



janet

Janet Quarterly Report to the Community
February-April 2013



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Introduction

During this quarter, members of Janet have been out and about at industry events, as well attending Networkshop41. More details of customer visits and community news are on pages 12-15.

The Strategic Technologies team has a number of updates for the community, including new trials for 4G and a Moonshot pilot (page 8).

As always, it's worth noting that 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

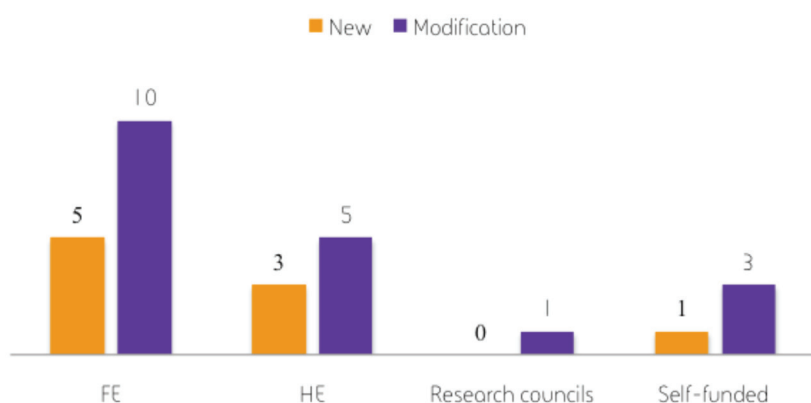


Core Network

The Janet core network currently provisioned by Verizon Business has run smoothly during this quarter. The next generation of the network, Janet6, is being built and the migration from the existing network to the new backbone is planned for summer 2013.

A total of nine new connections have been made over this quarter, with a further 19 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

Total traffic over all Janet’s external connections reached its highest level at 121Gbit/s in January 2013.

Access to European Research Network – Janet is a member of the GÉANT community and its access to other European NRENs is achieved via a 30Gbit/s primary connection and a 20Gbit/s backup connection to GÉANT. Quarterly peak traffic reached 19Gbit/s in April 2013. The connection upgrade to 100Gbit/s has been planned for June 2013.

Access to the Global Internet – Janet’s access to the global Internet is via two global transit providers, TeliaSonera and Inteliquent, from Telehouse, Teleticity Harbour Exchange and Teleticity Manchester. Quarterly peak traffic reached 27.5Gbit/s in January 2013. A new provider, Level3 communications, has signed a contract with Janet and will start the provision of a global transit service from Manchester at the end of June 2013.

Access to the UK’s Internet Exchange – Janet is a member of the LINX (London Internet Exchange) and peers with nearly 300 networks via connections to the LINX from the Janet PoP at Telehouse, Teleticity Harbour Exchange, and Teleticity Manchester. Peak traffic during the quarter was at 29Gbit/s in March 2013.

Janet also has private peering arrangements with a number of ISPs and content providers, such as Google, Akamai and Limelight. Total aggregated traffic on all private peering connections reached 58Gbit/s during the quarter.



Janet 3G

Janet 3G is a service designed to give academic and support staff network access on the move.

It is now possible to purchase a range of 3G mobile data packages, designed to provide fill-in access for the research and education community when WiFi or fixed connectivity is not available. Unlike conventional 3G packages, the service can be purchased on a range of tariffs including a transparent 'Pay As You Use' option, providing scope for significant savings for occasional users.

A truly unique feature of Janet 3G is its capability to support authentication against the same backend systems as your eduroam service. All of the major (non-client certificate based) EAP methods are supported. This can result in major savings on the cost of user account administration. Standard web-based account administration is of course also supported for non-eduroam customers.

There are a total of 64 organisations subscribing to the 3G framework agreement.

Wireless Technology Advisory Service (WTAS)

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

Two documents were added to the Community site for all group members to view:

Hints and tips for connecting problematic devices to eduroam

<https://community.ja.net/groups/wtas-wireless-technology-advisory-service/article/passive-site-survey>

Deploying External Wi-Fi on a Campus Based Network

<https://community.ja.net/library/advisory-services/deploying-external-wi-fi-campus-based-network>.

