



Quarterly Report to the Community

February – April 2009

Editorial

During this quarter JANET reached its 25th birthday, having gone live on 1 April 1984. The founders of JANET would still recognise its aims and ethos today but its reach, its speed and its technological underpinning might at the very least raise eyebrows.

This quarter also saw a very successful Networkshop event held at Cambridge in April. Networkshop has always been significant in JANET's development over the past quarter of a century, from the very beginning: everyone key in developing JANET made reports at the early meetings, which took place even before the network existed, and the results were factored in to the unification of JANET as a single network.

Networkshop, and the items reported on here, are all part of the constant drive for improvement and development that makes JANET the world-class network it is today.

1 Introduction

This report broadly follows the sequence of the SLA (Service Level Agreement) between JANET(UK) and the funding bodies represented in JISC (Joint Information Systems Committee), for the financial year 1 August 2008 to 31 July 2009.

The numbering follows that of the SLA, and apparent omissions reflect the fact that there is nothing to report for this period.

2. Support Services (SLA J2.4)

(a) Documentation [[more information](#)]

Documents published between November 2008-January 2009

| | |
|--------------------|---|
| Newsletters | JANET News 7 |
| Technical | Secure Virtual Private Networks JANET Roaming Technical Specification v1.1 |
| General | JANET Development Programme 2009 |

(b) Workshops and Conferences [[more information](#)]

Networkshop 37

Networkshop 37 was held between 31 March and 2 April in wonderful spring weather at Sidgwick Campus, University of Cambridge. This year there was the added bonus of celebrating the 25th anniversary of JANET on 1 April.

Approximately 400 delegates and 37 exhibitors turned up at the West Road Concert Hall for a mixture of plenary, parallel and 'birds of a feather' (BoF) sessions. After registration and an excellent lunch at nearby Selwyn College, the proceedings started with a welcome by Ian Lewis from the University of Cambridge. He reminded us that a lot had changed since 1978, the last time Networkshop was held in Cambridge. In those days the network ran at 9.6kbit/s. Since then Cambridge themselves have laid 4000km of optical fibre in 80km of trunking and the JANET network runs at up to 10Gbit/s, moving to 40Gbit/s. But networks are not just about 'bits moving down fibre' or just providing bandwidth. These days there is more concentration on the 'value added' end of the spectrum, collaboration and services to maximise the productivity of teaching and research. It is these services which will provide the common theme for the upcoming plenary and parallel sessions.

The amazing progress made over the last 25 years was re-emphasised by the second speaker, John Naughton of the Open University, who gave us a brief history of networks from the original batch processing machines (early mainframes), through timesharing environments that created a sense of community (an indicator of how the embryonic human computer interface would evolve) up to early SMS and now Twitter. If people are given tools to communicate, they will sometimes use them in surprising ways. 'Networks should no longer be regarded as just a pipe - more a beanstalk up which children can climb to other worlds.'

Having looked at the past and the present, the first afternoon of plenary sessions was completed by the JANET(UK) double act of Jeremy Sharp (Head of Strategic Technologies) and Tim Kidd (Head of Operations), giving a 'State of the Nation' presentation. This included 'Beyond 40G'. By 2011 we will need 100Gbit/s and JANET is starting to look at this. Other topics, many of which were precursors to parallel or BoF sessions, looked at how the network was getting 'Bigger and Better'; applications that were coming up or evolving; 'Reaching Out' to extend the community and 'The Future'.

Over the course of three days there were 9 plenary sessions, 44 parallel sessions and 8 BoFs covering a wide and varied spectrum of subjects. It was impossible to attend more than a few of the parallel sessions or BoFs and even less practical to report on them all. Suffice it to say that they were all well attended, so the programme planners had done an excellent job of providing something for everyone. Meanwhile the JANET Lounge provided a 'break-out' area, staffed by

JANET personnel and available to all delegates, next to the main hall. This was used for small meetings, catching up with work or even recharging equipment.

Concentrating on the plenary sessions, as day 2 progressed one started to see the balance between current issues and activities and looking ahead to the future. The future aspects included Richard Salmon from the BBC with a fascinating insight into the issues and challenges facing broadcasters as they look beyond HDTV and try to resolve the question: 'Is TV an art form or a window on the world?' How do you balance the requirements of bigger screens, higher resolutions, 3D etc. whilst still using frame rates that were chosen over 70 years ago?

On the current issues, Paul Sangster from the OpenSEA Alliance talked us through developments in Network Access Control and the evolving risks whilst Richard Clayton from the University of Cambridge discussed effective e-mail spam control, shedding new light on some of the problems facing ISPs and network managers.

David Salmon, Research Support Unit Manager at JANET(UK), took us through the research use of JANET, covering among other things the Lightpath Service; High Energy Physics and links to the Large Hadron Collider project at CERN; Grid Enabled Neurosurgical Imaging Using Simulation (GENIUS); Radio Astronomy; and Network Research. We also got a peek at some of the future areas.

The conference dinner was held in the fabulously atmospheric Hogwartian setting of St Johns Hall. It was a privilege to listen to the after dinner speaker, Professor Mike Wells, who was instrumental in producing what have become known as the Wells Reports which led to the creation of JANET 25 years ago. Professor Wells gave us a very entertaining and fascinating insight into the birth of JANET.

The plenary on the final morning was given by Chris Smedley, CEO of GEO, on 'Making Super Fast Broadband a Reality for UK plc'. This was about Next Generation Access (NGA), which is not easy to define in a way that can readily be understood. It will be challenging and costly to deliver and will need the joint efforts of the private and public sectors to compete globally. Public sector participation requires 'proof of market failure' while the private sector needs 'proof of demand'. Chris said, 'A major opportunity exists today for Government to invest in critical national infrastructure. Broadband is a key economic driver, Optical fibre is the 21st century equivalent of roads and railways.' Alternative ducting systems, such as the sewers, are becoming more commonplace and were less likely to be damaged, intentionally or otherwise.

JANET(UK)'s CEO, Tim Marshall, brought Networkshop 37 to a close with an address which perhaps echoed the thoughts of many. It had been an engaging, thought provoking and varied programme. All those involved in speaking, creating and hosting the sessions, along with all the exhibitors, were warmly thanked. Tim told us that within the JANET community it was important to have mutual, professional respect and to share ideas and continue with rigorous debate and analysis of 'the way ahead'. With regard to the current economic climate, it was a distinct possibility that as things improve and the commercial sector comes out of recession, so we in the public sector will still be going through it. The next generation of JANET would need to be customer focused, give value for money and, if possible, deliver far more for far less. He re-emphasised that JANET is here to support UK Research and Education, which '... will need us as never before.'

Networkshop 38 will be hosted by the University of Manchester from 30 March - 1 April 2010.

(c) Network User Groups

The South East JANET Regional User Group met on 18 February 2009. David Phillips from the Open University gave a talk on the malware threat in the real and virtual world. Details can be found at <http://www1.lsbu.ac.uk/SERJUG/>.

(d) Security, Regulation and Policy [[more information](#)]

Discussions have continued with the Department for Business, Enterprise and Regulatory Reform (BERR) on the possible creation of a Digital Rights Agency, as suggested in the Digital Britain Report, to help in enforcing copyright online. The Government's implementation of the European Data Retention Directive was published in February and became law in April; as expected this only applies to public networks (so not to JANET) and, in the interests of clarity, the Home Office will send notices to the networks that are required to comply. As a funding member of the Internet Watch Foundation (IWF), whose objective is to reduce the online availability of indecent images of children, JANET(UK) has been contributing to a review of the IWF's policies and practice for blacklisting such images after the listing of an image on Wikipedia resulted in greatly increased publicity for and dissemination of the image.

Within JANET, advice has been provided on regulatory and policy issues relating to desktop collaboration systems, and on best practice in handling personal data. Work has continued to identify situations where it would be useful to exchange information between different access management federations and to develop appropriate agreements between federations to support these. An activity has also begun to identify responsibilities for different aspects of security in future JANET networks and to determine how these requirements might be met.

JANET(UK)'s new course on Computers, Privacy and the Law has been presented twice, in Bristol and Cambridge, and the course on Managing IT Security once, in Belfast. Other meetings attended include the Networkshop, BILETA and UCISA Management Conferences, a workshop on Campus Grids, the National Information Assurance Forum and London Internet Exchange.

3. IP Services (SLA J3)

3.1 IP Service (SLA J3.1)

This reporting period has seen a total of 56 new or enhanced customer connections completed and brought into use:

Further Education

- Barrow-in-Furness Sixth Form College
- Bedfordshire Adult & Community Learning
- Bexley College
- Brooke House Sixth Form College
- Capel Manor College
- Cardinal Newman College
- Darlington College
- Enfield College
- European Services for People with Autism Ltd
- Furness College
- Hartlepool Sixth Form College
- Hereford College of Arts
- Hereford Sixth Form College
- Herefordshire College of Technology
- King Edward VI College Nuneaton
- Leeds College of Technology
- Linkage College
- Morley College Limited
- Newham Sixth Form College
- North West Kent College of Technology
- Queen Elizabeth Sixth Form College
- Reaseheath College
- Redcar and Cleveland College
- Royal National College for the Blind
- Salford College
- Southwark College
- St Francis Xavier Sixth Form College
- St Helens College
- Stockport College of Further and Higher Education
- Stockton Riverside College
- Stourbridge College
- Thomas Danby College
- Thurrock Adult Community College
- Wakefield College
- Westminster Kingsway College
- Winstanley College
- Worcester College of Technology
- Workers' Educational Association, Birmingham
- Working Men's College

Higher Education

- Buckinghamshire New University
- University of Warwick
- University of Wolverhampton

