



janet

Quarterly Report to the Community  
August – October 2012



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## Introduction to the new Quarterly Report

Since we first started to produce this report, we've seen a number of developments – from changes to existing services, to the introduction of new offerings. This new format will now reflect these changes, including information about specific services that have changed during the period. It will also include details of other services we believe will be of interest to you.

This report is for you, our community, so if you have any suggestions for future content, please do get in touch by joining the community group and leaving a comment:

<https://community.ja.net/groups/janet-quarterly-reports-community>.



## Janet connect – Connectivity

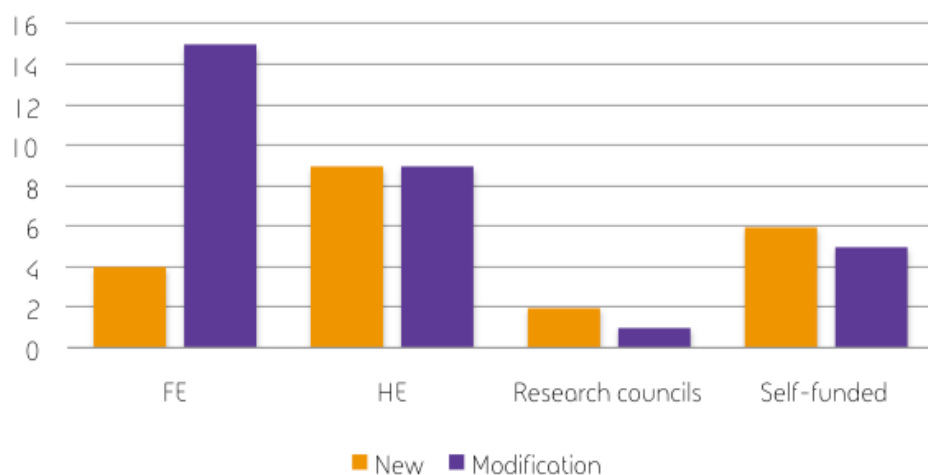


### Core Network

The Janet core network has been running reliably during the past quarter.

A total of 21 new connections have been made over this quarter, with a further 30 modifications.

### New/modified connections



For a complete list of Janet connected organisations, please visit

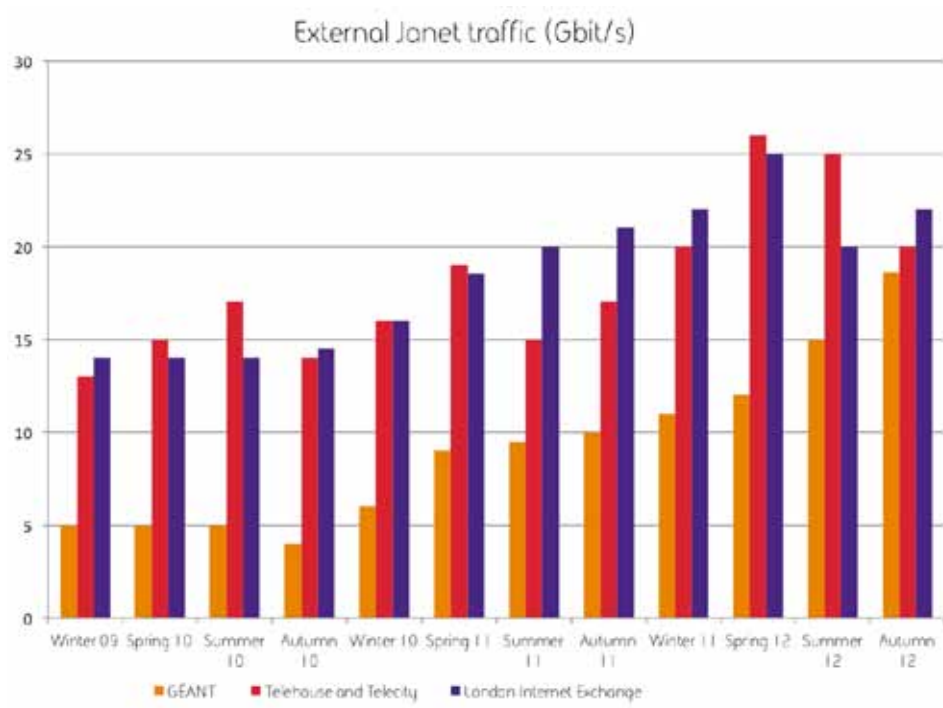
<https://community.ja.net/library/janet-services-documentation/janet-connected-sites>

### External Network Access Provision and Transmission

*Access to European Research Network* – The primary Janet access to European NREN had been upgraded from 20Gbit/s to 30Gbit/s via GEANT from the Telety R-PoP with a 20Gbit/s backup connection from the Telehouse R-PoP. Traffic load to GEANT went up to 18.6Gbit/s by the end of the quarter.