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 increase, with participating organisations now numbering 231 (an increase of 15 organisations since the last quarter). This comprises most of the UK HE institutions and a growing range of research institutions and particularly FE colleges. Usage of the service continues to strong, with a new record high of 210,100 devices being detected during March 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 new components in the support servers to assist administrators at participating organisations. There was also a very successful forum held at Networkshop which showcased a number of technical initiatives which we are encouraging the membership base to adopt this year.

To read more about joining eduroam, please visit <https://community.ja.net/groups/eduroam/tags/eduroam-joiner%27s-pack> to download the joining pack.

Janet Certificate Service

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

Janet issued 6,041 certificates during this quarter, a 74% increase from the previous quarter; 36,803 certificates have been provided to the community since the automated service was launched in 2009.

In April 2013, Janet announced that we would be extending the period during which our community could obtain free certificates. The new charging model will be introduced on 3 June 2013. For further information about certificates or the new charges please visit <https://www.ja.net/jcs>.



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 a significant increase in the numbers of reported and detected compromised systems that have been affected by the Zeus Malware, there is no data to suggest that this is an increase in infections, it is most likely that users are now more aware, thus the detection rate has improved.

Zeus is a malware toolkit that allows a cybercriminal to build their own Trojan Horse. A Trojan is a form of malware that appears to be legitimate but actually hides an attack. Once a system is infected, the Trojan remains dormant until the user visits a webpage with a form to fill out. One of the toolkit's most powerful features is that it allows criminals to add fields to forms at the browser level. This means that instead of directing the end user to a counterfeit website, the user would see the legitimate website but might be asked to fill in an additional blank with specific information for 'security reasons'. Because a Trojan built with a Zeus toolkit is so adaptable, variations of Zeus Trojans are often missed by antivirus software applications.

CSIRT has been assisting Janet connected sites with a recent drive to attempt to resolve a number of open DNS resolvers. These can frequently be used to reflect and amplify attacks against other hosts. Janet connections are often on the receiving end of these attacks.

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.

Trials are still 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. A total of five organisations 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 404 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 58 per month, with an average of 77 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.

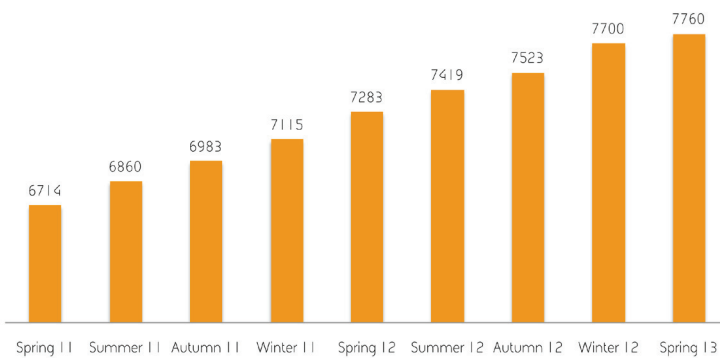
14 applications were received and completed during the reporting period, including four applications for IPv6 address space.

Janet Videoconferencing Service

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

This quarter the service was used for 7,038 videoconferences (a 28% increase over the last quarter), taking place over approximately 12,253 hours. The total number of registered users has increased by 143, to 9,326, with 7,760 venues registered to use Janet videoconferencing.

Venues



At Networkshop41, we gave an update of the videoconferencing futures project (see page 8 for more information). The Janet Video Futures Project aims to develop the next generation of the Janet Videoconferencing Service. The main concepts and progress of the project were discussed, including how Janet aims to offer better interoperability with proprietary videoconferencing systems and introduce a new user interface.

During the quarter, other European National Research and Education Networks have been interested in trialling Janet's Videoconferencing booking service. We will update you later in the year with the outcomes of these trials.



Janet Futures

janet futures

Mobility Development

The Janet 4G trial is now fully operational, with various sites around the community getting hands-on experience of LTE-based mobile connectivity and refining our understanding of the use cases for and capabilities of the technology. Our next step with 4G is a joint project with SURFnet, we are jointly developing a bid to the GN3+ open call for a project to explore multi-domain roaming in LTE utilising the eduroam fabric as an authorisation mechanism.

These 'local' activities run in parallel with the Janet-led European project to establish a pan-European mobile connectivity service which entered its procurement phase on April 1 with the launch of GN3+.

