Services (more information)

Video Technology Advisory Service (more information)

The Polycom HDX 4500 codec has been evaluated and the results are published on the web site at: http://www.ja.net/services/video/vtas/productevaluations/. This is a high definition videoconferencing system which supports variable resolutions up to a maximum of 1920 x 1080 pixels (1080p) at 30fps or 1280 x 720 pixels (720p) at 60fps.

Wireless Technology Advisory Service (more information)

A short document is in preparation providing information about the new wireless standards 802.11u and 802.11ac. 802.11u is important for eduroam whilst 802.11ac will provide high throughput WLANs in the 5GHz band.

Voice Advisory Service (more information)

Gamma has connected with the Janet network to offer SIP trunking, giving Janet-connected education and research organisations the ability to access voice services without the need to purchase additional bandwidth.

Oxford University Computing Services (OUCS) has created a resilient voice services network with InTechnology. The case study is available at: http://www.intechnology.co.uk/Documents/CaseStudies/university-of-oxford-case-study.pdf.

Training (more information)

Fifteen courses were held in this period, with 141 delegates. Ninety-seven percent of delegate feedback scores read 'good' or 'excellent'.

New dates have been added to the training course schedule, which is available on the Janet website. We have also recently added two new venues, in Southampton and Nottingham.

A new course, 'Virtualisation and Cloud Computing', will have its first run prior to Networkshop on 2 April at The University of York, when we will also be running the Chief Regulatory Adviser's 'Computers, Privacy and the Law'. To support those looking to deploy eduroam we are running 'Free radius de-mystified' as a pre-conference seminar. We hope to re-use the material after the event for wider dissemination.

Our programme of online briefings has continued with the IPv6 briefing, which was well attended. The format and style of the online briefings has been very successful and we are developing these to deliver more online events and training. A series of Cloud Computing briefings are planned for February and March. We would be most interested in any other topics that customers would like to see covered.

During January we began implementing a programme of trainer support and performance assessment. This is to support our Janet Trainers to ensure that we maintain the highest standards of effective course delivery for the community.

6. SECURITY & REGULATION

CSIRT (more information)

The servers of STRATFOR, a US-based company, were hacked over the Christmas period. Around 1,500 Janet users had their subscription account details compromised and Janet CSIRT has worked with nominated security contacts at Janet sites to inform and assist users affected.

There was a slight increase in the amount of compromised systems detected through incident handling investigations at the start of this quarter, rising to a significant increase in the latter part of the period. This is most likely due to users of infected systems returning from the festive break.

The usual issues of scanning for insecure systems and general vulnerabilities remain at their normal level, with copyright complaints also remaining fairly settled.

Janet CSIRT, 10 November

The Janet CSIRT conference was held on 10 November at One Wimpole Street in London. 77 delegates attended and listened to a stimulating and varied set of talks from leading experts and practitioners in the field of computer security. Some of the presentations can be found at: http://www.ja.net/services/events/2011/janet-csirt-conference/programme.html.

Security, Regulation and Policy (more information)

Significant legal developments this quarter have included new guidance on cookies published by the UK Information Commissioner and the publication of a proposed new European Data Protection law by the European Commission.

The cookie guidance is more detailed than has previously been available and includes several helpful examples of how websites can be made compliant with the new law, which will be enforced from May 2012. Ideas on what this means for HE and FE websites have been discussed at a Janet workshop in Aberdeen and an HE/FE Records Managers meeting in London. The new Data Protection law would help Janet services including access management and incident response; however, most commentators think it unlikely that it will be adopted in its present form because of the burdens it places on businesses. Discussions of both issues are published on Janet's Legal and Regulatory blog.

Although the Government seems to have made no progress on implementing the Digital Economy Act, a set of template responses to copyright complaints have been prepared in collaboration with UCISA's Networking Group. We hope these will be useful to both Janet customer organisations and rightsholders in further reducing the level of copyright infringement on Janet.

Janet's course on 'Computers, Privacy and the Law' was presented in Cambridge, and the Chief Regulatory Adviser was invited to participate in workshops on federated services by the Internet Society and information sharing by the Portuguese National Research and Education Network (FCCN).

