



janet

Quarterly Report to the Community
February – April 2012



CONTENTS	1. Core Network	3
	2. IP Services	5
	3. Services	11
	4. Brokerage	16
	5. Security & Regulation	17
	6. Development	18
	7. Community Update	22
	8. European Activities	26
	9. Further Information	28

Key news in this report

- Janet Brokerage has announced its cloud and data centre framework, including the following eight suppliers: Capita, Dell, Eduserv, Fujitsu, HP, Liberata, Logicalis, Verizon. See Page 16.
- Janet connected organisations can now register to use the videoconferencing service with just a desktop. See page 5.
- Janet Moonshot technology praised for support of radio astronomy. See page 13.
- Janet signs up to participate in the World IPv6 launch on 6 June 2012. See page 18.



I. CORE NETWORK

Connections

This reporting period has seen a total of 34 new or enhanced customer connections completed and brought into use:

Further Education

New

The City Literary Institute

Canterbury College, Sheppey Campus

Nash College

Tresham College

Wakefield College, Skillsxchange

Modified

Uxbridge College, Hayes Campus

Easton College

City of York Council, Personal & Community Development

Foxes Academy

Oxford and Cherwell Valley College

Worcester College of Technology

Sandwell College

Neath Port Talbot College

Ruskin Mill Educational Trust Limited

Learning and Skills Network

Higher Education

New

University of Worcester, The Hive

Imperial College of Science, Technology and Medicine,
via ULCC Stewart House

Imperial College of Science, Technology and Medicine,
via Imperial College

Royal Holloway and Bedford New College, Olympics

Royal Holloway and Bedford New College, Physics II

Modified

Leeds College of Art

University of Lancaster

The Conservatoire for Dance and Drama

University for the Creative Arts, Maidstone Campus

Research Councils

New

Medical Research Council, Clinical Trials, Theobald Street

Modified

Medical Research Council, Social and Public Health Sciences Unit

Science and Technology Facilities Council, Rutherford and
Appleton Laboratory x 2

Self-funded

New

Kent County Council x 2

Modified

Stockport Metropolitan Borough Council,
North West Learning Grid

National Museum of Science and Industry

National Institute for Biological Standards and Control

Derby City Council



Further Education (FE)

England

Roll out of the new network infrastructure in the south west of England is underway; 19 college connections have been migrated to the new network, with a further 16 to be completed.

Scotland

Roll out of the network infrastructure in Fife and Tayside is under way; four college connections have been migrated to the new infrastructure with one remaining to be completed. An additional infrastructure link from Kircaldy to Edinburgh is on order, which will provide improved resilience for colleges connected to the Kircaldy PoP.

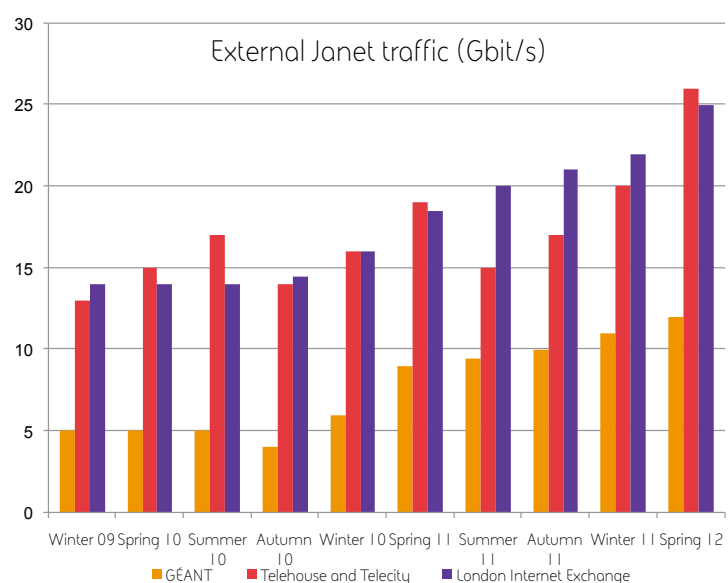
External Network Access Provision and Transmission

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.

The capacity of Janet access to European NREN via GÉANT has been upgraded from 10Gbit/s to 20Gbit/s during the past quarter. The same is done to its backup connection too. Peak traffic is over 12Gbit/s.

Access to the global Internet is via two global transit providers, TiNET and TeliaSonera. Each supplier provides four 10Gbits connections to two Janet PoPs at Telehous and Telecity in London. Peak traffic is about 26Gbit/s over the period.