Outside of the telephony data sphere, the WiFi eduroam service in the UK continues its steady growth, and we are engaging with Icomera to plan next steps from the public transport eduroam trial, talking with a number of NHS trusts to help them implement eduroam visited site capabilities, and have just started work with an external contractor to improve the capabilities of the eduroam companion app, which is our main contribution to the Janet-led 'location awareness' workstream of the mobility and network middleware TERENA taskforce.

Applications Development

Video Futures

As mentioned on page 7, Janet is planning a major refresh of the videoconferencing service in Spring 2014, and to this end is near the conclusion of a detailed procurement process to secure expert software development effort to create a new booking system, with a particular emphasis on the ease of use and quality of the user experience. This new interface will be supplemented with enhanced interoperability capabilities to build on the excellent standard set by the existing JVCS when we launch the 'next generation' service.

Streaming Arts and Humanities

In other video-related areas, projects have launched to explore enhancing the capability of Janet community members to contribute their expertise to news organisations, allowing sites to submit broadcast-ready footage to broadcasters, and in allowing greater use to be made of Janet's capable video streaming infrastructure.

Further work is continuing in the area of low latency video conferencing, particularly in the context of Arts and Humanities applications, as those who attended the Networkshop41 plenary demo of LOLA musical performance can attest. Further demos are planned across the coming year.



Strategic

Project Moonshot

April saw the pilot launch of a revolutionary, world leading service based on Moonshot, the next-generation trust and access management technology pioneered by Janet.

Driven by use cases from across the research, education, and e-Infrastructure communities, the pilot service is a response to their growing requirement to apply federated identity across a much wider range of services and applications than can be supported by existing technologies.

Involving colleagues from 43 different institutions across six countries the 18-month pilot will allow customers to test Moonshot within a stable operational environment and to help Janet refine the production service to fully meet customer requirements including defining service level agreements.

The pilot will also enable us to fully test the service infrastructure, support and helpdesk functions; allow us to investigate different types of service including different managed service options; and to test and refine documentation and training.

The international popularity of Moonshot can also be seen in the recently launched GÉANT GN3plus project with Janet leading a subtask involving seven other NRENs to implement and test Moonshot: CARNet, CESNET, NORDUnet, RedIRIS, RENATER, SWITCH and NIIFI.

Shibboleth

After several years of close partnership across the global identity and access management community, we are pleased to announce the formal establishment of the Shibboleth Consortium with the ratification and signing of its Charter by Internet2, Janet and SWITCH.

This signing which took place during the recent Internet2 Annual Meeting in Arlington, USA, extends the commitment of the National Research and Education Networks of the United States, United Kingdom and Switzerland to the continued development of the Shibboleth software, as well as promoting its adoption globally.



Janet Cloud Services

Over the quarter, Janet Cloud Services has been processing orders through the Cloud and Data Centre framework for some of our customers who have taken their first steps towards cloud computing.

Oaklands College took cloud based Test and Development to the availability of Disaster recovery as an incremental 'use when needed' cost, rather than a major capital investment or managed service.

The first request for IaaS metered use of HPC-GPU has been received and is being processed.

At the recent UCISA conference, the interest in cloud solutions was widespread as many delegates compared the costs of major capital investment versus the incremental costs and savings of cloud solutions.

Many universities and colleges are facing the challenges of data centre environmental upgrade demands to maximise building space for academic use. In order to maintain a competitive international position it is considered essential that information services are available 24/7 from anywhere without the need for additional staff and capital investment.

Data centre sharing

The Cloud Services team is creating the trading platform to enable Universities and Colleges to make informed decisions about the costs and processes to enact data centre sharing within the sector. Watch this space for more news.

Dropbox for Business

Following a number of requests from the sector, the Janet Cloud Services team is working towards producing a sector specific contract for Dropbox for Business. Our first priority is to complete a trial Licence for use by the Pilot sites.

Financial X-ray

With advice from the British University Finance Directors Group (BUFDG), Universities UK (UUK), and the Universities and Colleges Information Systems Association (UCISA), Janet has designed an IT service costing model – called the 'Financial X-ray', for use within the FE and HE sectors. The service will enable customers to examine how much money is spent on various IT services, with a view to encouraging a move to cloud.

