Quarterly Report to the Community

November 2008 – January 2009

Editorial

Sharp-eyed readers may notice a slight rearrangement of the reporting structure for this quarter Specifically two services formerly reported on in Section 9, Development, have become the responsibility of the Operations division. In other words, though development will continue, they have reached the stage where they can be considered services in their own right. Thus JANET Lightpath can now be found at section 7.7 and Federated Access Management at 4.10.

Meanwhile we report that two new courses for JANET Training have been piloted – 'Computers, Privacy and the Law' and 'Implementing Shibboleth 2 Service Provider'. Both are in response to demand from the JANET community for expertise in these areas, one under constant review with updates in legislation and the other concerning a technology whose uptake in the UK federation is constantly on the increase.

New technologies continue to arise, bringing with them new needs and expectations, which JANET(UK) continues to anticipate and to meet.

New Number for JANET Service Desk
JANET Service Desk has changed its contact telephone and fax numbers to take advantage of the new 0300 rate. JSD can now be contacted on 0300 300 2212 or faxed on 0300 300 2213. These numbers only apply to callers from within the UK.

0300 numbers are available for the public sector and, unlike numbers with an 08 prefix, they cost the same to call as landline numbers, even from a mobile phone. The new numbers completely replace the old 0870 numbers, which will shortly be cancelled.

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 6
Technical	Streaming Live Video on JANET
Factsheets	PlanetLab & JANET
General	Videoconferencing
	Using the Power of JANET: Information for Local Authorities in England

(b) Workshops and Conferences [more information]

BETT, London, 14-17 January 2009
The JANET Stand at the BETT show in January was given over entirely to demonstrating the variety of videoconferencing content available to schools. Live debates and contributions were inspired by a plethora of videoconference providers such as the National Space Centre, the Wordsworth Trust and The Holocaust Centre. The Suffragette, played by an Education Officer at the Beamish Open Air Museum in Durham, stoked the fires of debate with an on-stand, tongue-in-cheek debate about women voting. Other examples of videoconferencing content were delivered by the Natural History Museum, The Beacon Museum, The National Archives, The National Coal Mining museum for England, The National Maritime Museum and Touch the Sky Ltd. The stand was also joined in person by 'Commanders' from the National Space Centre's Education Team and the character of Lord Hastings, coal mine owner.

The meeting showed that the technology is becoming less of an issue and teachers are now more confidently turning to videoconferencing to provide curriculum-based content. The focus of questions was heard to move from 'I've got a videoconference system, but I don't know how to work it' to the much more positive 'I've got a videoconferencing system, what can I do with it?' The JANET Collaborate prototype site was also available to show delegates how to find videoconferencing content, and to inspire teachers and school IT managers with new ideas and examples of content that they can now access via videoconference.

JANET Optical Briefing, London, 28 January
Over 50 delegates from the JANET(UK) community attended the Optical Event held on 28 January 2009 at the ICO Conference Centre in London. The aim of the event was to provide an overview of the work being carried out under the JANET Optical Development Programme and to provide a glimpse into the future of optical networking technologies.

Jeremy Sharp, Head of Strategic Technologies at JANET(UK), explained how the Optical Development Programme was preparing for JANET's future whilst ensuring that the current infrastructure remained fit for purpose.

Rob Evans, Senior Engineer at the JANET Network Operations Centre (NOC), started the day with an interesting talk on 'Upgrading to STM-256' or upgrading a substantial part of the core to 40Gbits/s capability. He covered why the speed increase was necessary; the original trial in 2007; the two phases of implementation during 2008; and the problems encountered and how they were resolved. Finally he touched on 'Where next?', introducing 100Gbit/s and Carrier Ethernet possibilities.

Dave Tinkler from JANET NOC talked about JANET Lightpath's move to EoMPLS (Ethernet over Multiple Protocol Label Switching). He went through a definition of the Lightpath, the present infrastructure, the options available and the basis of the decision to go with Ethernet over MPLS. He then confirmed that installation and configuration were now complete and that the switchover was due to take place in March 2009.

The final session of the morning was from Victor Olifer, a technical specialist in Strategic Technologies, who covered Carrier Ethernet and optical transport integration. Victor started by explaining the complexities of layer integration and the pros and cons of the options. He went on to look at the definitions and differences between Carrier Ethernet Transport (CET) and EoMPLS. Although the latter had been selected for the Lightpath upgrade, the decision was partly a timing issue and more investigation is needed to identify the strengths and weaknesses of each solution. To this end, he stated that a call was announced on 22 January, inviting participation in a Carrier Ethernet Project to run over two years. Details of this are on the JANET(UK) web site at:

http://www.ja.net/development/optical-networking/carrierethernetproject.html

After lunch Tim Robinson, Operations and Technical Director at Net North West, presented a case study of the issues at an RNO when upgrading its network. There were some interesting slides showing the differences between point-to-point distances and fibre route distances which can make a significant impact. Not for the first time during the day, some common themes emerged relating to VLANs, EoMPLS and Carrier Ethernet Transport.