Access to the UK's Internet Exchanges is through the LINX (London Internet Exchange) via six 10 Gbit/s connections from Telehouse and Telecity PoP locations. There is also a 2Gbit/s connection to Edge-IX in Manchester Telecity and a 1Gbit/s connection to MCIX in Manchester as well as a 1Gbit/s connection to IXLeeds in Leeds. A 10Gbit/s connection to a new established IXManchester is planned for the next quarter. Peak traffic over the past quarter is about 25Gbit/s over all the public peering connections



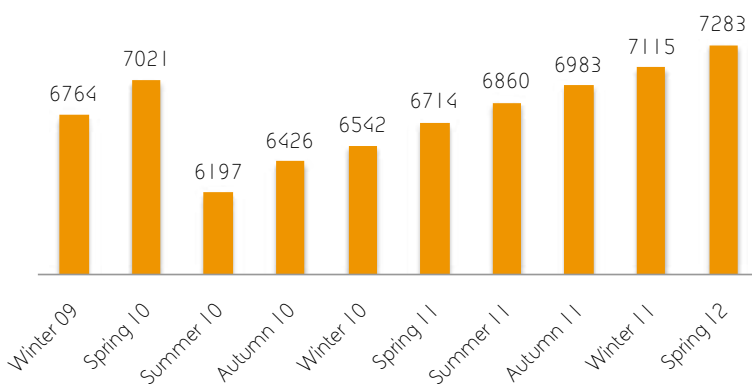


2. IP SERVICES

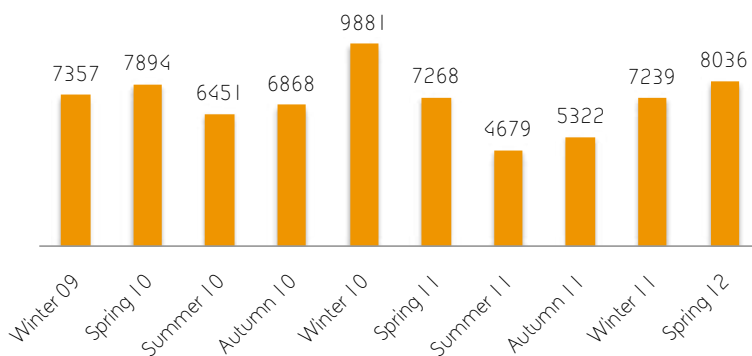
Janet Videoconferencing

To date, there has been continued growth in registered users. The total is now 8,436 users, with 7,283 venues registered to use Janet videoconferencing. During the last quarter (February-April) this service was used for 8,036 videoconferences that took place over 12,307 hours.

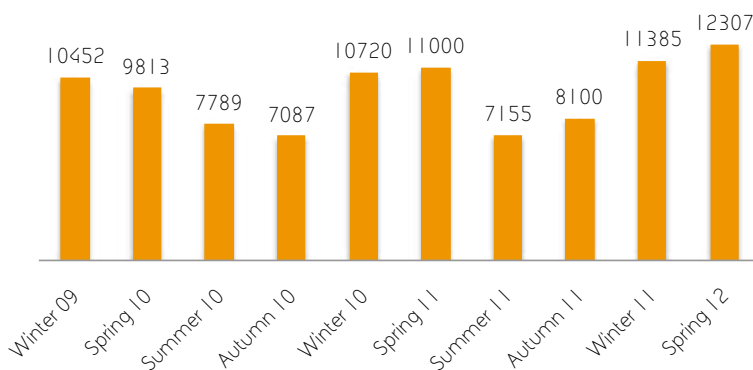
Venues



Conferences



Hours





Access to Janet videoconferencing is now possible with your desktop

It is now possible to register to use this service with just your desktop. This opens up multipoint videoconferencing from your desk to another desktop user or to a room system. The registration process has also been simplified to encourage more new users, reducing the number of steps required to register. We hope these new developments will enable more of the community to use the service as a result.

New Janet Videoconferencing Desktop Client-update.

The new software PC client for desktop conferencing was released in April 2012. This software client offers improved functionality compared to the previous desktop client, since it will work with a web proxy. In addition, it allows content sharing on a full screen, and gives the ability for conference participants to control their audio levels.

Content providers update

Janet is in the process of updating the VC Content Directory. The content providers use videoconferencing to enable schools and colleges to benefit from educational content and to interact with a museum without leaving the classroom. There are a wide range of organisations including the Natural History Museum, the National Archives, the National Space Centre, and the LSO. If you have any suggestions of other regional museums, please let us know.

Access Grid MAGIC Phase 2

The MAGIC (Mathematics Access Grid: Instruction and Collaboration) project broadcasts maths lectures to postgraduate students based across 19 different universities. A new contract has just been signed that makes this one of the largest cross-university agreements signed. The five-year contract ensures the continuation of the MAGIC programme, as a contribution model with each site paying a share of the costs. A full VLE (Virtual Learning Environment) has been built including the ability to submit assessments as well as deliver formative feedback. For more information, visit <http://maths-magic.ac.uk/>