*Access to the Global Internet* – Janet’s access to the global Internet is via two global transit providers, TeliaSonera and Inteliquent, from Telehouse , Telety Harbour Exchange and Telety Manchester. Total traffic went up to 20Gbit/s by the end of the quarter.

*Access to the UK’s Internet Exchange* – Janet’s access to the UK Internet exchange is through the LINX (London Internet Exchange), via a 30Gbit/s connection from Telehouse , and Telety Harbour Exchange in London, plus a 10Gbit/s connection from Telety Manchester. There is also a 2Gbit/s public peering connection to Edge-IX in Manchester and a 1Gbit/s connection to IXLeeds in Leeds. By the end of the quarter, total traffic reached 22Gbit/s.



### Wireless Technology Advisory Service (WTAS)

*WTAS maintains a watch on technological and best practice developments and works towards quality assurance mechanisms.*

Pranay Pancholi at Loughborough University is the wireless advisor for the Wireless Technology Advisory Service. Assisted by Janet's training team, he is currently doing a screen cast to demonstrate a wireless survey using Airmagnet. Details of this will be published during the next quarter.

### Multi-site Connectivity Advisory Service (MCAS)

*This service addresses issues regarding the wide-area network (WAN) and local area network (LAN) links on the client side of the main Janet connection. Advice and guidance are available for connecting or upgrading network links between campuses and remote centres.*

A small number of enquiries for the service were received during the quarter. Enquiries have mainly been on the options for inter-site connections for organisations with multiple sites, high bandwidth local links and networking strategy following



## Janet connect – Authentication & Authorisation

### eduroam

*eduroam provides users with authenticated network logon and access to the Internet through a single Wi-Fi profile and set of credentials, wherever the service has been made available by participating organisations.*



Usage and uptake of the service continues to be satisfying, with participating organisations now numbering 205. This comprises most of the UK HE institutions and a growing range of research institutions and FE colleges. Usage of the service in the first two months of the academic year has been particularly strong, with a new record high of 147,500 devices being detected during October by the national proxies. This indicates ever greater inter-organisation roaming and an increasing population of users benefitting from eduroam whether in term time or during vacations.

Technical developments this quarter include the introduction of RadSec dynamic discovery between the national proxy servers and those of our European partner NRENs. This will lead to improvements in the performance of international authentication. We have also introduced new components in the server configuration refresh logic to improve robustness of this critical process.

### Janet Certificate Service

*SSL server certificates offer your end users some assurance about the identity of a website's host.*

Janet issued 2,776 certificates during this quarter; 27,289 certificates have been provided to the community since the automated service was launched in 2009. We expect to handle more requests over the coming months, with our customers taking advantage of the free certificates available until April 30 2013.



## Janet connect – Security

### CSIRT

*Janet CSIRT safeguards the current and future network security of Janet and of the community, monitoring and resolving any security incidents that occur on the Janet network.*

This quarter has seen an increase in 'Hactivist' groups attempting general and targeted attacks on Janet sites. Janet CSIRT has been able to assist those that have detected attempts to compromise systems and also been able to warn sites about potential threats.

There was also a significant increase in reported copyright infringements, as well a rise in reports of systems infected by malware.

The usual levels of scanning for vulnerable systems and weak password management continues to be a threat.

There was a very good and positive response to the survey sent to the community, attempting to identify ideas for improvement and current issues within the security services offered by Janet and CSIRT. Some potential initiatives were identified and are currently being investigated.

## Janet connect – ISP

### Primary Nameserver Service

*The operation of nameservers and maintenance of DNS information is an essential infrastructure activity that some small organisations do not have the resources to perform themselves. This service enables customers to publish and manage DNS records on a central nameserver through a secure web portal or to request Janet make changes for you.*

11 organisations registered to use the Janet Primary Nameserver service during this quarter, bringing the total number of users up to 177.