JISC

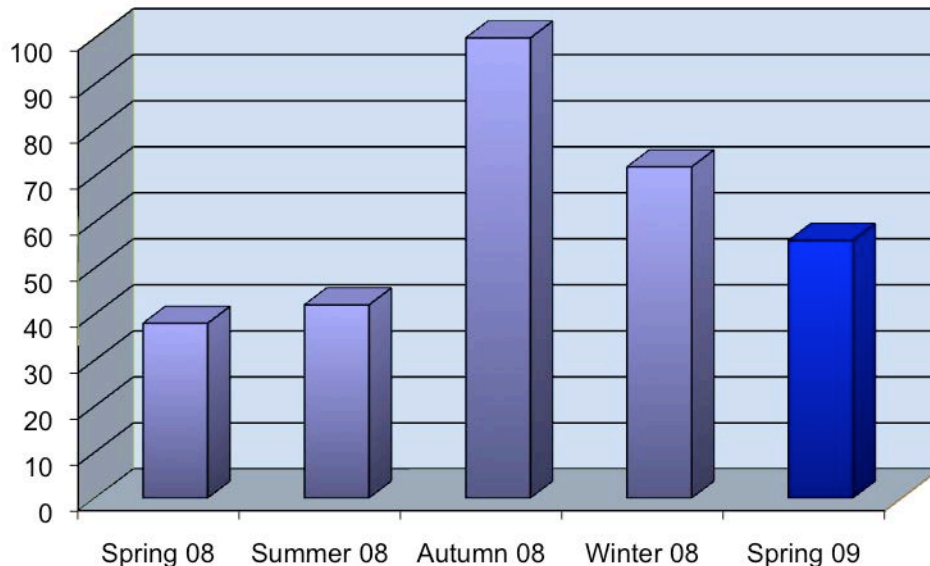
- CEH Climate Change Solardome Facility
- London Grid for Learning Trust x 2
- National Institute for Medical Research
- Natural Environment Research Council x 2

Self-funded

- Birmingham City Council
- CableCom Networking Ltd x 2
- County of Herefordshire District Council
- Defence Science and Technology Laboratory
- European Centre for Medium-Range Weather Forecasts
- Higher Education Funding Council for England
- Imperial War Museum
- Wolverhampton City Council
- Worcestershire County Council

- Wyke Sixth Form College
- Yeovil College

New or enhanced customer connections



For information regarding current upgrades or connections, please contact JSD at: connect@ja.net

A list of all primary sites connected to JANET may be found at: <http://www.ja.net/janet-sites/>

(b) FE

Work has continued on the capital-funded project to implement upgrades to colleges in England beyond 10Mbit/s. Upgrades have now been delivered to 262 colleges.

(c) Core Network

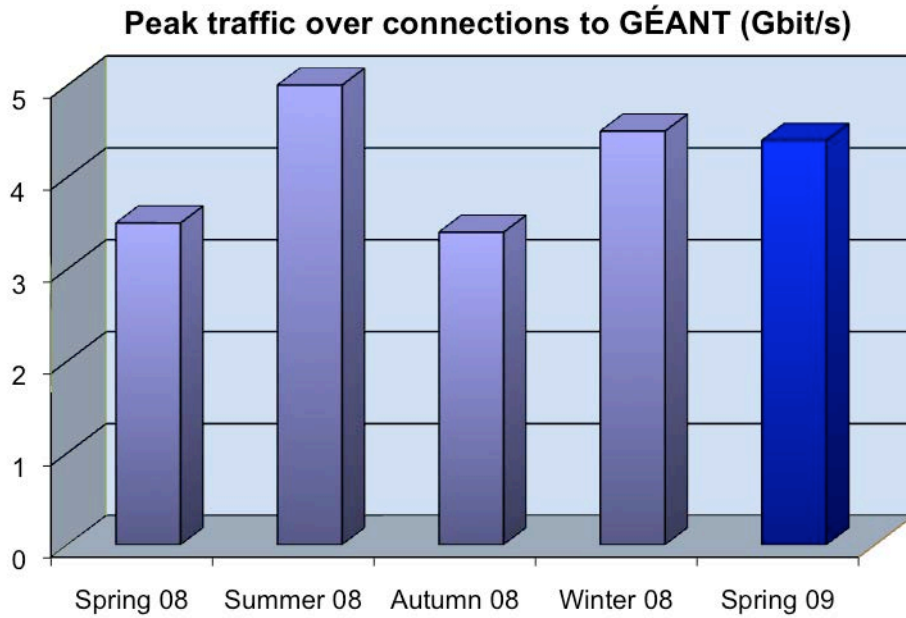
The JANET core network has supported JANET services reliably over the quarter despite a few fibre breaks and equipment failures. Traffic was able to re-route over other available paths in all cases.

A plan for upgrading the access links of EastMAN, ClydeNET, NorMAN and KentishMAN from 2.5Gbit/s to 10Gbits was approved. This is to be implemented during the next quarter. Additional 10Gbit/s capacity is to be provided to the LMN's access links.

(d) External Network Access Provision and Transmission

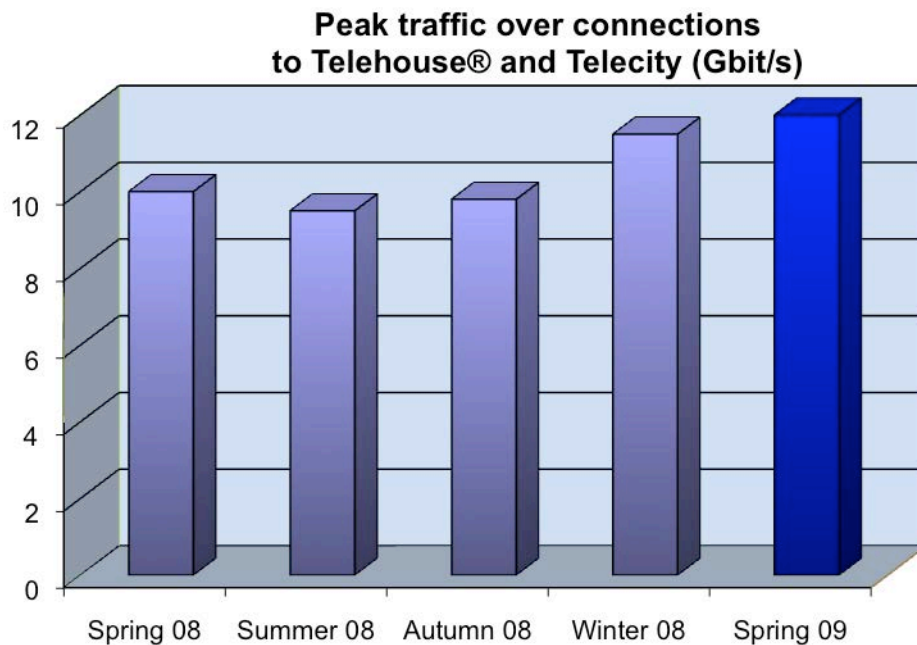
(i) Access to the European Research Network

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. Peak traffic over the connection is normally around 2.4Gbit/s; however, there were peaks at 4.4Gbit/s during this quarter.



(ii) Access to the Global Internet

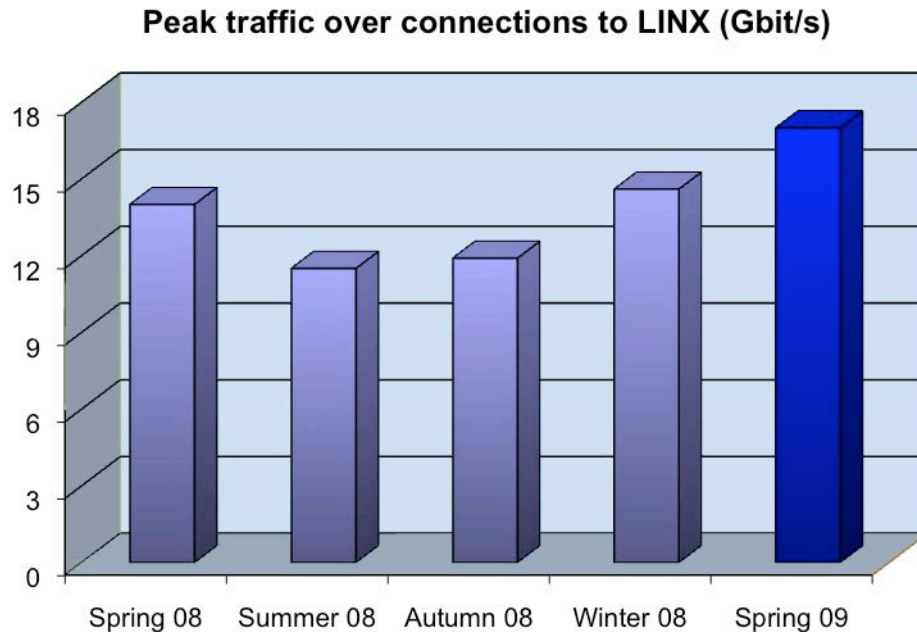
JANET access to the global Internet is via two global transit providers - TATA Communications (formally called VSNL) and TeliaSonera. Each company now provides four 10Gbit/s connection to two JANET PoPs at Telehouse® and Teleticity in London. Aggregated peak traffic reached 12Gbit/s during the past quarter.



A price review on the existing contracts took place in December; one of the suppliers has been awarded a contract extension for another year. A procurement for replacing the other supplier was launched early in January.

(iii) Access to the UK's Internet Exchanges

JANET access to the LINX (London Internet Exchange) is via four 10Gbit/s connections from the Telehouse® and Teleticity PoP locations. Aggregated public peering traffic peaked at 17Gbit/s during the quarter and aggregated private peering traffic reached around 19.5Gbit/s.



(iv) Access to CERNET

All traffic to CERNET is now via GÉANT. The service has been stable during the reporting period.

(v) Access to North American Research Internets

Services are provided via GÉANT and have been stable throughout the reporting period.

(vi) Peer Networking Agreement Administration

| PUBLIC PEERING CONNECTIONS | | | | | |
|-----------------------------------|--------------|----------------------------|--|---|---|
| Connection Point | AS No | ISP Name | Date of initial request by peer | Date all info received from peer | Date of accept/reject of peering agreement |
| LINX | 41197 | Switch Media | 28/01/2009 | 28/01/2009 | 03/02/2009 |
| LINX | 35228 | Telefonica O2 | 06/01/2009 | 08/01/2009 | 03/02/2009 |
| LINX | 16265 | LeaseWeb | 13/02/2009 | 23/02/2009 | 24/02/2009 |
| LINX | 25577 | Connexions 4 London | 03/02/2009 | 03/02/2009 | 03/02/2009 |
| MANAP | 43198 | Genesis Communications Ltd | 02/03/2009 | 02/03/2009 | 03/03/2009 |
| LINX | 30094 | Giganews | 17/07/2008 | 17/03/2009 | 03/04/2009 |

| | | | | | |
|------|-------|---------------------------|------------|------------|------------|
| LINX | 28929 | ASDASD srl | 25/02/2009 | 02/03/2009 | 06/03/2009 |
| LINX | 12322 | Free SAS | 22/03/2009 | 10/04/2009 | 14/04/2009 |
| LINX | 8681 | Jersey Telecom | 15/12/2008 | 16/12/2008 | 19/12/2008 |
| LINX | 28809 | Nauka Telecom | 02/03/2009 | 13/03/2009 | 13/03/2009 |
| LINX | 4739 | Internode Systems Pty Ltd | 23/01/2009 | 17/02/2009 | 23/02/2009 |

3.2 Fault Reporting (SLA J3.2)

The JANET Service Desk handles the fault reporting function. Fault reports should now be made to service@ja.net.