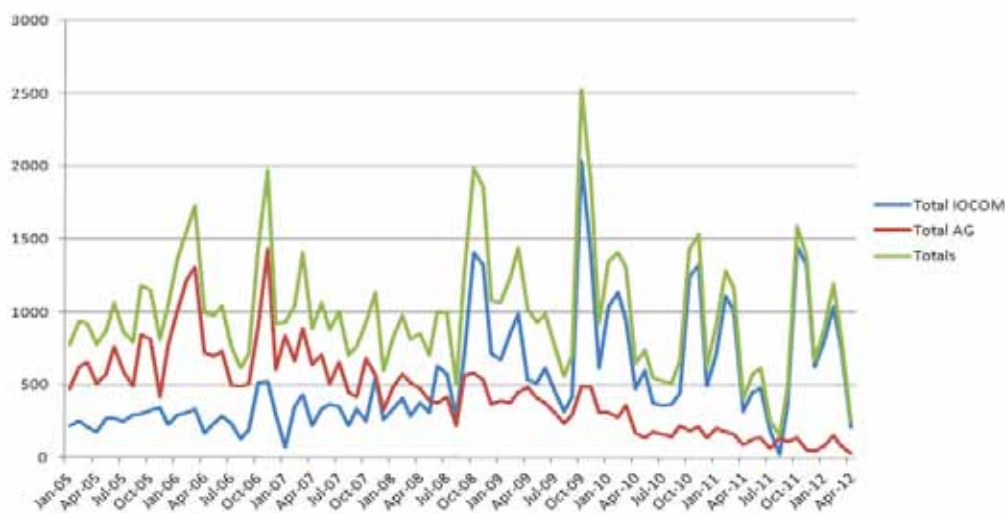
Access Grid

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.

To date, there are 833 registered users and 294 nodes, from organisations representing the research and HE community. During this quarter (February-April) this service was used for 356 booked sessions. In addition, many conferences were held over EVO (3,955 meetings) and IOCOM (2,245 meetings).

The graph below shows the trends in the total number of conferences for AG Collaboration that 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

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.

Organisations using the Janet Primary Nameserver Service can now request access to a secure web portal to undertake administrative tasks to their zone files. This will enable the authorised administrators to edit their resource records whenever they need to, and schedule changes outside of normal working hours

Five more organisations registered during the reporting period to use the Janet Primary Nameserver service. There are now a total of 139 users of the service of which 127 are reportable to the JISC.

The non-reportable organisations are:

Janet eduroam
NEN Content Providers
Coventry Centre for Higher Education Development
Canford School
Imperial War Museum
LeNSE Ltd
Higher Education Funding Council for Wales
Royal Borough of Windsor and Maidenhead
Doncaster Metropolitan Borough Council
York City Council
Walsall Metropolitan Borough Council
Wolverhampton City Council

Secondary Nameserver Service

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

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 for some reason 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 141 of which 117 are reportable to the JISC. The non-reportable organisations are listed below.

Non-reportable organisations

Various Janet Services
London Borough of Islington
Monterpoint Ltd
Millfield School
Subtv Ltd
Canford School
Atomwide Ltd (for SEGfL)
Ashridge Business School
Godolphin & Latymer School
UCAS (University and Colleges Admissions Service)
WEA South Wales
Shropshire CC
Queen's College
St Helens Metropolitan Borough Council
Warwickshire County Council
HEFCW
National Museum of Wales
National Museum of Science and Industry
North Lanarkshire Council

Roaming Service

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 180. During March nearly 100,000 devices were counted successfully authenticating over the national infrastructure, with each being seen on average more than 3 days during the month. This reflects an ever-increasing population of users benefitting from eduroam whether in term time or during vacations.



Web hosting service

The Janet Web Hosting service is intended to provide space on central web servers for primary connected Janet customer organisations that do not have the resources to support hosting themselves.

One site joined the service during the reporting period, whilst three elected to be removed in order to manage it in-house, bringing the total number of sites using the service to 74.

Web filtering service

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

During the past reporting period two additional organisations joined the service and four elected to be removed from the service. A few organisations have elected to have two filtering accounts. There are currently 69 individual organisations using the service.

Network Time Service

The Janet Network Time Service delivers a stable time reference to customer organisations so that clock settings across the whole mesh are very closely synchronised and a single rogue system with the wrong time will have very little effect. A synchronised time service is important for services such as distributed file systems.

One more site registered to use the Janet NTP service during the reporting period. There are a total of 281 sites using the service. Overall, it is a stable and well-used service.



3. 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.

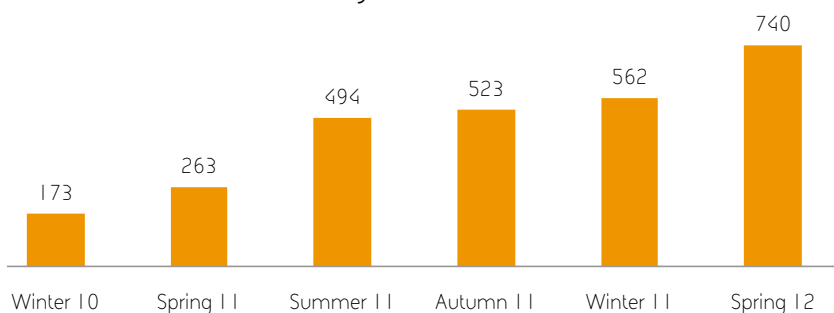
Requests for new or enhanced Janet connections should be made via the Janet Service Desk.

Domain Name Service Administration

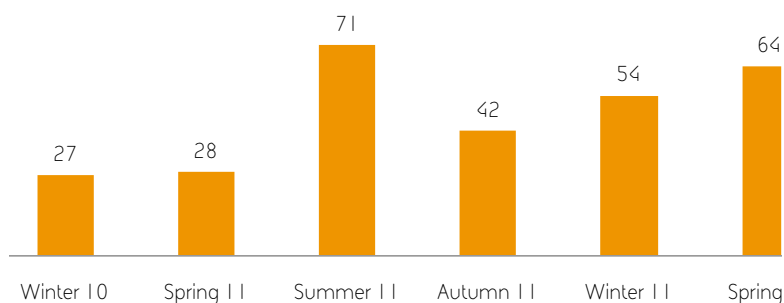
Janet is responsible for the administration and registration of domain names under the ac.uk and gov.uk domains.