Trials are currently running for a Backup Web Hosting feature to the service allowing organisations to rapidly deploy a simple webpage to cover any potential outage periods thereby ensuring an organisations continued web presence. Three organisations have deployed the feature and have successfully deployed the feature to cover network outages.

### Domain name allocation

*Janet is responsible for the administration and registration of domain names under the ac.uk and gov.uk domains.*

During the quarter, a total number of 613 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 67 per month, with an average of 137 modifications for each month.

### IP Address assignment

*Customer with a Janet connection, can also be assigned an IP network number from the Janet allocated ranges.*

Nine applications were received and completed during the reporting period, including three applications for IPv6 address space.



## Janet collaborate



### Janet Videoconferencing Service

*The service brings people together by enabling easy communication and collaboration across the community, removing geographical barriers.*

To date, there has been continued growth in the service, with a 5% increase in the number of videoconferences taking place this quarter, compared with the same period in 2011. The service was used for 5,597 videoconferences, taking place over approximately 8,950 hours. The total number of registered users is now 8,875, with 7,523 venues registered to use Janet videoconferencing.

In October the booking service was updated to simplify the navigation and booking processes. The response by our community to the work undertaken has been positive and we hope that users will continue to find it the service easy to use.

As part of the government BIG (British Innovation Gateway), Janet is working on a project called NVI (National Virtual Incubator). The aim is to provide a number of universities (including Imperial, Cambridge, Birmingham Science Park, Ravensbourne, Greenwich) with access to the Janet videoconferencing service, to facilitate videoconferencing between start-up industry and HE. This will enable start-up companies to gain advice from the Janet community and vice versa. The videoconferencing booking service has been developed to allow an additional sector for NVI.

### Janet Video Technology Advisory Service (VTAS)

*VTAS provides unbiased technical advice on equipment and issues related to videoconferencing. The service also conducts detailed evaluations of video technology and videoconferencing products.*

The following videoconferencing desktop software products were evaluated during this quarter:

#### *IOCOM Visimeet*

IOCOM Visimeet is a fully featured desktop videoconferencing client that is capable of High Definition (HD) resolution. It offers many of the features of a stand-alone videoconferencing appliance, but on a Windows PC or Apple Mac. It is also available for iOS and Android devices. It was found to interoperate well with a number of different manufacturers' equipment (including the market leaders: CISCO, PolyCom®, and LifeSize®) and it offered a very good quality experience in every case. Read the full report at the Janet community library;

<https://community.ja.net/library/advisory-services/iocom-visimeet-janet-connected-desktop-client>



### *PolyCom Telepresence m100*

The PolyCom m100 is an excellent desktop videoconferencing client. With sufficient bandwidth and in full-screen mode, it successfully emulates an H.323 CODEC. It handles low bandwidth very well and supports a wide variety of audio and video encoding standards. The picture and audio quality were consistently of a very high standard. In the opinion of the testers, however, to call the experience Telepresence is still inaccurate as the experience is not the same as if you are in the same room as the remote caller. The full report can be found in the Janet community library:

<https://community.ja.net/library/advisory-services/polycom-telepresence-m100-videoconferencing-client>

### *VCON Vpoint HD*

VCON Vpoint HD is a very good piece of videoconferencing software. With sufficient bandwidth and in full-screen mode it successfully emulates an H.323 CODEC. It handles low bandwidth very well and supports a wide variety of audio and video encoding standards.

This standards-compliant software worked well with most other H.323 compliant endpoints that were used in the testing process. It also interoperated with the Janet Videoconferencing system and would have no problem passing a Janet quality assurance test. However, interoperability testing had mixed results. See the full report here:

<https://community.ja.net/library/advisory-services/vcon-vpoint-hd-videoconferencing-client>





## Janet futures

### Mobility Development

#### *4G RFI*

A request for information (RFI) has been issued to identify technology partners that will enable trialling of 4G technologies in UK research and education.

#### *Mobile Broadband*

The number of users of the eduroam Companion applications is continuing to grow steadily following minor updates to fix bugs and add better language support. A project proposal has also been produced, with the aim of updating and developing the eduroam Companion applications.

### Major projects

#### *Janet6*

Janet6, the next generation of the Janet infrastructure received the green light, with an initial £30m e-infrastructure investment from the UK Department for Business, Innovation and Skills (BIS) and the higher and further education funding councils.