3.3 Management of Maintenance Activities (SLA J3.3)

There were a total of 13 planned maintenance sessions during the reporting quarter. Major activities included:

- Further equipment deployed for JANET Lightpath service
- JUNOS upgrades to core routers
- Hardware replacements on Warrington and Coventry routers
- Software upgrades to management routers
- Warrington colocation facility decommissioned
- UK Federation equipment moved to Harwell colocation facility
- Decommissioning of UKLight equipment.

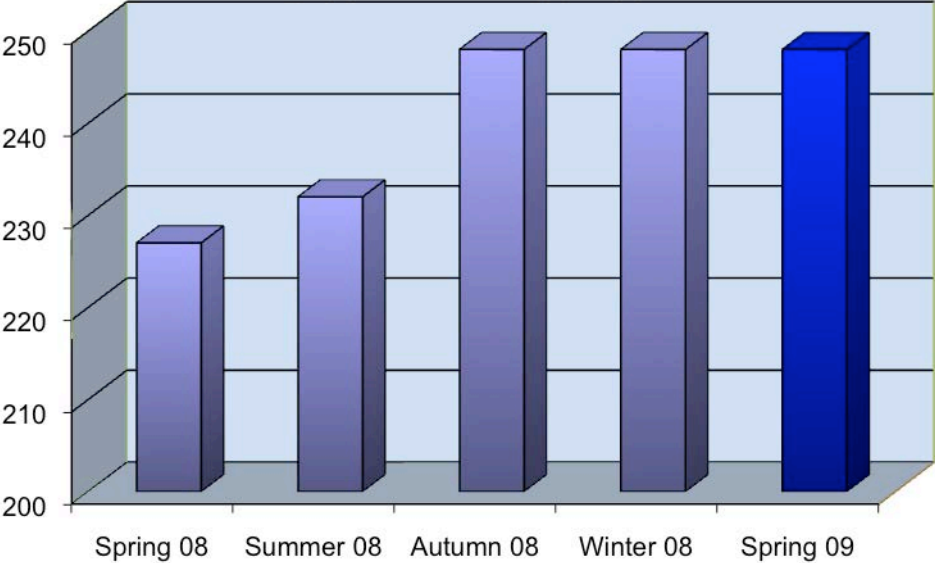
3.4 Network Status Information (SLA J3.4)

Four more regional networks - Clydenet, NIRAN, TVN and WMRN - have been transitioned to the new Netsight system. This brings the total of regional networks transitioned to 11. Differing technical issues continue to delay the project. Seven of the original Netsight systems are no longer in service and are being decommissioned. The remaining original Netsight systems will remain in service until their respective networks are transitioned to new Netsight. It is hoped the transition project will be complete by the end of the second quarter 2009.

3.5 Time Reference Service (SLA J3.5) [\[more information\]](#)

No more sites have registered to use the JANET NTP service during the reporting period. There are a total of 248 sites using the service. Overall, it is a stable and well-used service.

**Number of organisations using
the JANET NTP Service**

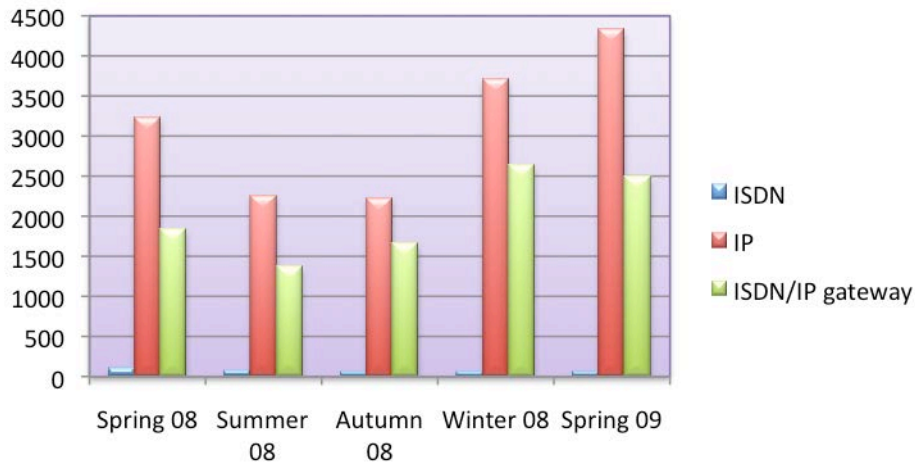


4 Application Services (SLA J4)

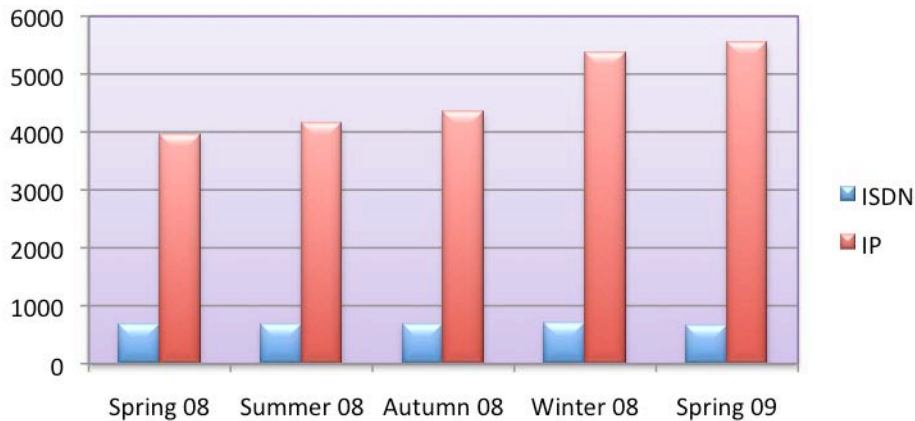
4.1 Videoconferencing Service (SLA J4.1) [\[more information\]](#)

The number of users of this service continues to grow steadily: currently 5552 registered venues are able to use the JANET Videoconferencing Service over IP (JVCS-IP) and 662 are able to use the service over ISDN (JVCS-ISDN). During the reporting period 64 conferences took place using ISDN only over 160 hours, 4334 conferences took place using IP over 5065 hours, and 2496 conferences took place using the IP/ISDN gateway over 3222 hours. The overall statistical trend indicates an increase in the use of videoconferencing, particularly IP videoconferencing.

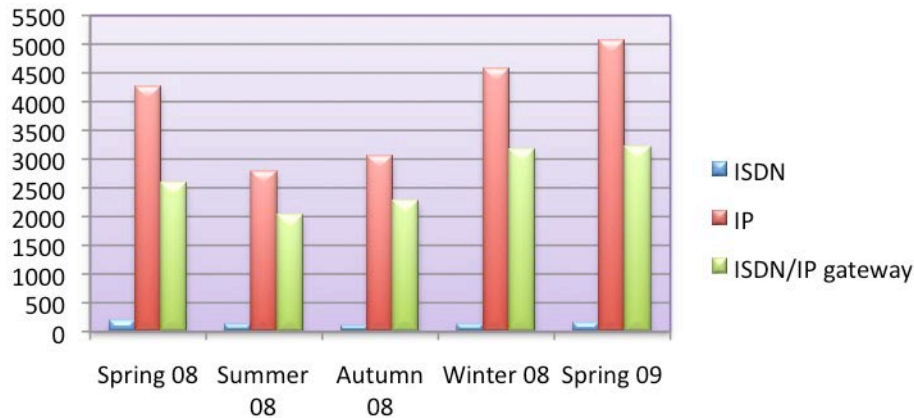
Number of videoconferences



Number of venues registered to use JVCS



Number of videoconferencing hours over IP and ISDN



JVCS (more information)

The new JVCS core equipment is now operational and supporting HD (high-definition) videoconferencing. An improvement in video quality of SD standard-definition endpoints may also be noticed due to the HD hardware and its Clearview software. Live videoconference streaming is expected to be available in May. This will allow organisations to stream a conference to attendees who may not have access to videoconferencing equipment, e.g. from home.

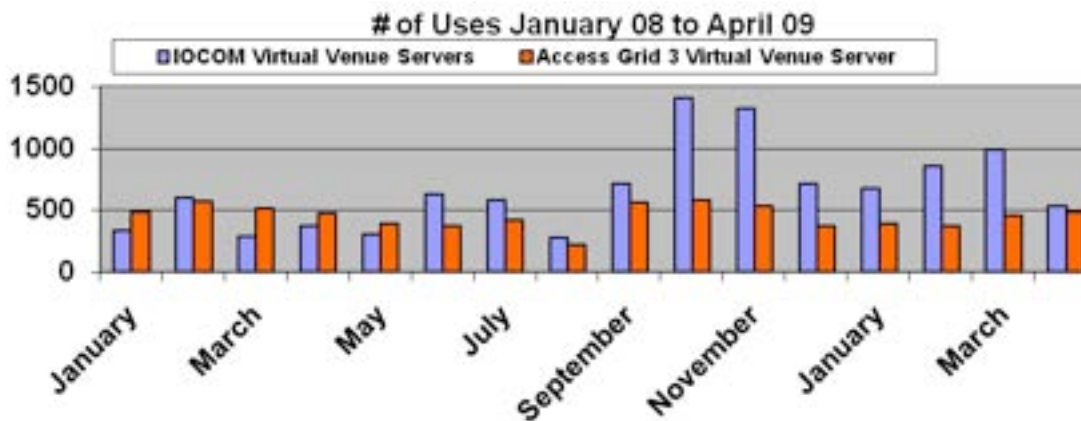
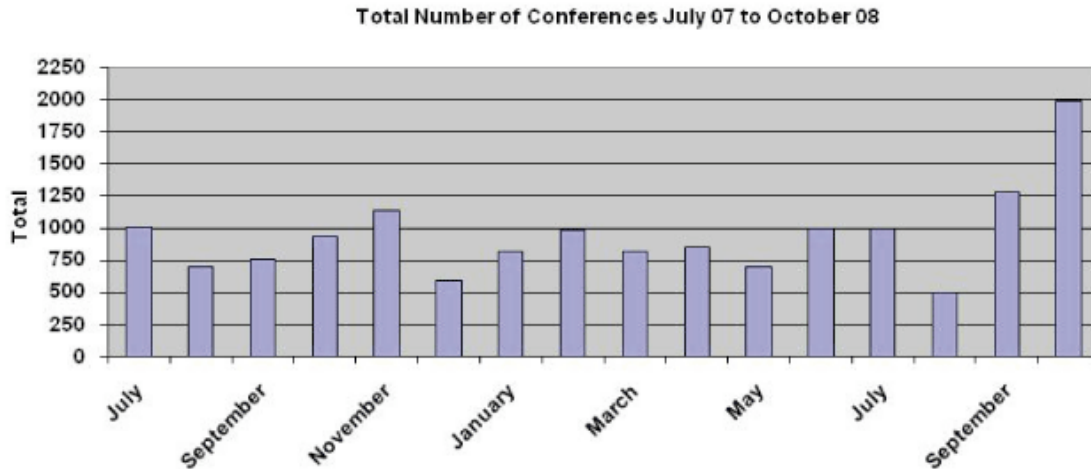
A JANET Videoconferencing Recording Service pilot began in March and is expected to run until the end of June. A number of organisations from across the JANET community have signed up to participate but more volunteers are welcome to help with testing. Any organisations wishing to take part in the pilot are welcome to register their interest by emailing service@ja.net with 'VTAS' in the subject line.