During the reporting period a total number of 740 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 64 per month, with an average of 183 modifications for each month.

Requests for new or modified domain name registrations

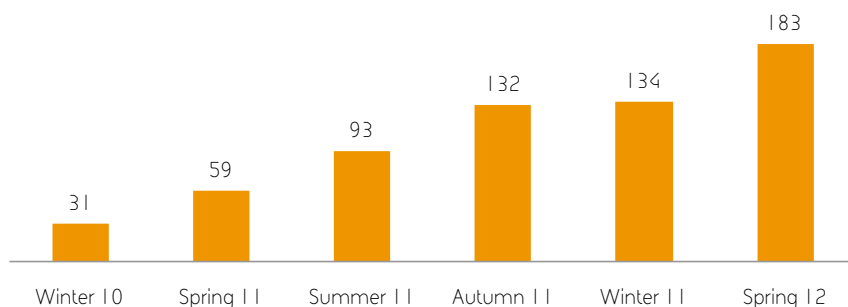


Average rate of monthly applications for new domain names





Average rate of monthly applications for modified domain names



IP Address Assignment

Every organisation that wishes to send and receive email, 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.

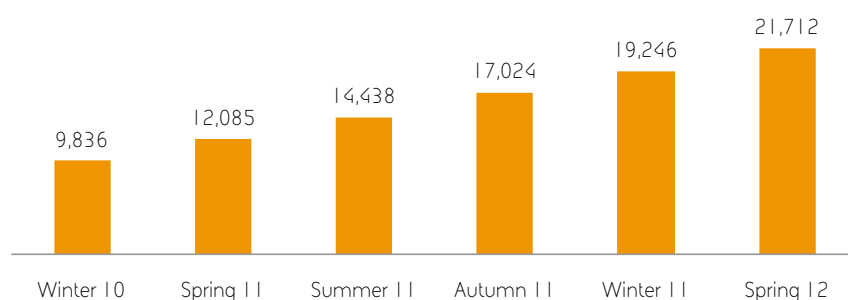
11 applications were completed and received during the reporting period, including three applications for IPv6 address space.

Janet Certificate Service

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.

The new Janet Certificate Service was launched on 18 November 2009. By the end of this reporting period a total of 21,712 certificates had been issued under the new automated system, which is an increase of 2,466 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





Janet Lightpath

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.

Since January 2012 Janet has received 5 new enquiries for either 1 Gbit/s or 10 Gbit/s lightpaths.

This quarter has also seen the provision of 2 x 1 Gbit/s lightpaths and 1 x 10 Gbit/s Lightpath.

- 1 Gbit/s - RAL to Daresbury Lab
- 1 Gbit/s - University of Manchester to Surfnet (Netherlands)
- 10 Gbit/s - RAL to Surfnet

There are several other Lightpaths waiting to be fully commissioned and we hope that these will be completed in the very near future.

Regarding the recent provisions to the Netherlands we received a warm thank you from Joeri van Leeuwen, the main emphasis being the fact that his organisation can now stream telescope data between Groningen, Amsterdam, Dwingeloo and Manchester supercomputers, clusters and researchers desktops. He remarked that it is a 'Great boost for this cross-Channel research.

Joeri van Leeuwen works for ASTRON which is the Netherlands Institute for Radio Astronomy. Its mission is to make discoveries in radio astronomy happen, via the development of novel and innovative technologies, the operation of world-class radio astronomy facilities, and the pursuit of fundamental astronomical research.

Janet Service Desk

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

During this reporting period the total number of enquiries received was 1,660. Most of these queries related to the Domain Name registration service, requests for Janet connections and applications or queries relating to other Janet services.

Seven complaints were received and successfully resolved to customer satisfaction. Dialogue remained open for four of these queries during this reporting period.



Technology Advisory Services

Multi-site Connectivity Advisory Service

The Janet Multi-site Connectivity Advisory Service provides advice and guidance and produces technical literature on a wide range of issues relating to inter-site network inter-connection.

A number of enquiries for the service, which is provided free of charge, were received during the quarter. Enquiries have been mainly on the topics of options for inter-site connections for organisations with multiple sites, high bandwidth local links and networking strategy following college mergers. The website, which provides wide-ranging information for the community, remains popular and the MCAS service continues to serve all sectors of the Janet community.

Video Technology Advisory Service

Beginning with the evaluation of the LifeSize Team 220, the evaluation reports in future will contain an executive summary report. The following 2 products were evaluated in the last quarter:

Cisco EX60

The Cisco TelePresence EX60™ is a high definition (HD) self contained desktop videoconferencing system with a maximum picture resolution of 1920 x 1080 pixels (1080p) at 30fps. The desktop unit includes a 21.5" picture monitor, the CODEC, camera, microphone and the loudspeakers. A separate touch screen control panel with an audio handset completes the package.

LifeSize Team 220

The high definition Lifesize Team 220™ conferencing system is designed to be installed either in a small to medium sized conference room or as part of a Rollabout system.