SSE Telecoms has been awarded the contract to provide the fibre for the Janet infrastructure in the largest UK deployment of its kind, this year. The Janet6 infrastructure will be based on Ciena's 6500 packet-optical platform, equipped with WaveLogic™ Coherent Optical Processors, which will enable the network to easily scale from 100G to 400G and beyond as requirements change over time.

If you would like to find out more about Janet6, take a look at the project page of the Janet website:

<https://www.ja.net/products-services/janet-futures/janet6>

### Applications Development

#### *Video Futures*

As part of the Video Futures project, Janet launched a procurement for a Videoconference Management System to replace the existing booking service. Although the current service is a leader in the field, it is due to be replaced with a more user-focused, and cost-effective solution.

#### *Streaming Arts and Humanities Event*

The Applications Development Team managed an event in collaboration with, and hosted by, the Royal College of Music. The event was small but fully subscribed with members from across the Janet community in attendance. The key objective of the event was to demonstrate a number of technologies that can enable distance learning or performances to be delivered over a network. Many of the examples demonstrated by the team enabled stunning uncompressed audio to be delivered between NREN connected institutions. The LOLA (LOw LATency Video and Audio) demonstration attracted attention in enabling performers from the Royal College of Music and Edinburgh Napier University to play together with only 25ms delay.

Videos and presentations from the event can be found on the Janet Community site.

<https://community.ja.net/groups/arts-and-humanities/article/arts-and-humanities-streaming-workshop-videos>



### *Team news*

The Application Development team has been joined by graduate student Tom Walsh from Nottingham University. Tom will work with the team as Audio Visual Specialist for a 12-month placement, beginning in September.

## Network Infrastructure Development

### *Automated Provisioning*

We have been working with PSNC (Poznan Supercomputing and Networking Centre) to improve the Autobahn software so that VLAN IDs can be transparently swapped inside the constituent domains of an end-to-end connection request. This will allow end users to choose VLAN IDs appropriate to their own network operational practices, rather than have to support ID ranges allocated by the GEANT Bandwidth-on-Demand (BoD) service. The IDs chosen by users will be transparently mapped to BoD service IDs inside the network.

### *Capacity Planning Tool*

The Capacity Planning Tool, designed and developed within the strategic technologies team, is now being used internally by Janet to monitor link utilisations. This new tool enhances the visibility and reporting of link utilisations across the entire Janet network estate, thus helping the operations team to detect and plan for required link upgrades more efficiently.

### *Service Assurance*

A new project entitled 'Service Assurance' began in October. This 12-month project aims to develop new capabilities for our Ethernet/Lightpath services. Complementary to existing Ethernet OAM work, this project will investigate how Janet can exploit new developments such as Y.1564, Y.1731 and MPLS-TP to improve the quality and manageability of these Ethernet/Lightpath services, enabling us to meet the requirements of growing customer demands.



## Janet for research

Plans for extending the Janet fibre footprint to support additional strategic research sites have firmed up considerably. Detailed work is being undertaken to integrate provision to the following locations in a coherent way within the broader Janet6 deployment.

- The Norwich Research Park, which hosts several Bioinformatics related organisations: The Genome Analysis Centre (TGAC), The Sainsbury Laboratory (TSL), The Institute for Food Research (IFR) and the John Innes Centre. The University of East Anglia and other Janet sites in the region will also benefit directly from this work.
- The Wellcome Genome Campus at Hinxton, Cambridge, hosts two important bioinformatics research organisations – The Wellcome Trust Sanger Centre, and the European Bioinformatics Institute, which is part of the European Molecular Biology Laboratory.
- The Francis Crick Institute, which is being constructed near St Pancras in London.
- The Met Office in Exeter which is a partner with the Natural Environment Research Council and the academic community in major programmes on Atmosphere, Weather and Climate research. The University of Exeter and other Janet sites within the region will also benefit from this extension.
- The optical transmission equipment in the Thames Valley region will be upgraded to be coherent with that used for Janet6. This is an important upgrade as this part of the Janet infrastructure provides services to the STFC Rutherford Appleton Laboratory and the Universities of Oxford and Reading, all of which are involved in data-intensive science research activities.