4.2 Access Grid Support Service (SLA J4.2) [\[more information\]](#)

The Access Grid® Support Centre continues to support the users of the Access Grid® within the UK academic network, with the aim of improving user experience through robust and resilient services.

Server and Bridge Activity

The number of registered UK AG nodes currently stands at 354, including the UK Academic desktop nodes, and the number of users stands at 596. Based on server usage we believe the number of users is higher but are unable to measure the exact number at this current time.



Spring has arrived and usage is slowly dropping due to the summer holiday quickly approaching.

Booking Service

Recurring bookings are now available on the AG Booking Service. Users can now book up to 52 recurrences for one session instead of having to book each session individually. This feature should save a great deal of time and effort for venue administrators needing to book a number of repeat conferences.

AGSC Workshop

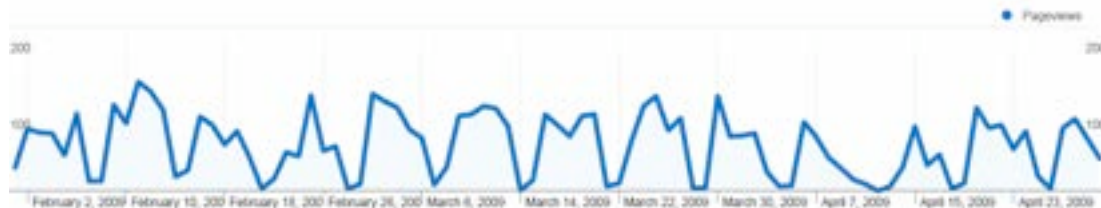
The last AGSC workshop was successfully held on 23 April 2009. Eleven people attended in person and seven attended remotely via Access Grid. Feedback from the session was positive with the majority of participants returning a very good overall assessment of the demonstrations.

Jitesh Gajjar of the Mathematics Access Grid Instruction & Collaboration (MAGIC) Group was a guest speaker this year. He spoke about the MAGIC group which runs a wide range of postgraduate level lecture courses in mathematics, using AG to broadcast the lectures simultaneously to MAGIC's member Universities.

Outreaches

The AGSC continues its outreach programme and has demonstrated Access Grid to a number of colleges across the UK, both remotely and on site. A number of the colleges can see the practical application of AG and are currently working on possible implementation strategies. Articles on some of the visits are available.

AG Web Hits



Google Analytics is now being used as our web reporting tool. The website is currently being looked at to improve navigation, usability and content.

Documentation is constantly being updated and added to the AG site: there should be something helpful for all user skill sets. Suggestions from users on what documentation they would like to see on the site should be submitted to the AGSC via telephone or e-mail.

EVO (Enabling Virtual Organizations)

The EVO - Telephone Bridge, a VoIP gateway which allows anyone with a telephone to dial into an EVO meeting, is now live. This may be helpful if users are experiencing hardware, software or networking issues and are unable to join a session by video. Alternatively, users may find this a convenient way to attend a meeting if they are away from their desk, for example at home.

At the annual Internet2 Spring Member Meeting, EVO won the 2009 Internet2 Driving Exemplary Applications (IDEA) Award. This annual award seeks to recognize leading innovators who have created and deployed advanced network applications that have enabled transformational progress in research, teaching and learning.

4.3 Usenet News Service (SLA J4.3) [\[more information\]](#)

4.3.1 News Feed Service (SLA J4.1) [\[more information\]](#)

The News Feed Service continues to function well. There are 24 client sites connected to the service and most are taking a full News feed.

4.3.2 News Reader Service (SLA J4.1) [\[more information\]](#)

Three organisations left the News Reader Service during the reporting period. There are currently 78 sites connected to the service.

4.4 Electronic Mail Services (SLA J4.4)

4.4.1 Mailer Shield (SLA J4.4.1) [[more information](#)]

Since the full production service successfully started on 1 August 2004, no outages have been suffered. No more organisations have joined this service during this reporting period. The number of recorded clients of the service remains at 28.

4.4.2 E-mail Advice and Testing Service (SLA J4.4.2) [[more information](#)]

The system provides mail protection to JANET customers and continues to run reliably and effectively.

4.4.3 E-mail Abuse Protection Service (SLA J4.4.3) [[more information](#)]

The service continues to run effectively and reliably.

4.4.4 Electronic Mailing List Service (SLA J4.4.4) [[more information](#)]

JISCMail provides an electronic mailing list service to the UK Education and Research community. The service uses the World Wide Web and e-mail to enable list-members to send messages to each other and share information.

4.4.5 Web Mail Service (SLA J4.4.5) [[more information](#)]

No more organisations joined the service during the reporting period. There are a total of 35 sites using the service.

4.5 JANET Web Site (SLA J4.5)

The JANET(UK) web site continues to be a reliable and well-used resource, this quarter receiving over 71,500 visits.

4.6 Nameserver Services (SLA J4.6)

4.6.1 Second Level Domain Service (SLA J4.6.1)

DNS (Servers)

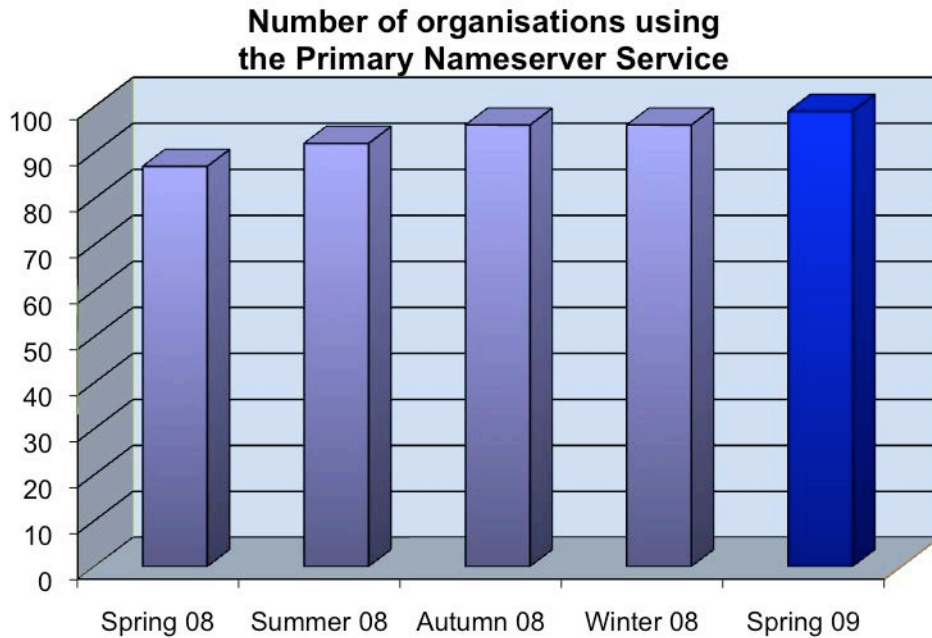
There were no reported problems with whois.ja.net during the reporting period.

DNS (Whois Service)

The JANET DNS service continued to run reliably with no problems encountered during this quarter.

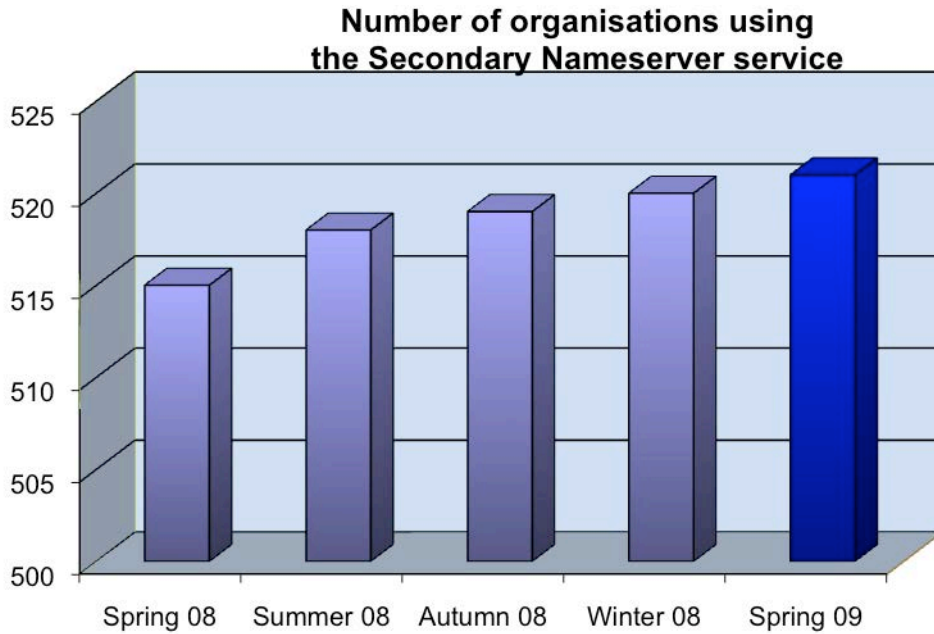
4.6.2 Primary Nameserver Service (SLA J4.6.2) [[more information](#)]

Three more organisations registered during the reporting period to use the JANET Primary Nameserver service. There are now a total of 99 users of the service.