The system includes a high definition (HD) Camera, microphone/s and infrared remote control. A four site continuous presence on-board Multipoint Conference Unit (MCU) is included as standard. The system is available with 2 camera and 2 microphone options.

These and other evaluated products can be found under 'Product Evaluations' on the service home page.



Wireless Technology Advisory Service

During this quarter, some questions and answers were added to the FAQ section on this page:
<http://www.ja.net/services/advisory/janet-wireless-technology-advisory-service/technology.html>

A short document providing an overview about the wireless standard 802.11u was published on the web site at:
<http://www.ja.net/services/advisory/janet-wireless-technology-advisory-service/index.html>

Pranay Pancholi at Loughborough University is the WTAS adviser for the next year. If you have any wireless related queries or have any suggestions for him to write short documents about, please send an email to wtas@ja.net.

Voice Advisory Service

Alan Hillyer at Oxford University Computing Services (OUCS) will continue in the role as adviser for the Voice Advisory Service (VAS). If you have any voice related queries please contact vas@ja.net. Popular topics are VoIP solutions and requests for details about Janet-connected SIP trunk providers.



4. BROKERAGE

Janet Brokerage released the cloud and data centre framework in February at its first conference, with eight selected suppliers announced.

The final list includes:

Capita

Dell

Eduserv

Fujitsu

HP

Liberata

Logicalis

Verizon

This framework will help institutions save money and time when moving to cloud-based services. Janet's first Cloud Conference was a great success with over 70 senior IT managers from Janet-connected institutions coming together to hear cloud best practice from colleagues, and to find out the initial Brokerage offerings.

There was also a lot of interest in the Brokerage at the UCISA conference in March, which spurred into action work to create standard cloud email contracts and standards.

The Brokerage team, Janet Customer Engagement Managers and members of the Janet Strategic Technologies team participated in an off-site meeting hosted by Fujitsu at its data centre in East London. Fujitsu ran a number of sessions talking about the framework, products/services available and how customers can use the framework.

At a recent public sector cloud conference, Shan Rahulan, Janet Brokerage Manager, worked with JISC and SURF to explain how the sector can, and is, making the move to cloud.



5. SECURITY & REGULATION

CSIRT

Early in this quarter information provided to Janet CSIRT by a third party prompted an investigation into a reported compromise of an adult content web site that appeared to identify a number of .ac.uk domains with potentially compromised accounts. Janet CSIRT informed system managers to enable the prevention of possible harmful misuse of those systems.

This quarter has seen an increase in reported password compromises and a higher level of general scanning for vulnerabilities. Copyright infringement complaints were up by more than 25% over the previous months' figures.

The latter part of the quarter saw a relatively small drop in copyright complaints but a significant increase in malware infections caused largely by the latest Trojan called 'backflash' which targeted the hitherto largely unscathed Apple Mac systems. As with all mass infections this caused a marked increase in effort required by CSIRT to inform and assist the community. Apple were quick to respond to this attack on their software as were the community system managers and while the repercussions will rumble on for some time this event has calmed fairly quickly.

Security, Regulation and Policy

As we approach the May deadline for enforcement of the UK's cookie law, several organisations have published guidelines and implementations of cookie control interfaces, including the Government Data Service and the International Chambers of Commerce. While there still seems to be diverse views on the definition of, and requirements for, advertising cookies, a relatively pragmatic approach seems to be developing to the types of cookies most likely to be used by Janet and its customers. A presentation summarising this was done as a lightning talk at Networkshop 40.

Discussions around the proposed new EU Data Protection Regulation have continued. Janet's Legal and Regulatory Developments blog has several articles on how the proposal might affect Janet services – generally, helpful but not as helpful as it could have been – and the parallel proposal by the White House to create a Consumer Privacy Bill of Rights in the USA. Presentations on the implications of data protection developments for access management have been given to an eduGAIN workshop and the EEMA eID conference. Both the EEMA conference and a EURIM working group have provided opportunities to compare our concerns and approach with those working in business and government. The UK Ministry of Justice has sought evidence on the likely impact of the proposal to which Janet made a submission.



6. DEVELOPMENT

Access & Identity Management

Project Moonshot

Janet, JISC and Internet2 recently announced their commitment to continuing development and innovation in the area of access and identity management. The published statement clarifies how Moonshot and Shibboleth technologies fit together and outlines how these complementary technologies will fulfil the access management needs of the research and education community. The full text of the announcement can be found at <http://www.ja.net/janetnews/2012/05/23/collaborative-work-on-shibboleth-and-project-moonshot/>.

Interest in Moonshot technology is continuing to gain traction within the Janet community, especially from the HPC community. It is being tested at Diamond Light Source, the Science and Technology Facilities Council, Aston University and Cancer Research UK. Case Studies of why these organisations are interested in Moonshot can be found on the Project Moonshot website. The Moonshot technology is also continuing through the IETF standardisation process, with papers reaching Last Call status within the Abfab working Group <https://datatracker.ietf.org/wg/abfab>.

Roaming & Mobility

DOTIX Special Interest Group

The DOTIX SIG continues to provide valuable technical input to Janet's strategic programme. Recent meetings have welcomed a number of new members from the community.

Network Access

Mobile Broadband

The product offering under the Janet 3G umbrella has broadened slightly in order 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.