Janet Aurora will be sustained as a platform for photonics and Optical Systems research, and this should enable the Engineering and Physical Sciences Research Council (EPSRC) to proceed with its programme of funding effort and equipment for exploiting Aurora as a dark-fibre facility for research.

Paul Lewis concluded his secondment to BIS in support of the e-Infrastructure programme in early October, and Janet has agreed to continue to fund this role through the secondment of Michael Wilson from the Science and Technology Facilities Council (STFC).

The e-Infrastructure funding has stimulated a great deal of activity within the community, and the Janet research support team has started a series of visits to the various High Performance Computing (HPC) Consortia funded through the programme. Our aim is to identify any network requirements which may go beyond the current level of provision, and also to begin to understand any academic-industry partnerships and collaborations which may need support.

This broad theme of Industry-Academia collaboration is an important element of the e-Infrastructure programme, and is likely to need a significant amount of work by all involved before its implications begin to be better understood.

## Janet Lightpath

During this quarter we received one new application for a new 1 Gbit/s provision of a lightpath from the University of Leeds, which was approved. The University of Leeds will be performing climate simulations covering 25 years in the past and 25 years into the future with the aim of providing, for the first time, statistics for future severe weather that can be used by policy makers. The data from the simulation computer at the University will be transferred to the JASMIN system at the Rutherford Appleton Laboratory for further analysis.



## Janet Brokerage



Janet connected institutions are beginning to use the Brokerage's Cloud and Data Centre Framework, with a mini-competition in progress for the Science Museum, and Eduserv being selected via the framework as the colocation supplier for Janet. Estimates show that the average institution could save up to £100k and 80 days work by using our framework.

In addition to the framework, the Brokerage is rapidly developing a suite of commercial agreements to benefit Janet customers when moving to cloud-based services.

As stated in the last report, we have been finalising a unique legal document pack to help adopt Microsoft Office 365 for Education. Discussions are also underway to secure preferential pricing for Microsoft Azure services. Similar to the Microsoft work, we are starting to negotiate a standard set of terms and conditions for Google Apps for Education.

Many in the sector regularly use Dropbox cloud services for file sharing and it is creating a price for education internationally. We are pushing for better pricing for its 'Dropbox for teams' service.

Amazon is one of the most popular providers of cloud to the sector. We are trying to negotiate a better sector wide deal, including Amazon connecting to Janet.

In October, Brokerage Manager Shan Rahulan presented at the UCISA Cloud Computing Review about the Brokerage. He was well received and hopes to have a similar reception when he speaks in a break out session at the AOC conference in November.

The Brokerage's community group membership is booming. If you would like to hear the latest news, blogs and events from Janet Brokerage, please join at: <https://community.ja.net/groups/janet-brokerage>



## Legal and regulatory updates

Two European consultations this summer examine how unlawful use of the Internet should be addressed. One on Notice and Action considers how website operators should deal with third party content. Current European law encourages them to remove anything that is the subject of complaint (without checking whether the complaint has any merit) but not to do any proactive checking otherwise.

A second, wider, consultation examines whether new laws are needed to improve network and information security, for example by expanding the range of services required to take specified security measures and report outages (this currently only applies to public network operators) or making it a legal duty to report 'cybercrimes'.

In each case our responses have stressed the need to ensure that new measures to protect the Internet and its users do not make impossible the innovative uses that Janet exists to support.

We have also worked with a number of different groups on how security and regulation can support different applications of the network. TERENA's REFEDs and VAMP workshops looked at the use of federated access management by research groups and other virtual organisations; a Janet presentation suggested how technology, agreements and regulations might develop together to promote the interests of all parties in these complex relationships.

An ENISA working group has been looking at legal and operational issues in sharing information between incident response teams and law enforcement, which is seen as increasingly important if on-line criminals are to be stopped rather than simply taught how to do crime better.

The Information Commissioner's guidance on use of Cloud Computing is a welcome recognition of the need to take a risk assessment approach to the use of cloud services.

Finally we have discussed with Nominet their proposal to create second level domains under .uk and are gathering comments from the Janet community to inform our formal response.



## Community updates

### Janet Service Desk

*The service desk is the primary point of contact for all enquiries concerning Janet services and requests for information. Janet operates a 24x7 fault management service which is accessible to customers through the reporting routes notified to relevant technical contacts.*

During this reporting period the total number of enquiries received was 1,886. Most of these queries related to the Domain Name registration service, requests for Janet connections and applications, or queries relating to other services.