7. DEVELOPMENT

Trusted computing (more information)

Janet has started to investigate the area of platform assurance as a means of providing increased security and integrity for networks. We are currently gauging the FE/HE community's level of interest to see if institutions are planning or have implemented any of the following:

- use of Network Access Control (NAC) software, systems, and standards – for example Trusted Network Connect (TNC) – to enable posture assessment of devices (checking patch levels, A/V status, etc) to help inform network access decisions within an organisation
- use of Federated TNC or equivalent to further enable such NAC across organisational boundaries
- use of Trusted Platform Modules (TPM) or equivalent for multi-factor authentication
- provable hardware – use of TPM or equivalent to ensure only authorised devices can access the network
- any other techniques or use cases related to platform assurance that exist within the community.

A summary of responses will be available shortly.

Janet is also participating in the EURIM Trusted Computing sub-group which is looking to produce:

- procurement guidelines for public sector bodies such that endpoint devices can be purchased to a defined standard which will enable the TPM to be utilised
- device registration guidelines which will support the accreditation of endpoint devices that are already deployed as well as those to be purchased or connected in the future
- device authentication and attestation guidelines for the assuring devices which connect to systems.

Network Access (more information)

Mobile Broadband
The product offering under the Janet 3G umbrella has broadened slightly to increase flexibility for the community and speed of delivery in some cases. In addition to the eduroam-authenticated, home organisation IP original version, it now offers SIM products on a variety of plans without the tie to eduroam and/or with a provider-supplied IP. These options allow service delivery to sites in transition onto the eduroam service or where local IP resource is unavailable.

Southampton Group Design Project
The Android port of the eduroam companion app, the 11/12 GDP project, has elicited a lot of community interest and has been accepted as the topic for a paper at this year's TERENA Networking Conference.

Network Engineering (more information)

IPv6

During November an IPv6 online briefing for IT directors and managers was held to discuss the situation with IPv4 address depletion and the way forward with IPv6, including suitable deployment strategy. The briefing was well attended with 79 participants.

The Janet IPv6 Deployment Workshop was held at Loughborough University in December. This workshop brought together ICT technical staff from the Janet community to discuss the options, procedures, problems and pitfalls for deploying IPv6 at Janet-connected organisation sites. There were presentations from Janet, Microsoft, the University of Cambridge, the School of Oriental and African Studies and 6UK plus breakout sessions to discuss specific deployment areas. Judging from the event feedback, the event was widely appreciated by the 43 participants. Presentations can be found at: http://www.ja.net/services/events/2011/ipv6/programme.html.

An article entitled 'Spotlight on IPv6' was published in the January issue (issue 17) of Janet News. This article details the importance of deploying IPv6 now that IPv4 address depletion is a reality and provides recommendations for implementing an IPv6 deployment strategy.

Automated Provisioning

Janet is continuing to investigate solutions for enabling automated provisioning of network capacity in dynamic response to both short- and long-lived connection requests from the Janet community.

The first production release of the Autobahn provisioning system has been installed and tested successfully on the Janet local testbed with the help from Autobahn developers. As part of the GEANT Bandwidth on Demand pilot, we have now successfully scheduled and configured connections in an automated fashion between hosts in Janet and GRNET. Some user traffic is being prevented from being received correctly and we are troubleshooting this with other pilot partners.

Telephony (more information)

Telephony Requirements Gathering

Following discussions to ascertain community requirements for SIP trunking – a VoIP and streaming media service based on the Session Initiation Protocol – and general telephony services, Janet has realised a number of key requirements. There is a clear need to migrate toward SIP Trunking, reducing reliance on expensive and fixed ISDN circuits. In the short term this is to facilitate BCP and disaster recovery but in the longer term full migration is seen as having potential. Janet sites are clearly seeking to reduce their telephony call charge spend, in particular in the most cost disproportionate area of fixed-to-mobile call charges. Janet is in the process of understanding how it can respond to meet these requirements.