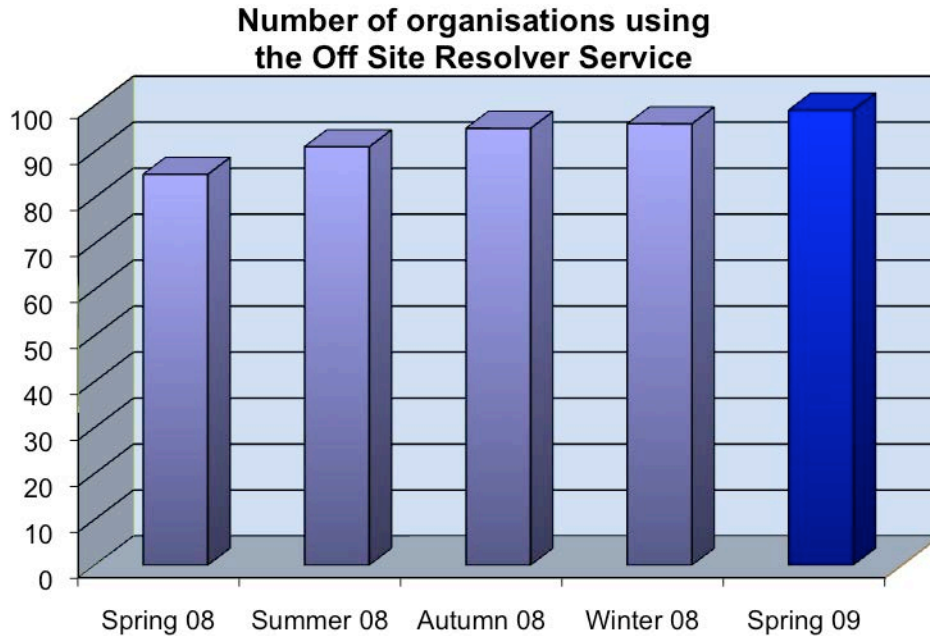
4.6.3 Secondary Nameserver Service (SLA J4.6.3) [\[more information\]](#)

There have been no breaks of service within this quarterly period. At the end of the period the number of organisations using this service has increased to 521.



4.6.4 Off-site Resolver Service (SLA J4.6.4) [\[more information\]](#)

The service continues to run reliably and effectively. Three sites joined during the reporting period taking the total number of users up to 99.



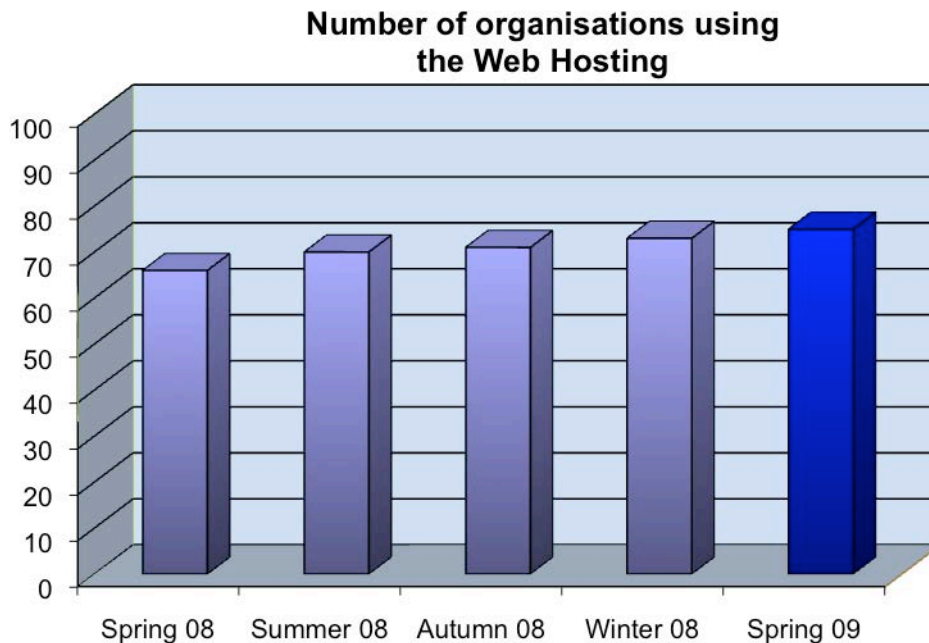
4.7 Managed Router Service (SLA J4.7) [\[more information\]](#)

Nothing to report.

4.8 Web-Based Services (SLA J4.8)

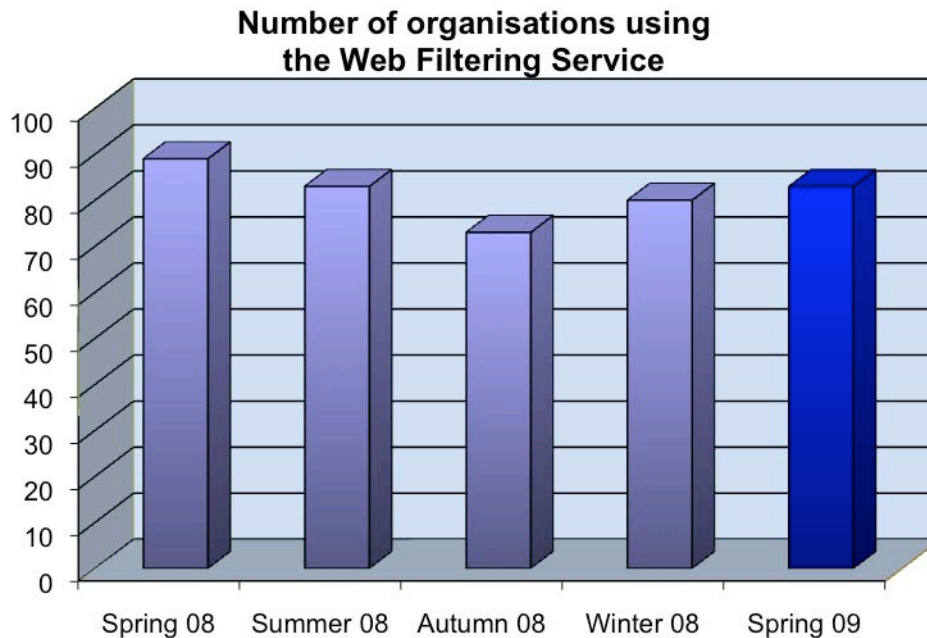
4.8.1 Web Hosting Service (SLA J4.8.1) [\[more information\]](#)

Five sites have joined the service during the reporting period, and one has left, bringing the total number of sites using the service to 75.



4.8.2 Web Filtering Service (SLA J4.8.2) [\[more information\]](#)

During the past reporting period 2 organisations joined the service. A few organisations have elected to have two filtering accounts. There are currently 83 individual organisations using the service.

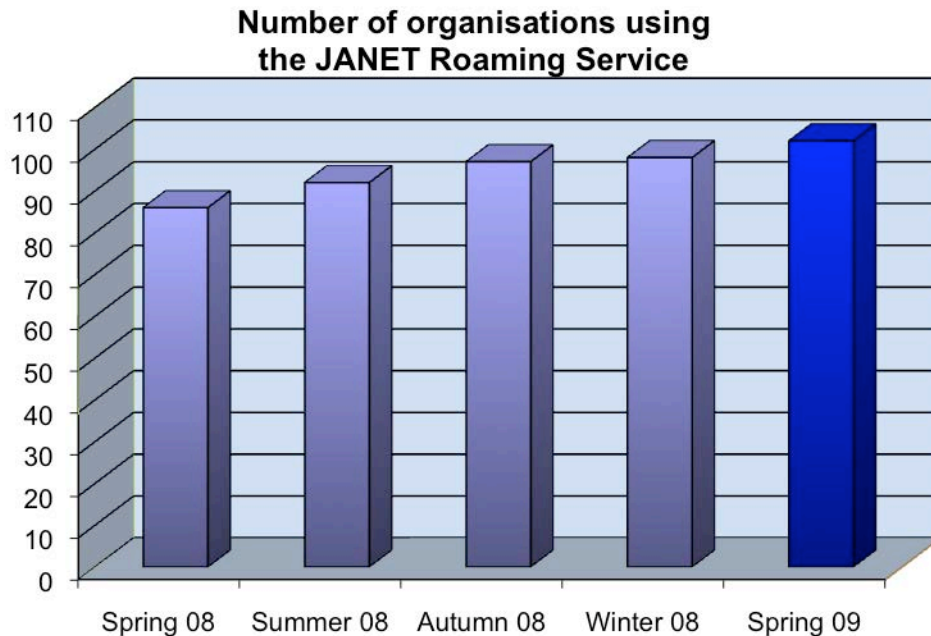


4.9 JANET Roaming Service (SLA J4.9) [\[more information\]](#)

Uptake continues to be promising, with the number of participating organisations now at 102 and increasing volumes of authentication traffic being seen.

Key news this quarter is the release of the updated Technical Specification and the withdrawal of the captive-portal JRS1 service tier. This was offered when the service was introduced as an interim option to enable organisations with legacy non-secure systems to participate in JANET Roaming. With JANET(UK)'s guidance, those organisations have migrated to secure 802.1x systems as required by the eduroam confederation and so the decision was made to withdraw the service tier formally.

JANET Roaming development work continues on enhancing national RADIUS server monitoring, acquisition and presentation of site WLAN cipher information, and support for development of the OpenSEA open source 802.1x supplicant.



4.10 UK Access Management Federation [\[more information\]](#)

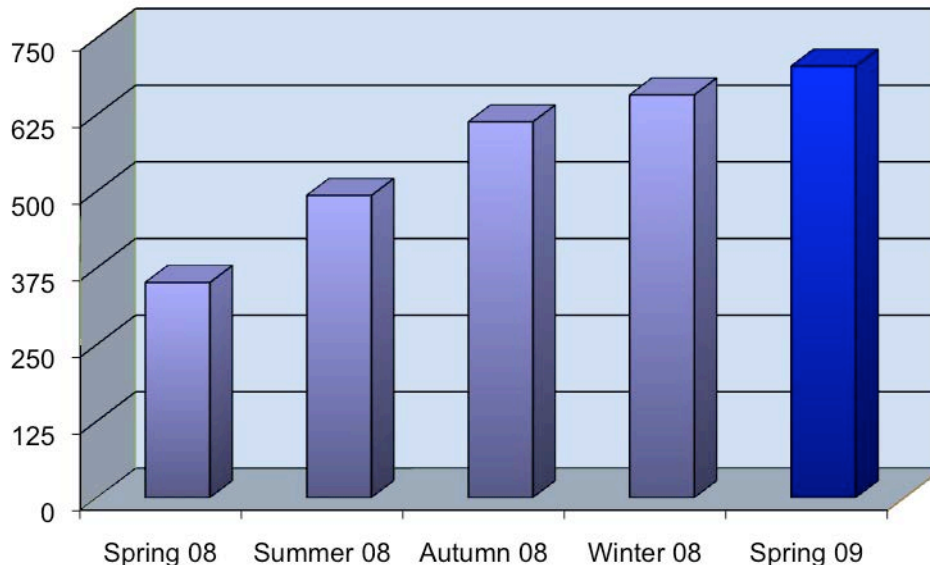
In February the Internet2 team announced the end of development support for version 1.3 of the Shibboleth software by August 2010. The UK federation now fully supports use of Shibboleth version 2 for the deployment of federated access management. Federation documentation has been updated to reflect this and a case study detailing how to perform the upgrade is now available on the federation website.