Network Engineering

IPv6

Janet has signed up to participate in the World IPv6 Launch on 6th June 2012 (see <http://www.worldipv6launch.org/> for more information). The list of network providers participating in the launch is available at <http://www.worldipv6launch.org/participants/?q=2>



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 successful data exchange over a dynamically-provisioned connection between Janet and GRNET took place in May 2012 within the context of the GÉANT Bandwidth on Demand (BoD) pilot service. This became possible after the successful troubleshooting of a data path problem that was discovered during a previous test.

Janet is preparing to provide BoD capability to the BonFIRE project via the Janet Automated Provisioning testbed, which connects to the GÉANT BoD pilot service.

Telephony

Telephony Requirements Gathering

The findings of a commercial request for information have shown that the commercial telecommunications market is able to deliver an appropriate technological and financial telephony service that meets the needs of Janet customers. In particular telecommunications providers can provide SIP Trunking on Janet, provide hosted "cloud" PBX services and apply financial models to remove call costs from fixed line to mobile handsets, all of which were highlighted as the top three requirements of Janet customers.

Janet is now working toward understanding how telephony services can be provided in the most appropriate way for our customers.

Applications Development

Ultra High Definition

Progress between the 3 project participants Glasgow, Essex and Cardiff continues as part of the UHD Showcase project, with a view to detailing some showcase events in the coming months.

Connectivity testing continues for the SHV/BBC Olympics showings at Bradford, Glasgow and Broadcasting House, London.

Super High Vision BBC and NHK Project

Janet has connected sites in Glasgow and Bradford to the BCC network to enable live streaming of SHV during the Olympics. Bradford has been tested and accepted by the BBC and Glasgow is expected to be signed-off for use in May 2012.

The project was presented at the Spring Internet2 conference and a live demonstration was transmitted over Janet and other NRENs to the US during the conference.



Content Providers

The new VC Content Directory is almost complete, and is awaiting approval from our Janet Content Providers. Users will be able to use this to book sessions with Content Provider's from September 2012.

Keep up to date with new content providers and new/upcoming sessions @JanetVCContent.

Videoconferencing

A procurement strategy has been produced to manage the re-procurement of the features of the Janet Videoconference Service and the supporting infrastructure. Models of out-sourcing the service and cost recovery are being considered. Janet has become a steering group member of the new Global Video Alliance (GVA). The GVA is an international group of NRENs collaborating to develop methods to improve the international videoconference experience for users. A current area of development is to attempt some standardisation of new VC Scheduling services to enable more interoperation of VC booking databases.

Streaming Server Network

The Janet Streaming Server infrastructure has been installed and is operational. This consists of three servers and a loadbalancer distributed between sites in Manchester and Harwell. The service should enable up to 3000 HD streams and can be upscaled if required. A contract with Streaming Wizard has been signed to provide ongoing management, maintenance and support for larger events.

The infrastructure will enable Ravensbourne to stream a performance of I, Cinna from the Royal Shakespeare Company in partnership with Cisco and Janet. Ravensbourne are now testing this.

Janet has also formed an agreement with NaSTA to provide streaming services to Associated Student Television channels. The service should enable any Student TV channel to have a free to use 24/7 online channel. The System and processes are in place and a launch is planned for freshers week in September 2012.

Measurement & Monitoring

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 now able to monitor and report on all core links, peerings, regional network entry points and the EastERN regional network. In addition, we have completed a proof-of-concept integration with a traffic analysis tool (based on netflow) that we have been trialling.



Flow Monitoring

We have been trialling a new traffic analysis system that can scale to handle 100% of Janet's flow data. Early results have been encouraging and the system seems capable of handling the huge amount of flow data that is generated from the Janet routers. The trial is due to finish during the next quarter.

Support for Research

Paul Lewis has been seconded part-time from Janet to support BIS in establishing the e-Infrastructure programme and its governance and oversight mechanisms. Bob Day, CTO at Janet, will represent Janet on the e-Infrastructure Leadership Council chaired by David Willetts, and both these appointments will strengthen the links between BIS and Janet.

Janet Aurora

Aurora was included as a separate lot within the Janet6 fibre procurement to explore future options with potential providers, though at present there is no commitment to re-implement the network beyond October 2013 and funding discussions continue with all interested parties.

Janet Lightpath

Several of the lightpath enquiries resulting from the e-Infrastructure programme have matured to full service requests, and these are now mostly implemented. Requirements gathering has commenced for the sites listed as strategic research facilities related to Janet's allocation of e-Infrastructure funds. The first of these was to the group of BioScience related organisations clustered around Norwich, and others are planned. The aim of these visits is to seek a strategic view of network capacity requirements on a timescale of five years and beyond.

Optical Networks

Technology Tracking

The investigation of Ethernet transport service monitoring and assurance technologies is ongoing. Janet is participating in the new GÉANT3 Year 4 sub-activity 'Service Assurance and Monitoring' which was approved by the GÉANT3 Board and commenced at the beginning of April. This sub-activity includes participants of JRA1 Task 1 and JRA2 Task 3 and is a continuation of the Ethernet OAM trial conducted by JRA1 Task 1 in 2011.