Ultra High Definition (more information)

The remaining infrastructure elements have been installed. Testing between Glasgow, Essex and Cardiff continues as part of the UHD Showcase project. The BBC/SHV project continues with more connectivity testing within the UK and to Japan. The uncompressed footage from the SHV project is to be streamed via a Janet Aurora connection to the University of Essex during the Olympic Games.

Content Providers (more information)

Janet has been working on a new content provider website that will be more dynamic and which teachers will find easier to search for content. It is intended that the website will replace the current static pages during early 2012.

Those wishing to be kept up to date with new content providers and new/upcoming sessions can now follow @JanetVCContent.

Videoconferencing (more information)

The Skype to Janet Videoconferencing interoperability project is progressing. BlueJeans Networks solutions has been selected as the likely candidate to project Skype and Google Talk interoperation. Work to integrate the functionality with the Janet Videoconferencing Booking Service is now underway.

Measurement & Monitoring (more information)

Capacity Planning Tool

The Strategic Technologies division is designing and developing a new Capacity Planning Tool to be used by the Network Projects and Planning Group. The first prototype system was demonstrated to project stakeholders in December. The tool is currently able to monitor and report on all core links plus the EastERN regional network.

Flow Monitoring

We have been investigating the feasibility of installing a traffic analysis system that can scale to handle 100% of Janet's flow data. A one-hour snapshot of the traffic flows throughout the Janet network has been taken and is being used to test out various engineering possibilities.

Support for Research (more information)

There has been a great deal of activity within the community following the announcement of the e-Infrastructure funding from BIS late last year. The Research Councils have been soliciting for project proposals from their communities, and those selected for funding are now running procurements to obtain equipment and resources by the end of March.

Many members of the community have also been asking Janet about increased network capacity in the form of either an augmented IP service or lightpaths.

Janet Aurora (more information)

The National Physical Laboratory has shown interest in establishing a direct connection to the Aurora infrastructure to support its ongoing R&D collaborations with university colleagues.

Janet Lightpath (more information)

The e-Infrastructure initiative noted above has produced an unprecedented number of lightpath enquiries across a range of disciplines from Climate & Weather to Bioinformatics and Physics. Some of these have required preparation of budgetary costings prior to acceptance and placement of formal service requests, while others are still maturing as discussions continue to understand the capacity requirements.

8. COMMUNITY UPDATE

Documentation

Documents published between November 2011–January 2012	
Services	IPv6 Technical Summary for Network Managers
Newsletters	Janet News, January 2012
Information	Janet: More Than a National Infrastructure

East Midlands & East of England

Meetings were held with the Universities of Leicester, Nottingham, Nottingham Trent and Derby, and with EMUIT (the IT Task Group of the East Midlands Universities Association). Two meetings were held with all the FE colleges as well as individual college visits being made.

Local authorities in the East of England are engaging with Janet's Strategic Technologies division to look more closely at the options for creating a regional PSN. The requirements for the regional network continue to be articulated and will feed into the reprocurement of the network now underway.

Research projects at Leicester University – DIRAC and BRISSkit – are considering how best to provide 10G connections for routing large data sets between the university and other sites, and a possible shared service agenda.

A number of colleges are now requesting resilient links and recognising that the Janet connection has become business critical.

Scotland

Janet was represented at Scotland's Colleges event in November, where Mark Toole (University of Stirling) presented the findings of the HEIDS Shared Services Report to the FE community. It is hoped that HEIs and FECs can collaborate in areas of common interest.

Twenty-four delegates attended the Fife and Tayside Region briefing in Dundee on 16 November and listened to a range of talks from Janet staff about the future of networking in the area. The slides can be viewed at: http://www.ja.net/services/events/2011/FifeTaysideBriefing/programme.html.

The Customer Engagement Manager gave a talk to a group of independent schools in Edinburgh who had expressed an interest in connecting to Janet.

The new RSC for Scotland held its first Technical Forum in January. This meeting was very well-attended and a great deal of discussion took place. The Customer Engagement Manager provided the group with an update on Janet activities.