There are now 15 case studies available on the deployment of federated access management produced by members of the JANET community.

4.10.1 Membership of the UK federation

At the end of April there were 704 members in the UK federation, made up of organisations from UK education sectors and of commercial organisations providing online services to these sectors.

Total UK federation membership



4.10.2 UK federation Support, Training and Events

JANET(UK) is continuing to advise and support UK federation members to implement federated access management across their organisations, enabling more and more users to access the ever increasing number of online services and resources beneficial to UK education.

Four training courses covering federated access management are now available. For further details of the courses on offer and for booking information please see <http://www.ja.net/services/training/schedule/by-date.html>.

A series of regional briefing events took place during 2008 and 2009. The last of these was held in Bristol on 16 March 2009. These highly successful events gave those organisations currently moving towards federated access management opportunities to talk through some of the issues around both policy and technical deployment.

The federation has commissioned a number of case studies from different sectors and is planning a cross-sector event in October 2009 at which many of these case studies will be presented. More details can be found at <http://www.ja.net/services/events/calendar-2009.html>.

4.10.3 WAYF Interface Development

The UK federation is currently promoting and supporting the implementation of federated access management within the UK education and research sectors. It is recognised that the graphical user interface design of the national WAYF (Where Are You From) service should be reviewed in order to provide accessibility for as wide a range of users as possible.

The aim of this project is to implement an evolved graphical user interface for the national WAYF that encompasses the accessibility needs of as many users as possible. Careful consideration needs to be given to the accessibility requirements of all user groups needing to use the WAYF as a discovery tool to authenticate users of online services.

4.10.4 Expert Group on Portal Design

The WAYF is regarded as a back-stop measure and organisations are encouraged to use local discovery methods rather than sending users to the national WAYF. This service is part of the UK federation deployment and will continue to be available: however it is recommended that using a portal - i.e. a user facing application designed to direct the user to the resources available to them - is a better approach to the discovery problem. This can be with either the identity provider or the service provider.

This project aims to bring together an expert team to form a working group that will consider the technologies and definitions of user facing portal operation. The outcome will be the provision of guidance and best practice for those involved in the deployment of discovery services as part of the UK federation.

5 Technology Advisory Services (SLA J5)

5.1 Bandwidth Management Advisory Service (BMAS) (SLA J5.1)

[\[more information\]](#)

The number of enquiries handled by the advisory function has been low but the extensive web site, which is kept up to date and which contains a wealth of information, continues to be popular with the community.

5.2 Multi-site Connectivity Advisory Service (MCAS) (SLA J5.2)

[\[more information\]](#)

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 multiple campus site inter-connections and high bandwidth local links. The web site, which provides wide-ranging information for the community, remains popular and the MCAS service continues to serve all sectors of the JANET community.

5.3 Video Technology Advisory Service (VTAS) (SLA J5.3)

[\[more information\]](#)

Two new product evaluations were completed during the reporting period: the TandbergC60 and Sony PCS-XG80. These are high definition CODECs. Evaluation reports, a summary table, an overview document and an outline of the testing schedule can be found at: www.ja.net/services/video/vtas/productevaluations.

The document "NAT, Firewalls and Videoconferencing", authored by Geoff Constable of the Welsh Video Network was published on the website. This document covers H.323 videoconferencing across Network Address Translation (NAT), firewalls and network borders, with a description of the problems and solutions.

5.4 Voice Advisory Service (VAS) (SLA J5.4)

[\[more information\]](#)

The service has received a number of enquiries during the quarter including questions on IPT telephony to replace PBXs and Skype.

5.5 Wireless Technology Advisory Service (WTAS) (SLA J5.5)

[\[more information\]](#)

The service has received a number of enquiries during the quarter, including a call for help with DHCP-related access point problems, and advice on access point deployment and wireless surveying in listed buildings.

6. Training Services (SLA J.6)

The Training team continues to deliver a portfolio of courses across the country. Sixteen courses were run during this quarter with one, unfortunately, having to be cancelled during the bad weather in the south of England. This course was rescheduled in consultation with the delegates and run in April. We also ran the trial of our new 'Virtualisation Fundamentals' course which was booked out in the record time of four hours. Other bookings have also been excellent with all but a few courses being fully booked, some without advertising.

The JANET Training schedule is available on the web site. Additional dates and courses are added when available.

Activities on EdLab during the period centred around the development and delivery of Networkshop Online. This facility was designed to support delegates during the Networkshop conference by providing access to presentations, news and updates as well as audio and video resources. Following the conference this area was updated to include video and PowerPoint synced presentations of all the talks we have permission to publish. This process took longer than anticipated due to issues with the original video source but has now been completed. This area is now available to all EdLab users and the resources will be republished in the relevant subject areas.

Registration for EdLab® is available at <http://www.ja.net/training/edlab>.

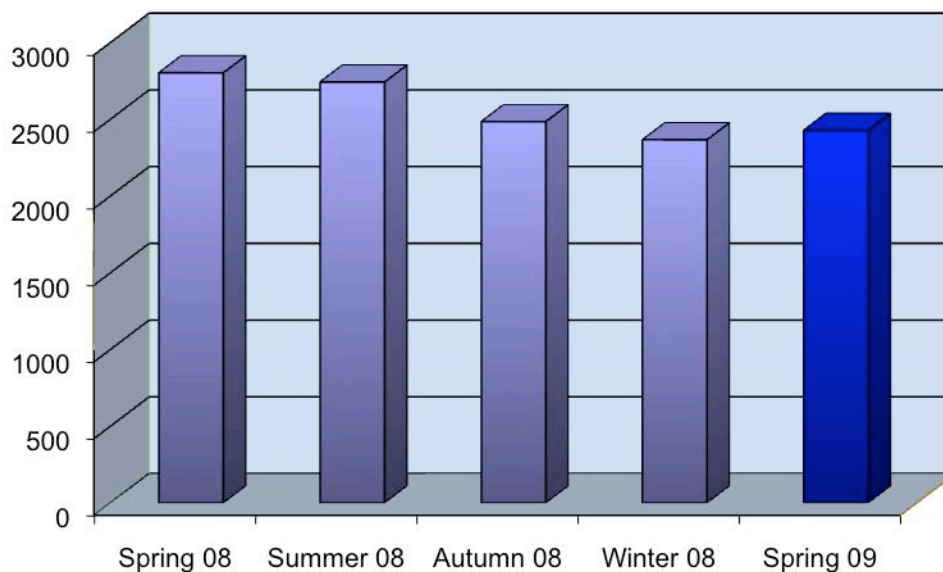
7. Administration Services (SLA J7)

7.1 JANET Service Desk (SLA J7.1) [[more information](#)]

JSD provides the primary point of contact for all enquiries concerning JANET services and requests for information. Contact information is provided below.

During this reporting period the total number enquiries received was 2428. Most of these queries related to the Domain Name registration service, requests for JANET Connections and applications or queries relating to other JANET services. Three complaints were received, which have been successfully concluded in this reporting period.

Number of enquiries to JANET Service Desk



7.2 Connection Services Administration (SLA J7.2)

JANET(UK) is responsible for administering 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 that can be found at:

<http://www.ja.net/documents/publications/policy/connection-policy.pdf>.

Requests for new or enhanced JANET connections should be made via the [JANET Service Desk](#).

A list of organisations connected to JANET during the reporting period is provided in section 3.1. For information regarding current upgrades or connections, contact JSD at:

connect@ja.net or service@ja.net.

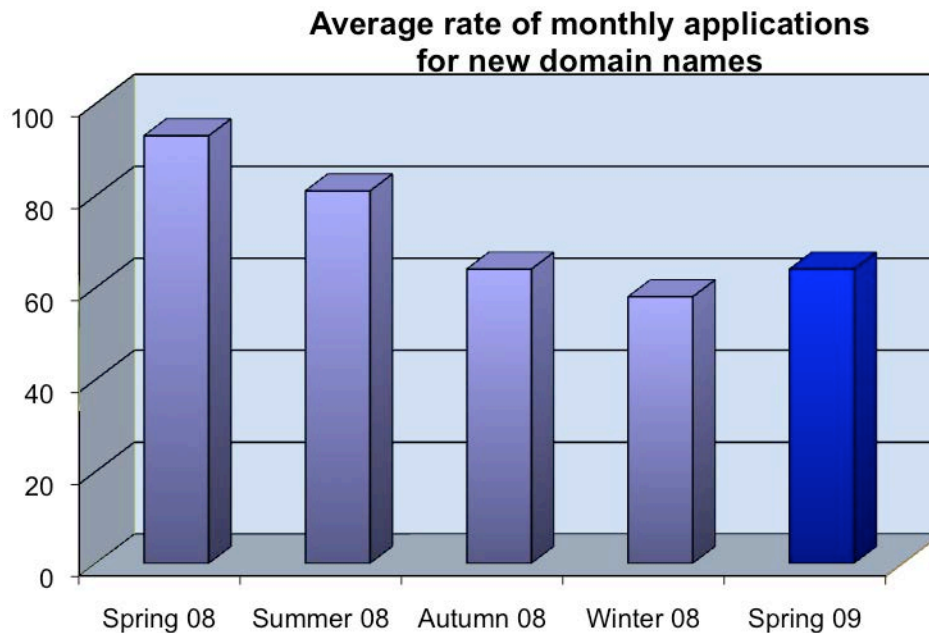
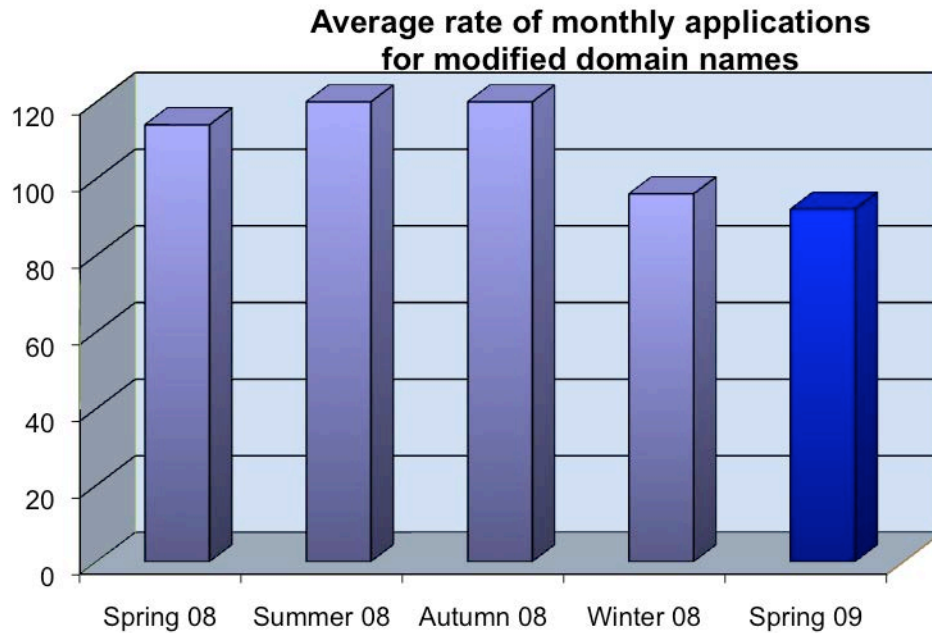
7.3 Licence Administration (SLA J7.3)