The team at Janet is working on the service and will be able to provide further information in the next report.



Legal and regulatory updates

The UK's new Defamation Act was passed in late April, and should make things much clearer for blogs and other websites where third parties post articles or comments that are alleged to be defamatory. The Act means that the legal dispute should normally remain between the author and the complainant – only if the author cannot be contacted will the hosting site become involved. In this case there will be a prescribed procedure (yet to be consulted on, though an early draft looked helpful) that hosting sites can follow and remain protected from liability until a court has ruled on whether the statement is defamatory. The Act also states that a policy of moderating articles cannot itself create liability for the host. A presentation covering this bill, as well as measures to deal with copyright breach and offensive communications, was given at Networkshop41.

Janet has been working with Universities UK, RUGIT, UCISA and the Centre for Protection of the National Infrastructure to establish what measures universities use to protect sensitive information, and how best practice could be promoted. A workshop report has been published in the Janet CSIRT section of the Janet library website.

Janet's Computers, Privacy and the Law course was presented in Oxford. To sign up to future training courses, please visit <https://www.ja.net/training>.



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 2,146. 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 nine complaints were received; eight were successfully resolved, with dialogue remaining open for one.

Customer engagement

Scotland

The second Janet Scotland Strategic Briefing was held in February at the Teachers Building in Glasgow. Over 40 delegates attended this successful event and enjoyed presentations from Tim Marshall, Bob Day and Jon Hunt from Janet, Andy Williamson, Programme Manager from SWAN, Marin Fairbairn from the Scottish Funding Council, Steve Watt, current Chair of HEIDS, Mark Toole from the University of Stirling, and Lawrie McDonald from the HE and FE ICT Oversight Board.

Janet has continued its involvement in the discussions of the newly merging FE colleges in Scotland, and has held meetings with Motherwell, Cumbernauld, Carnegie and Adam Smith Colleges.

Northeast, Yorkshire and Humber

During the quarter, engagement activities with HE customers in the North East and Yorkshire and Humber have continued. This has included discussions with University of York and University of Durham. A number of engagement meetings have also been held with FE Colleges including Barnsley College, The Sheffield College, Stockton Riverside College, Croven College and Bishop Burton College. Attendance was also made at the joint North West and Yorkshire and Humber RSC event on e-learning in HE at Leeds Met, the RSC Y&H event on BYOD at Calderdale College and the RSC Northern Microsoft event.

Meetings have also been held with Leeds City Council and a range of organisations within the region requesting information on connecting to Janet.

Wales

The Customer Engagement Manager programme in Wales has again increased this quarter. Welsh HE organisations in particular have all been keen to understand and make use of Janet's work with Microsoft around improved Office 365 Terms and Conditions.

The procurement of the PSBA public sector network has also moved forward in earnest during recent months. Bob Day, CTO Janet, represents Janet and the sector on the PSBA's programme board alongside HEFCW. As part of this work, Janet has been assisting and contributing to stakeholder discussions as well as ensuring that the requirements of the whole Janet community are at the heart of the procurement.



Finally, merger activity in Wales has produced a number of changes to the structure of the HE and FE sector over the past quarter, with the new University of South Wales (previously University of Glamorgan and the University of Wales, Newport) becoming one of the largest UK universities in terms of student numbers. This trend, particularly in regard to FE, is due to continue for the next two or three years. Janet is continuing to work closely with customers pre- and post-merger to support the integration of networks and services.

East of England and East Midlands

During this quarter, a focus has been working with colleagues within Janet and at EMMAN to help facilitate the transition of the regional infrastructure into Janet and meeting with customers to help consider options.

Visits were made to University of Derby, Derby College, RAF Halton, National Construction College, Bedford Council, Holmefield Specialist College, Southend on Sea College, Oaklands College and West Nottinghamshire College. There are proposals for multi-region and multi-site provision by some colleges.

Other updates include:

- Oaklands College is piloting a cloud element in their IT provision.
- East Midlands Universities have been upgrading bandwidth as part of the regional procurement and preparation to relocate the Cambridge PoP is underway.
- Nottingham Trent has taken up a Janet Cloud Brokerage offering.