The second Janet Aberdeen Technical Briefing was held in Aberdeen in January. We were fortunate to have speakers from both Aberdeen and Robert Gordon Universities (talking on the North East Shared Service Data Centre), together with Andrew Cormack (giving a regulatory update), Ged Powell (giving a Janet Brokerage update) and Frances Neilson (giving a Janet update). We received very positive feedback from the delegates, which encourages us to hold this event on an annual basis. The programme can be viewed on the web at: http://www.ja.net/services/events/2012/aberdeen_technical/programme.html.

Following the Technical Briefing, several representatives from HEIs in Scotland had a very productive and informative meeting with Ged Powell from Janet Brokerage.

Janet is progressing with the new network for the Fife and Tayside area.

West Midlands and South West
The Customer Engagement Manager has maintained his visit schedule to universities, further education colleges, local authorities, other Janet-connected organisations and those with interest in a potential Janet connection in the South West and West Midlands. At meetings with IT staff on the visit schedule he discussed current and future requirements for bandwidth and the need for resilient connections. Some discussions also took place around the expanding needs of research at the larger universities. Considerable interest was shown in the future data centre and cloud services brokerage service. There was also increased interest in eduroam. A new Janet-connected SIP trunking provider also aroused a lot of interest.

South East
Meetings continue with the universities, colleges, local authorities and specialist organisations in the region discussing Janet developments, future requirements for customers and Janet services. Consistent themes from both HE and FE are demands for greater bandwidth, and available options for affordable resilient connections. A great deal of interest continues to be shown in Janet's BCE developments, with customers taking varied approaches to their BCE activities. The Janet Brokerage service continues to attract interest and many customers are waiting for products and services to be announced following the procurement process. There is also consistent praise for the Janet Service Desk and the Janet Certificate Service.

London
Janet has engaged with key organisations within London regarding the Government's e-research infrastructure policy and the network capacity requirements this places on our customers.

The Customer Engagement Manager continues to engage with organisations and groups within the region, and was invited to speak to the RSC in December and to join meetings for both the London Metropolitan Network Ltd Board and the London IT Directors group.

North East and Yorkshire and Humber
The Customer Engagement Manager has conducted a number of introductory visits to universities, further education colleges, local authorities and specialist colleges across both the North East and Yorkshire and Humber regions. Attendance has also been made at the AoC, SOCITM and Sixth Form College conferences. During customer meetings the recurrent themes for both HE and FE have been the need for increased bandwidth and arrangements for resilient connections. A number of colleges are now requesting information on how to meet their emerging requirements well in advance – a sign perhaps of the task IT managers face internally to negotiate budgets in the current environment.

Wales

Paul Bevan has joined Janet as Customer Engagement Manager for Wales, from his previous role as Head of ICT at the National Library of Wales. Prior to this, he worked as a Project Manager within the National Library on a range of ICT projects following the completion of his doctoral research on the Social Construction of the Web. Paul is arranging introductory meetings with Janet customers across the country over the coming months and can be contacted at paul. bevan@ja.net or on +44 (0)1235 822310.

Network User Groups

Janet attended the South East User Group on 9 November, where Bob Franklin from the University of Cambridge gave a presentation on 'IPv6 Progress at Cambridge', and the SWERN User Group on 25 January, where Gamma Technology gave a presentation on the recent third party agreement with Janet on the use of SIP technology. At both meetings Janet staff updated the attendees on the latest Janet service updates.

NHS/HE Connectivity Project (more information)

N3 Janet Gateway Phase II

This project is currently totally focused on agreeing an appropriate Information Governance model for bidirectional access between N3 (the NHS network in England and Scotland) and Janet.

There was however some progress on IP-based videoconferencing between N3 and Janet, as a new IP internet guest facility in the N3 Managed Videoconferencing Service has been piloted successfully by the Guys and St Thomas' Hospitals NHS Foundation Trust. The trust was able to videoconference for example with KCL's King's Health Partners Academic Health Science Centre, and also internationally with Harvard.