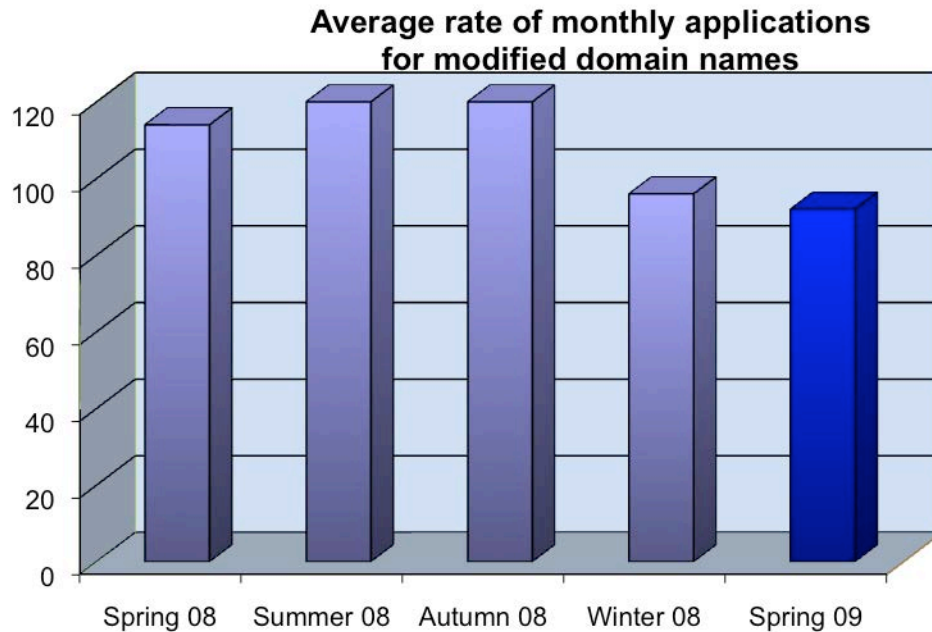
Over the past three months 1 new Sponsored Connection Licence and no new Proxy Connection Licences have been issued.

7.4 Domain Name Service Administration (SLA J7.4)

7.4.1 Domain Name Registration Service (SLA J7.4.1)

During the reporting period a total number of 468 requests were received for both new domain name registrations and modifications to existing entries. The rate of applications for new domain names averaged 64 per month, with an average of 92 modifications for each month.





7.5 IP Address Assignment (SLA J7.5)

17 applications were received and completed during the reporting period.

7.6 urn:mace:ac.uk Namespace Administration (SLA J7.6)

There were no new applications during this quarter.

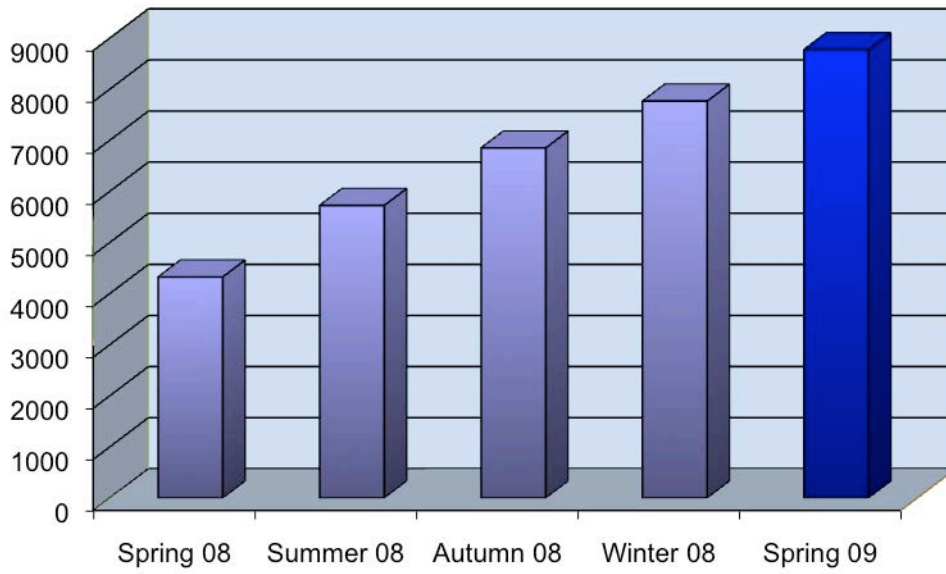
7.7 JANET Lightpath (SLA 7.7)

During this reporting period, JANET(UK) undertook an upgrade of the Lightpath infrastructure. So as not to further complicate this upgrade project, the decision was taken not to provision any lightpaths until project completion. The migration over to the new infrastructure was completed by 16/03/09 and the JANET Lightpath Service is now fully operational once again.

Server Certificate Service

The number of Server Certificate requests increased by 1009 to 8776 in this quarter.

Total number of Server Certificate Service requests



8. Security Services (SLA J8)

February

The majority of CSIRT staff time was taken up handling infections of the Conficker worm and its variants. Reports were received, often numbering hundreds each day, from organisations which had been monitoring the domain names used by the worm to download further instructions.

The number of vectors that this worm uses to infect hosts means it has been difficult for organisations to protect their network completely. Even a completely patched and up-to-date system can be re-infected through user error or a weak password. Whilst some organisations have been able to utilize existing logging of network events to track down infections, others have had problems especially where network address translation devices are involved. Some sites are still not filtering the Windows LAN services at their network border.

CSIRT also saw a number of claimed copyright infringement reports where it was not believed the reporter was acting on behalf of the copyright holder. CSIRT has not been passing these on to JANET community members.

March

The overriding workload for JANET CSIRT continued to be dealing with the Conficker worm. CSIRT handled a large number of instances each day of infections across JANET with many systems being re-infected as the worm was developed by its users.

CSIRT also continued to handle large amounts of instances of copyright infringement. Other incidents of the usual perennial issues continued to be dealt with i.e. SPAM/Phishing, compromised machines and scanning.

April

The high rate of incidents involving infections and re-infections of the Conficker worm continued. A lot of JANET connections are re-infected due to both the development of the worm by its users and the continued failure or lack of security measures to prevent the spread of the worm and re-infection of systems.

There is also still a high rate of incidents involving complaints about copyright infringement by JANET users.

CSIRT handled an increasing number of incidents involving DNS resolvers possibly being used as part of distributed denial of service attacks.

9. Development

9.1 Federated Access Management [\[more information\]](#)

This area is now reported on as part of 4.10.

9.2 Roaming & Mobility [\[more information\]](#)

9.2.1 802.1x Supplicant [\[more information\]](#)

The project initiation document has now been put forward for the next phase of the supplicant project. This will involve testing of the Linux and Vista ports along with wider scale deployment. The current news on the Linux port is that IT R&D company MindTree has issued a number of releases which have been tested within the wider community. It is not quite the finished version but a more polished and executable version is due fairly soon. MindTree ran into problems very early on with the Vista port which meant a delay in the release. It has now resumed work on the Vista port but no formal release timescales have been released.

9.2.2 Eduroam Confederation Policy [\[more information\]](#)

This area is now reported on as part of 4.9.

9.3 Network Access [\[more information\]](#)

9.3.1 Mobile IP [\[more information\]](#)

Final documentation at the close of this project is being collated. Results and lessons learned will be presented at a proposed Network Access event this Autumn.

9.3.2 Local-Loop Unbundling [\[more information\]](#)

Contracts have now been exchanged with the three participating organisations and work is underway. It is expected that all activities will be complete by November 2009. Editorial review and publication of results should be completed in early 2010.

9.3.3 Location Aware Wireless Infrastructure

Final documentation at the close of this project is being collated. Results and lessons learned will be presented at a proposed Network Access event this Autumn.

9.3.4 Portable WLAN

Contracts have been prepared and initial work is already in progress. Regular progress meetings will commence in July.

9.4 Network Engineering

9.4.1 IPv6

Work is continuing to enable IPv6 support within JANET production services.

9.5 Voice [\[more information\]](#)

9.5.1 JANET Talk [\[more information\]](#)

At the time of JANET Talk's conception (over two years ago), a survey of network managers showed that the majority were unable/unwilling to allow peer-to-peer applications such as Skype to run over their networks. JANET Talk was conceived to fill a gap in the market, providing VoIP and collaboration tools on an open standards platform. This in turn would perform in a well-behaved manner, allowing traffic to be managed accordingly.

During the course of the trial, feedback was received indicating that although JANET Talk addresses all the issues highlighted at its conception, the marketplace has moved on, with an array of free to use web collaboration platforms available to organisations and individuals. There has also been a shift from blocking peer-to-peer applications, to actively allowing their use for academic collaboration. It is for this reason that the trial is running to a close, allowing us to re-assess how best to assist the JANET community in providing voice services.

9.6 Video [\[more information\]](#)

9.6.3 Ultra High Definition [\[more information\]](#)

JANET(UK) held an Ultra High Definition Workshop, for those of the community who successfully replied to a Call for Interest. Since this workshop, JANET has been working towards the next logical step - a possible trial of the technology. As a result, JANET has decided to create a Special Interest Group which will help shape a programme of work in the area.