The CE Manager attended both UCISA annual conference and Networkshop4I in this quarter. Both were very useful opportunities to meet with colleagues from the Janet community.

Southwest and West Midlands

Shared data centre resources appear to be of increasing interest in the region together with strong interest in Office 365 and the forthcoming offerings from Google, Amazon and Dropbox..

Resilience continues to be a hot topic for many FE organisations, particularly where there is interest in SIP trunks.

Southeast England

The Customer Engagement Manager continues to visit sites across the region and discussions tend to focus on resilient connections, increased bandwidth and the associated costs.

With Portsmouth City winning funding to become a 'connected city', the University is investigating a city-wide eduroom project and this has generated a lot of interest amongst the FE colleges in the Portsmouth area.

Customers in the region are being kept informed of the project to replace the regional network in the south, known as Janet South. Many customers in the region have taken the opportunity to upgrade their bandwidth and/or improve their resilience.

The recent Janet cloud services for education agreements have generated a lot of interest, especially amongst the FE community, many of whom are looking at a move to Office 365 or Google Apps.

The Customer Engagement Manager represented the region at the recent UCISA management event in Liverpool.



London

The reprourement of the contract to provide Janet London access circuits is now in to the stage of preparation of the Statement of Requirements. The SoR will be issued on 14 June 2013.

Janet London ran a Janet Services update day in conjunction with the London RSC on 6 February 2013. We provided updates on the London access circuit reprourement as well as an opportunity to talk about requirements with the project manager. We also provided updates on the Microsoft 365 licence provision, CSIRT activities, services for Disaster Recovery and Janet Videoconferencing. The event was very successful with a number of leads established and we plan to run a similar event in the autumn this year.

Janet ran another IPv6 course for London customers in conjunction with the LMN IT Board. We have been able to offer 12 funded places on this course, which has proved very popular. The course is now being developed online with London customers providing testing.

Events

Conferences and Workshops from February to April 2013:

Janet Scotland Strategic Briefing

18 Feb 2013

Glasgow

Janet Cloud Speed Dating

13 Mar 2013

This was held as a pre-event at the UCISA Conference, Liverpool

Moonshot Pilot Meeting

08 Apr 2013

Keele University

This was held as a pre-workshop before Networkshop41

Networkshop41 <https://networkshop.ja.net/events/networkshop41>

9-11 April 2013

Keele University

ORIENTplus Launch Event

This event was a physical event and also included online participation

12 Apr 2013

London

Ultra High Definition Showcase

19 Apr 2013

Cardiff University

Janet East Midlands Briefing Day

25 Apr 2013

Leicester



Training

Our programme of online briefings has continued with the Networking Strategy briefings. The format and style of the online briefings has been very successful and we are continuing to deliver these on a variety of topics.

The presentations delivered at Networkshop41 were all captured and video, audio and slides are available on Edlab. There are some very interesting talks on a wide variety of topics from Janet 6 to android security. Login or register at www.ja.net/training/edlab

The development of new online courses has continued this quarter. The trail of the Network Analysis Tools course is now complete and courses will be scheduled from July 2013. This practical course looks at free tools such as Wireshark and how they can be used to help monitor and troubleshoot networking issues. The course is highly practical with demos and hands on activities. Future online courses include Information Security Policies, and Understanding RADIUS.

We have seen an increase in the number of in-house courses run; please contact us if you would like to run one of our courses for your organisation.

New dates have been added to the training course schedule, which is available on the Janet website (www.ja.net/training). We have also recently added a new venue in London, Barbican.

Full details of our current courses and other events are available at www.ja.net/training

NHS update

An Information Governance Toolkit Workshop took place on 8 March in Leeds and was full to capacity with about 50 attendees. The main outcomes were:

- Agreement to continue working together to try and influence the development of the IGT for Higher Education given that it is currently not ideal and also to provide mutual support for those going through the process.
- Instigate a Working Group to look at the issues in more detail and feed these in to the Department of Health
- Formation of a dedicated JiscMail group for those particularly interested in this topic
- A follow-up event in the autumn to review progress.

We have noted an increasing number of research groups that are completing the IGT and these are listed at <https://community.ja.net/groups/nhs-he-forum-connectivity-project/article/information-governance-and-nhs> along with further background on the workshop.



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

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