NHS-HE Connectivity Best Practice Working Group

The first set of resources for the best Practice Working Group was launched at the most recent NHS-HE Forum by Working Group Chair Mark Blakeman, Director of Informatics at University Hospital of South Manchester NHS Foundation Trust.

NHS-HE Forum

The latest NHS-HE Forum took place on 29 November 2011 in London. The presentations are available at http://www. nhs-he.org.uk/forum/29-11-11/29-11-11.html. The Forum included news of two new projects by the UCL Partners AHSC to create an Identifiable Data Handling Solution and a UCL Partners Network, and of the BRISSkit (Biomedical Research Infrastructure Software Service) project which includes open source software and cloud features.

The next NHS-HE Forum will be on 30 May in London.

Schools

Following discussions with the Department for Education and the NEN, the Department for Education has confirmed funding of the Janet network for Sixth Form Colleges and schools for 2012–2014. As part of this agreement Janet will fund the school sector membership of the UK Access Management Federation for this period, including development and associated activities.

Janet has worked with the NEN Technical Strategy Group to define an initial set of development and outreach requirements. The NEN will develop a business case/benefits document for schools' use of the federation, reflecting on schools' use of it so far and future needs. Janet will assist with this at a strategic level.

Videoconferencing

Over 2,927 school videoconferences were undertaken this quarter, which included the Christmas break, making over 60,580 school videoconferences since August 2004. Of these, most continue to be for teaching, tutorials and related educational activities; other purposes include administrative meetings, and system testing. Over 4,690 schools sector endpoints were registered by the end of January, as compared with just over 4,480 at the end of January 2011.

It is planned that the work being done to improve the Janet Videoconferencing Desktop client (see main Videoconferencing report) will enable more schools to use this facility.

Case studies:

1. Saving money and time on CPD

Using videoconferencing, Engayne Primary School in the London Borough of Havering has saved over £4,500 in just one year in CPD (continuing professional development) costs – specifically, travel (2,700 miles) and supply cover (66 hours of teaching time). For the full article please see: http://www.vcfl.net/2011/03/primary-school-uses-vc-to-save-time-and.html.

2. Teaching shortage specialist subjects to post 16 year olds

Dunraven School in the London Borough of Lambeth uses distance learning courses via videoconferencing to widen its curriculum and offer new opportunities for post-16 students, saving the cost of employing an experienced, shortage subject teacher to deliver the same course in the same period. To read the case study in full, please see: http://www.vcfl.net/2011/07/using-video-conferencing-to-teach.html.

9. EUROPEAN ACTIVITIES

GÉANT3 activity

During this quarter the GÉANT eduPKI, eduroam and eduGAIN services operated without significant issues; the GÉANT WebCONF service began pilot operations; and the GÉANT eduGAIN service grew to 16 participating federations (from ten in the previous reporting quarter), of the 20 operated by NRENs within the GÉANT service area. In addition, the first non-European federation, the Brazilian federation, joined the service.

(a) TF-Mobility & Network Middleware

Janet's engagement with TF-MNM is widening. At the last meeting we reported on Moonshot, on the location awareness work stream (the eduroam companion app), the GEANT mobile connectivity feasibility analysis and Janet 3G.

(b) GÉANT 3 - Service Activity 3 Leadership

The Identity & Access Management Development Manager has been appointed product manager of a GEANT mobile connectivity feasibility analysis, with a view to building a case for a pan-European mobility service.

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

Janet led two of JRA1 Task 1s recently finished transport technologies trials: the Ethernet OAM trial and the PBB-TE trial. The trial reports are under development and will be submitted to the GEANT3 Board in March 2012.

TERENA General Assembly

The next meeting of the TERENA General Assembly will take place on 24–25 May 2012.

TERENA Networking Conference (more information)

The TERENA Networking Conference 2012 will take place in Reykjavik, Iceland on 21–24 May. A number of Janet staff will be speaking at the conference on a variety of subjects.

10. FURTHER INFORMATION

Janet manages the operation and development of Janet, the UK's research and education 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'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.

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

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