9.7 Measurement & Monitoring [\[more information\]](#)

9.7.1 Netsight [\[more information\]](#)

See section 3.4.

9.7.3 Schools

As the rollout of JANET Netsight nears completion, JANET(UK) is in the very early stages of discussion with Becta over restarting their joint pilot project to define the requirements for gathering network measurement information from schools networks.

9.7.4 Flow Monitoring

JANET(UK) is looking to replace the existing flow monitoring system with a new system that provides additional features and functionality. Following various supplier meetings, JANET(UK) is nearing completion of the first of three commercial product evaluations. It is hoped that the evaluations will give us greater understanding of the state of the NetFlow product market and help inform our requirements capture.

9.8 Support for Research [\[more information\]](#)

9.8.2 JANET Lightpath [\[more information\]](#)

This area is now reported on as part of 7.7.

9.9 Optical Networks [\[more information\]](#)

9.9.1 Technology Tracking

Discussions with vendors continue for both Carrier Ethernet and optical transmission equipment.

9.9.2 Carrier Ethernet [\[more information\]](#)

Four participants have been shortlisted, subject to contract, from responses received to February's Call for Participation.

The JANET-wide test bed will be deployed following the completion of the procurement activity for the core equipment. The contract with the supplier should be in place by mid July 2009, with a view to deploying the equipment in August 2009 and trial commencing in September 2009.

9.10 Schools Services [\[more information\]](#)

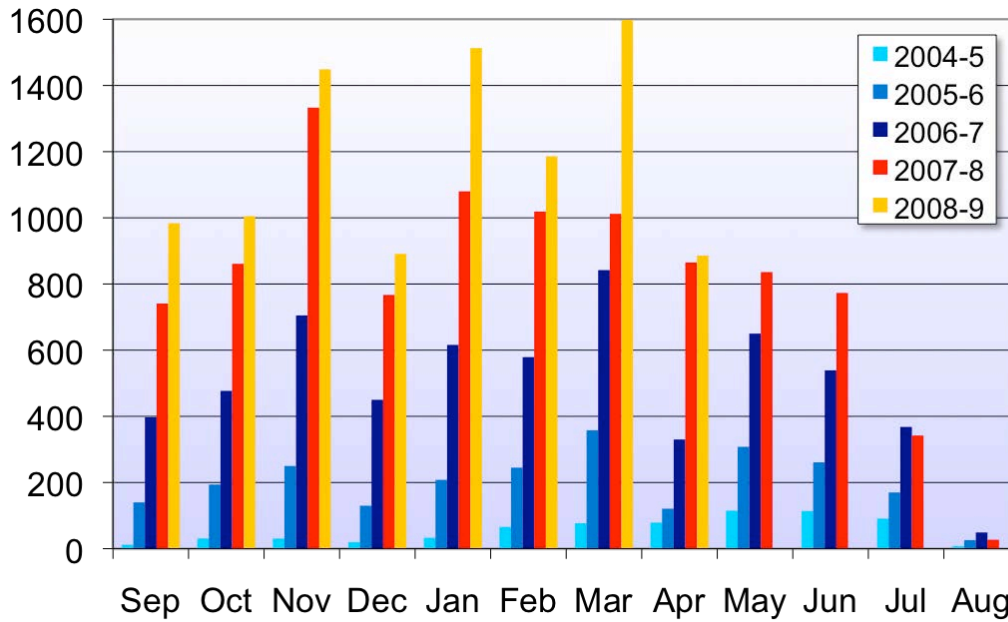
9.10.1 Content Access

The UK federation is increasingly enabling secure access to content. The Content Access Service continues to provide UK schools with access to licensed online educational content that is authenticated via IP address, such as Audio Network and the National Archives Learning Curve. The JANET Technical Advisory Group maintains, manages and supports the Content Access Registry. A Content Management Group involving representatives from Regional Broadband Consortia, Becta and JANET(UK) continues to oversee the development of the Content Access Service.

The NEN Services Group has been working in collaboration with South East Grid for Learning to set up a pilot for the delivery of film clips and associated materials via the National Education Network. Following its successful launch at BETT 2009, the content is now hosted on the JANET core. The team has also continued to work closely with Becta on a National Digital Learning Resource Strategy.

9.10.2 Videoconferencing

The take-up of videoconferencing by schools continues to grow. By the end of April 2009 the total number of schools sector endpoints registered with JVCS was over 3800 (as compared with just over 3150 at the end of April 2008). Almost 3700 videoconferences were undertaken this quarter, as compared with over 3850 in the previous quarter, approximately half with national content providers. Over 75% of the conferences continue to be for teaching, tutorials and related educational activities; other purposes include administrative meetings, system testing and quality assurance. The growth in schools videoconferences, managed by JVCS throughout the last five years, is illustrated below.



9.10.3 Collaboration [\[more information\]](#)

The JANET Collaborate prototype continues to be used by a growing number of members from the FE, Schools and Content Providers communities. Feedback on the usability and suitability of the prototype has shown that the prototype is meeting the needs of its users. Further development is being considered.

10. Community Update

(a) FE Liaison

JANET(UK) attends regular meetings with the LSC to raise awareness of new JANET initiatives, report on current progress with the English upgrade programme and discuss future developments within the FE community.

(b) Specialist Colleges

10Mbit/s upgrade requests have been received for Foxes Academy and Ruskin Mill Educational Trust. The LSC has approved connection upgrades for six specialist Colleges and funded primary connections for St Elizabeth's Centre and Thornbeck College.

(c) PCDL (Personal and Community Development Learning)

Local Authorities continue to make an increasing use of JANET for both PCDL and also other educational and Local Authority use. Thurrock, Trafford and Bedfordshire Councils have increased their allocated JANET primary bandwidth during this period. Cheshire County Council and its associated Local Councils have restructured into Cheshire West and Chester and Cheshire East, both of which have proceeded with JANET primary connections. Connections for Local Authorities in the West Midlands have been completed.

(d) Scotland

The JISC Conference was held in March in Edinburgh. JANET(UK) was well-represented at this event and the JANET stand provided a focal point for meeting members of the community.

The JISC Smarter, Greener Learning Conference was also held in Edinburgh, in April. The Account Manager for Scotland and Northern Ireland attended. The audience included delegates from FE, HE and research communities. Many academic institutions have signed up to the Universities and Colleges Climate Commitment for Scotland. This conference addressed why green issues are a priority for Scotland and considered the steps organisations can take to reduce environmental impact.

SSDN

JANET(UK) is liaising with LTS and its supplier, Thus, to ensure a smooth transition from the old SSDN to the new network.

(e) Northern Ireland

A successful online conference was held by the RSC in Northern Ireland. A range of topics were presented to delegates, including an update on JANET activities and services.

The LSDA-NI Annual Conference for Further Education Colleges in Northern Ireland was opened by Sir Reg Empey, Minister of the Department for Employment and Learning in Northern Ireland. Around 700 delegates from FE attended and the main theme for the conference was the role colleges will have in the current economic downturn.

(f) NHS/HE Connectivity Project [\[more information\]](#)

NHS-HE Forum

The latest NHS-HE Forum took place in London on 22 April with 35 attendees. There were keynote sessions on the NHS Research Capability Programme, high power computer applications in health, and thoughts on the the Academic Health Science Centre Challenge.

Business Case for Resilient and Responsive N3 JANET Gateway in Future

The business case for a jointly funded full N3 JANET Gateway service to follow on from the current early adopter is awaiting sign-off by Connecting for Health. Unfortunately this has been caught up in a reorganisation of Connecting for Health so it is not clear when it will be possible to proceed. In the meantime the early adopter N3 JANET Gateway remains in place and there are ongoing discussions about adding further early adopter communities.

(g) Research Councils

NERC is to upgrade to 100Mbit/s for its current back-up circuit, and is looking at options for connecting the Freshwater Biological Association following the closure of CEH Dorset.

(h) Other Organisations

Enquiries continue from a widening range of organisations for both connectivity and other JANET services: the Royal Shakespeare Company, Kew Gardens and The National Museums Group are examples.

11. European Activities

(a) TF-Mobility

JANET(UK) hosted this quarter's TF-Mobility meeting in Loughborough, and presented a task work-plan for the coming year for the Location Awareness task which JANET leads. Other topics discussed at the meeting will impact JANET Roaming reporting and middleware activities relating to DNSSEC (Domain Name System Security Extensions).

(b) TF-NGN

Nothing to report.

(c) TF-PR

Nothing to report.

(d) TERENA Networking Conference [[more information](#)]

The conference will be held from 8-11 June 2009 in Málaga in Spain, organised by TERENA and hosted by the University of Málaga and RedIRIS, the Spanish national academic and research network.

The theme for the conference is "Virtuality into Reality". Details of the programme can be found at: <http://tnc2009.terena.org/schedule/>.

(e) TERENA General Assembly

The next TERENA General Assembly will be held in Málaga, Spain in June.

(f) TERENA Compendium

Steve Hogger represents JANET(UK) on the Compendium group. The questionnaire for this year's compendium is in the final stages of development and will be distributed to the NRENs for their input shortly.

(g) Mobility Group - JRA5

This group was terminated in February 2009 with the conclusion of the GEANT3 project.

(h) QoS Project - Service Activity 3

Nothing to report.

(i) GEANT 3 - Service Activity 3 Leadership

The SA3 and JRA3 activities Activity and Task leaders met in early March to discuss the start of the GEANT3 project and how the planned work would be co-ordinated between these activities. A sub-set of the SA3 Activity met subsequently to discuss the co-ordination of the eduGAIN service and development work in further detail.

The results of this discussion were reported to the Internet2 Shibboleth development community and a consensus was reached on the architectural principals of the metadata exchange processes necessary for Interfederation. The specification and implementation of the metadata exchange process will be undertaken by SWITCH with the support of GN3 funding.

The SA3 and JRA3 participants will meet towards the end of May to begin the process of detailed planning of their respective tasks.

Further Information

Further information on any aspect of this report can be obtained through JANET(UK)'s general enquiry point, the JANET Service Desk. This is staffed from 08.00 to 18.00 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 Science & Innovation Campus, Didcot, Oxon OX11 0SG

- JANET® is a registered trademark of the Higher Education Funding Councils for England, Scotland and Wales. The JNT Association is the registered user of this trademark. JANET(UK)®, Networkshop®, EdLab® and NetLab® are registered trademarks of the JNT Association.
- Access Grid® is a registered trademark of the University of Chicago.
- Tandberg® is a registered trademark in the U.S. and certain other countries.
- Telehouse® is a registered trademark of Telehouse International Corporation of Europe Limited.
- All other trademarks are property of their respective owners.