Over the three-month period, only six complaints were received, and each successfully resolved.

### Customer engagement

Janet hosted events at the BBC in Glasgow, London and Bradford. These events showcased the Super High-Vision technology used at the London Olympics and proved a great success with the audiences.

#### *Scotland and Northern Ireland*

Discussions are continuing with the HEIDS group in Scotland and Janet Brokerage to try to identify the requirements for storage for our customers.

The Customer Engagement Manager provided an update on Janet6 and Janet services to the FE community at the RSC Scotland Technical Forum and the NHS-HE Scotland Forum. The Janet Aberdeen Technical group met to discuss and plan the forthcoming Technical Briefing day to be held at the University of Aberdeen on 22 January 2013.

#### *Northeast, Yorkshire and Humberside*

During the quarter, engagement meetings have been held with Newcastle, Bradford and Northumbria Universities. Specific engagement activity has also supported other customer sites to access the single sector agreement for Office 365 through Janet Brokerage plus a number of site upgrade requests and exploration of options for resilience.

A number of FE customer visits have also been undertaken resulting in increased interest in deploying eduroam within the FE community. Presentations have also been delivered to the Jisc RSC Yorkshire and Humber Technical Group and to the Norvic Consortium of Sixth Form Colleges.

#### *Wales*

Engagements have continued across Wales to complete the initial Engagement Plan drawn up by the Customer Engagement Manager. A new, longer term plan is now in place and regular meetings with customers and sector bodies are continuing. Customer demand for services has increased as a result of engagements in Wales, along with activity around increased bandwidth demands. Customers in Wales are continuing to express the desire for resilience at sites but the cost of additional connectivity is still a significant barrier.



Janet has completed the sector's requirements gathering work for the next generation of the PSBA Public Sector Network. A draft document has been issued for comment by the sector and a final version will be shared with various bodies during the next quarter. The engagement manager has continued to work with the Welsh Government's data centre project to ensure alignment with Janet activities and involvement by the community, the Welsh Government has indicated their interest in Janet acting more directly on behalf of the sector in this area. Janet has also been working closely with the RSC in Wales during this period to jointly support increased FE take up of eduroam through a student placement.

#### *East of England and East Midlands*

The main activity in the region has been updating customers with the on-going transition process from EMMAN to Janet. EMMAN sponsored connections needed to be aware of options going forward. This is continuing work supporting the Project Manager and aided by the establishment of the various project boards.

Universities and FE Colleges continue to request additional bandwidth and to consider additional connections. Visits to FE Colleges and Universities were made. Local Authorities continue to evolve their requirements with several now looking to use Janet as their sole/main route to the global Internet. Presentations have been made at the regional technical forums facilitated by JISC RSC's.

#### *Southwest and West Midlands*

Interest continues in eduroam with some colleges now considering it as their only SSID. Resilience continues to concern many organisations, particularly those geographically isolated where a resilient Janet connection is financially out of the question. In Higher Education wireless roll-out and take-up seems to become ever greater with a number of institutions now have more connected devices than students. Resilience of data centres is also on the agenda with some looking at sharing with other universities or considering the Janet Brokerage service.

The SWERN disengagement programme is now complete in the southwest and the first Janet South West user group was held in October. It was well attended and the new format for the meeting seems to be clear.

#### *Southeast England*

The main activity this quarter has been the requirements gathering exercise for customers connected to the LeNSE network, which is to be re-procured. Individual meetings were held with the Universities in the region and events were scheduled across the region aimed at the FEIs.

Resilient connections to Janet are becoming ever more important with many FEIs now enquiring about available options and the associated cost of resilient circuits. Increasing bandwidth requirements are more prevalent, not only from research-intensive universities but also many of the colleges.

There is an increasing interest in eduroam amongst the FEIs with many colleges now seriously looking at the benefits that eduroam can bring to their organization. Cloud services continue to be considered, but for most FEIs the single Janet connection is preventing the adoption of cloud services.

The Customer Engagement Manager represented Janet at the JISC RSC SE eFair held at Farnborough Sixth Form College and the SE Janet Regional User Group.



### *London*

An intensive programme of customer visits is underway in London to gather requirements for the re-procurement of the London customer connections to Points of Presence (PoPs) in the London core network. The programme will see visits to every HE institute, with FE receiving an invitation to complete an online survey and to attend a Janet event, hosted by the London RSC, on 6 February 2013.