Carrier Ethernet

The Carrier Ethernet project has concluded. The project final report and other project documents are available at <http://www.ja.net/development/optical-networking/carrierethernetproject.html>



7. COMMUNITY UPDATE

East Midlands & East of England

The East Midlands universities have been articulating the future requirements and these have been complemented by the requirements from the FE community. Several universities are recipients of recent Research Council funded HPC resources, and provision of high bandwidth connections is underway. A number of FE colleges and others are seeking bandwidth upgrades and/or additional connections to provide resilience. There is interest in considering the opportunity for taking up cloud services from the Janet brokerage arrangements from both FE and HE.

Scotland

The Customer Engagement Manager has continued to meet with HE and FE organisations in Scotland. In March, Tim Marshall, CEO of Janet, accompanied her on site visits. Interesting discussions were held covering topics such as the increasing international business of HE, BCE, Public Access, and the offerings of Janet Brokerage. Other areas of interest were the regionalisation agenda for FE and FE resilience, and the SPSN. A great deal of interest was also expressed about the future developments of JISC and Janet.

West Midlands and South West

The Customer Engagement Manager has continued to visit universities, FE colleges, Local Authorities and other Janet connected organisations in the region. At meetings with several IT teams, he discussed future requirements for bandwidth and the need for resilient connections. There has been continuing interest in future data centre and cloud services brokerage service, particularly from the FE sector. There was also increased interest in edu roam now that guest wireless access at some education establishments is starting to be withdrawn. Many institutions have now started to implement this.

South East

Meetings continue with the universities, FE 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. FEIs in particular are starting to require significant upgrades in bandwidths with the current level of 100Mb starting to have a detrimental impact on their activities. The single Janet connection for FEIs is also proving a hurdle in the adoption of cloud and VoIP services with many colleges not willing to take that step until they have resilient network connectivity.

There has been a lot of activity from both Surrey and Brighton & Hove Councils who are starting the procurement process for their new PSNs and are hoping to continue to use Janet connectivity for their schools.

The Customer Engagement Manager represented Janet at UCISA, Networkshop, the Hampshire Technicians Forum and also participated in an online RSC SE briefing.



London

During the reporting period we held a successful event in the region to engage with customers regarding the Janet6 project and its integration of the London Core infrastructure procurement. It was an engaging event, with audience participation and positive comments as well as useful feedback from those present.

The Customer Engagement Manager continues to meet with customers and foster good relations with regional groups, with attendance at the London IT Directors Group Meeting and the LMN Board meeting during the period. There has also been an invitation to speak at a Sixth Form College event.

We continue to work closely with the London RSC and a joint event is planned for the region in June.

Many London customers are looking to Janet to provide resilient connections and many Further Education establishments are looking to upgrade their connections to take advantage of cloud services.

North East and Yorkshire and Humber

A busy quarter of engagements with HE customers across the region including visits to Universities of York, Northumbria, Durham, Huddersfield, Leeds Met, Leeds and Teesside. In addition to this, a separate series of meetings were organised to enable Janet's CEO Tim Marshall to meet with IT Directors in the region. Requirements for additional capacity linked to both current and future research activity and data sets are emerging and are being taken forward.

The Customer Engagement Manager provided an update for the RSC Northern Technical Group and visited individual FE Colleges across the region. Approaches and opportunities for BCE activity, shared service development (along with the resulting connectivity requirements) and exploring telephony options via SIP Trunking remain key areas of interest.

Wales

The Customer Engagement Manager for Wales has been conducting a range of initial introductory visits across the HE, FE and Specialist College sectors as well as key stakeholders across the Welsh Government, PSBA and other JISC Services operating in Wales. Key themes that have emerged from the meetings are a desire for increased bandwidth combined with resilience of connectivity as well as an increasing interest in shared and cloud services.

Network User Groups

Janet attended the South East and London User Group on 15 February, where Josh Howlett gave a presentation on the Moonshot project. At both meetings Janet staff updated the attendees on the latest Janet service updates.



NHS/HE Connectivity Project

N3 Janet Gateway Phase II

This project remains focused on the appropriate Information Governance model for bidirectional access between N3 (the NHS network in England and Scotland) and Janet. At a workshop on 29th February 2012 it emerged that most use cases for access from Janet to N3 in England are covered by the 'Hosted Secondary Use Team/Project' view in the Information Governance Toolkit which is part of the Information Governance Statement of Compliance process. Discussions are taking place with a few sites to see whether they are willing to test this information governance process as a proof of concept.

Other areas of activity and interest that are developing this quarter are:

- Cloud services and how they might interface with health e.g. for clinical research data
- Extending the reach of eduroam in to NHS wireless networks as seen in Oxfordshire, Truro and Aberdeen
- NHS organisations as Business Community Engagement (BCE) partners

NHS-HE Forum

The next NHS-HE Forum is on 30th May in London. The presentations will be made available as soon as possible after the event at <http://www.nhs-he.org.uk/forum.html>. The programme includes:

- Peter Knight, Deputy Director, Head of Research, Information and Intelligence, Department of Health with an update on national clinical research initiatives
- Tim Marshall, CEO Janet, with an overview of the JISC Transition and Janet developments
- Dr Rick Jones, Assistant Clinical Director, Yorkshire & Humberside SHA on White Rose NHS-HE developments
- Others giving updates from the N3 Janet Gateway, shared e-content, BRISKit and UCL Partner projects



Training

Our programme of online briefings has continued with a series of events on cloud computing. These were organised in conjunction with Janet Brokerage and Janet CSIRT, and attracted a total of 261 participants to the live events. The briefings were recorded and can be viewed at www.ja.net/couldbriefing. We are currently planning other online briefings and would be interested to hear of any topics you would like to see covered.