Janet and the LMN Board jointly funded 12 free places for London customers on the Janet IPv6 Fundamentals course held at Woburn house on 26 September. The places were all taken within 24 hours of advertising and the course was very successful.

The Olympic games held over the summer in London put extra pressure on the Janet network, not normally witnessed over the holiday period. As a result we saw that the traffic remained level over the period, rather than the usual dip in traffic which is normal for this period.

### Network User Groups

Janet staff attended meetings of SWIT3E (chaired by Tim Phillips) and the South West User Group (chaired by Neil Tanton) in October. Mark Tysom, Product Manager at Janet, gave a presentation to the User Group on the product developments within Janet. Janet was also represented at the LMN Board meeting in October.

### Events

#### *August 2012*

Three simultaneous Super High-Vision events held in conjunction with the BBC Glasgow and London and the Media Museum in Bradford.

9 August 2012

#### *September 2012*

Janet Brokerage Supplier Speed Dating

11 Sep 2012

Leeds

Arts and Humanities Streaming Workshop

19 Sep 2012

London

#### *October 2012*

Requirements Gathering event - South East region (LeNSE)

03 Oct 2012

Alton College





## Training

During this period we have run 16 courses with 160 delegates. Many of these have been in-house sessions and we continue to achieve a high level of 'Good/Excellent' feedback score – over 90%. We have continued to help keep the community informed on progress with Janet6 through several well-attended online briefings. Work is now underway to schedule both face-to-face and online courses for 2013.

## NHS update

### *N3 Janet Gateway Phase II*

A Sponsor level meeting agreed that this project should continue but with a focus on demonstrating that parts of Janet connected organisations, such as clinical research departments within Universities, are able to comply with the Department of Health's Information Governance Statement of Compliance assurance requirements, a pre-requisite for access from Janet to N3. The National Institute of Health Research Clinical Research Network Coordinating Centre based in the University of Leeds has agreed to be a proof of concept pilot for this.

It is also recognised that the N3 contract is expected to end in March 2014 in England. The Department of Health has an N4 procurement programme that is working closely with the Cabinet Office to ensure that Public Services Network (PSN) requirements are incorporated. In parallel NHS Scotland are already out to tender for their N3 replacement which is being used as a vanguard project for the Scottish Wide Area Network (SWAN), a PSN for Scotland but with a two-tier security model. Ron MacDonald presented on this at the recent Scotland NHS-HE Forum.

The approaching end to N3 for England and Scotland does not negate the information governance required to connect to N3, N4, SWAN or any other PSN network to access health related services. As such the N3 Janet Gateway Phase 2 Project is still very relevant. Also the N3 Janet Gateway contract runs until June 2015 which fits reasonably well with the likely N3 to future network transition arrangements as there is an up to three year transition period built in to the N3 contract although it would be expected that services would move as soon as possible within that.

### *NHS-HE Forum*

The presentations from the Scotland NHS-HE Forum meeting in Edinburgh on 16 October 2012 are on the community website at <https://community.ja.net/groups/nhs-he-forum-connectivity-project>.

### *NHS-HE Connectivity Best Practice Working Group*

The Working Group met on 10 September 2012 and decided to reform for a further year to look at new opportunities for shared practice as well as trying to influence national developments e.g. N4, SWAN. It was also agreed that the group would welcome more members and would try and find out more of what was happening at other relevant University/Trust partnerships.



## Videoconferencing in Schools

Schools have continued to benefit from the variety of conferences and content available through the Janet service. A total of 1,687 videoconferences were undertaken this quarter, from August to October, part of which included the summer holidays.

By the end of October 2012 Janet Videoconferencing had managed 67,561 school videoconferences since August 2004. The total number of school endpoints registered was 4,783 by the end of October (as compared with 4,690 at the corresponding time last year).



## Further Information

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Janet manages the operation and development of Janet, the UK's research and education network, on behalf of JISC.

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.

Enquiries may be made by email, telephone, fax, post, or in person, as follows:

email: [service@ja.net](mailto:service@ja.net)

Telephone: 0300 300 2212

Fax: 0300 300 2213

Post: Janet Service Desk, Lumen House, Library Avenue, Harwell Oxford, Didcot, Oxon OX11 0SG.

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