At Networkshop 40 in April, we ran a pre-conference seminar, 'Free Radius De-mystified'. The session was very well attended (with over 70 participants), and received very good feedback. We are in the process of converting this material into a course to be delivered online.

61 delegates completed face-to-face courses in this period, with 99.6% of delegate feedback scores reading good or excellent. Extra dates have been added to the training course schedule, which is available on the Janet website. There has been a significant increase in the number of courses we can run at your organisation so please contact us if you would like to discuss your requirements. Work continues on the development of new courses, and revising and updating both the Shibboleth and eduroam courses.

Janet is now an assessment centre for the Learning and Performance Institute Trainer Monitoring and Performance programme. This means that we are now qualified to assess trainer performance in-house, and support Janet trainers to design and deliver courses effectively.

Details of current courses and other events is available at www.ja.net/training.

Events

Prepared for your impending move to the Cloud?

Held on the 9th February 2012 at CCT Venues Smithfield in London.

London Core Network Briefing

Held on 5th March at the Hallam Conference Centre in London.

Networkshop 40

Held at The University of York from 3rd to 5th April. Presentations can be viewed in EdLab: <http://www.ja.net/services/training/edlab.html>.

Schools: Videoconferencing

Schools have continued to benefit from the variety of conferences and content available through the Janet service. Over 3060 videoconferences were undertaken this quarter, which included the Easter break. Of these conferences, the majority continue to be for teaching, tutorials and related educational activities such as content provider sessions; other purposes include administrative meetings, and system testing.

By the end of April 2012 Janet Videoconferencing had managed over 63,640 school videoconferences since August 2004. The total number of schools sector endpoints registered was over 4,720 by the end of January (as compared with just over 4,530 at the end of April 2011).



8 EUROPEAN ACTIVITIES

GÉANT eduPKI

The goal of the GÉANT eduPKI service is to facilitate access to, and the use of, Public Key Infrastructure (PKI). Many services already make use of X.509 certificates issued by Certificate Authorities (CA) operating PKIs.

The GÉANT eduPKI service completed its first full year of production operations. A new Trust Profile for generic client and server certificates was agreed.

GÉANT3 eduroam

The GÉANT eduGAIN service operates the confederation of WiFi roaming federations operated by GÉANT's partners.

A number of non-GN3 NRENs on the European periphery joined the service: Armenia (ASNET-AM) Azerbaijan (AzScienceNet/ANAS), Belarus (BASNET), Moldova (RENAM) and Russia (JSCC). Kyrgyzstan was also approved by GN3 to participate in the service. This brings the total number of NRENs participating within the GÉANT eduroam service to 43 (not including those NRENs in other world regions which have also deployed eduroam).

The service's Policy was updated, reflecting various technical and organisational changes since the original version of the document was published in 2007. It is anticipated that this will be approved and issued to GN3 partners in early Q3.

GÉANT eduGAIN

The GÉANT eduGAIN service defines and implements a framework to interconnect the various identity federations in Europe and elsewhere, enabling controlled access to GÉANT and NREN services and resources via identities asserted by those federations.

The number of participating federations has grown to 19. (twelve at 'production' status, five at 'candidate' status and two at 'pilot' status). This represents every identity federation within Europe (plus Brazil) with the exception of Portugal, Denmark and the UK.

In response to the needs of some service providers, a GÉANT Data Protection 'Code of Conduct' has been drafted. The intent is to seek approval of the Code of Conduct from the EC's Article 29 Working Party, which is concerned with regulation of data protection within the EU/EEA.



GÉANT eduCONF

The eduCONF Task is developing and piloting a portfolio of services with a primary focus on: supporting and facilitating the use and adoption of videoconferencing; simplifying the videoconference experience; and reducing operational costs. The GÉANT WebCONF service continued pilot service operations, supporting the Web-Conferencing needs of the project and its teams. This pilot will be reviewed in Q3 2012.

The "Addressing, Monitoring and Directory" and "Certification" services began pilot service operations, following a successful training workshop in February.

Mobile Connectivity Feasibility Analysis

The goal of this activity is to consider options for improving mobility connectivity within the GÉANT service area by making it more accessible to end users.

A workshop was organised in March 2012 to present the consultant's initial results and seek feedback from the GÉANT partners. The initial results were promising but inconclusive; continued work in Q2 2012 is expected to deliver more definitive guidance.

TERENA General Assembly

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

TERENA Networking Conference

The TERENA Networking Conference 2012 will take place in Reykjavik, Iceland on 21 - 24 May. Tim Boundy and Mark O'Leary from Janet will be speaking at the conference.



9 FURTHER INFORMATION

This document is copyright the JNT Association 2012.

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:

E-mail: 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.

Janet® is a registered trademark of the Higher Education Funding Councils for England.