GEO UK sent two representatives, Marcus Dorling and Jon Romano, to talk about how to benefit from a dedicated fibre network. Discussed were alternative methods of routing (shortest distance is not always cheaper), treating unlit (dark) fibre as an asset to future-proofing increasing demand on the network, and attributes to be considered.

David Salmon ran through JANET(UK)'s investigations into dynamic Lightpath provisioning. Topics included: Getting capacity to where it is needed; control and management (network management systems still appear proprietary and expensive); looking ahead to EoMPLS and the Carrier Ethernet Trial; and Beyond JANET5.

The day was completed by Colin Wallace, representing Ciena, talking on optical technology which centres on intelligent networks and the migration to intelligent networks with 100Gbit/s. The need for capacity is doubling every 12 to 18 months. 10Gbit/s will not be adequate beyond 2010. 40Gbit/s will handle growing traffic in the short term but may just be a stepping stone to 100Gbit/s by 2011.

Further information on the conference, including copies of the slides used in each talk, is available from http://www.ja.net/services/events/2009/optical_event/programme.html.

Government IT 09
In spite of the weather and travel difficulties some people experienced, the Government IT Conference 2009 was held in February at the QEII Conference Centre in London.

JANET both had a stand and ran two workshops, led by CEO Tim Marshall. Early in his opening Keynote Address 'Transformational Government: Where Are We Now?', Kevin McLean, Director of Strategy and Policy, Transformational Government, Cabinet Office stated that 'JANET was a fantastic example of a successful shared service' and noted that over 100 authorities are now connected to the network.

The two workshops led by Tim Marshall included presentations from Tim Kidd (Head of Operations, JANET(UK)), Nick Atkins (IT Director, University of the Arts, London) and Heather

Pettitt (South East Grid for Learning). The presentations focused on the opportunities and rationale for shared services, an overview of the JANET infrastructure, the user experience, and a description of the JANET-connected Kent Public Service Network. Nick made the point that the inherent reliability of JANET means it is a service he doesn't have to be concerned about, freeing him to concentrate on development activities.

The delegates at the conference were from all sectors of the public sector, many of whom visited the stand and wanted to know more about JANET and what it can offer. The event was a very successful opportunity to raise the awareness of JANET within the public sector.

(c) Network User Groups

The South East JANET Regional User Group met on 18 November 2008. Matt Cook from Loughborough gave a fascinating talk about virtualisation.

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

Following JANET(UK)'s input into the Government's consultation on illicit use of peer-to-peer filesharing networks, considerably revised proposals were published alongside the Digital Britain report in January. These appear to confirm JANET's long-standing policy of expecting connected organisations to deal effectively with their users who are accused of breaching copyright (in accordance with the JANET AUP), but requiring court orders before disclosing the identity of any user. Discussions have also taken place with the Federation Against Copyright Theft (FACT) on developing joint good practice documents for reporting and dealing with copyright breaches.

Some discussion also took place after newspaper articles on the data retention law that the government has (since 2006) been required to bring into force by March 2009. No draft legislation has been published since a consultation last summer, but as the European Directive on which it is based applies only to public networks it is unlikely that this will affect users of JANET.

JANET's training courses on 'Managing IT Security' and 'Security Policies' were presented in Glasgow. The pilot presentation of the new 'Computers, Privacy and Law' course in Birmingham received useful feedback which is being incorporated into the revised version of the course that will form part of JANET's training portfolio in future. Presentations were made on security and policies to a NorMAN group in Newcastle and on the implications of the Government's Data Handling Reviews to the Networking Strategy Workshop in Birmingham. Following on from this last event, discussions are taking place with Becta and the Local Government Association on whether their existing guidance could be expanded to cover the wider education sector.

Work has continued on general policies and specific agreements for exchange of information between access management federations. Good practice guidance on the use of federated systems to reduce the use of personal data, and on good practice in handling pseudonymous identifiers, has been published through TERENA's Research and Education Federations Group, which met in Utrecht in December.

Other meetings attended included those of the London Internet Exchange (LINX), Internet Watch Foundation (IWF), the European Network and Information Security Agency (ENISA) and TERENA's CSIRT Task Force.

3. IP Services (SLA J3)

3.1 IP Service (SLA J3.1)

This reporting period has seen a total of 73 new or enhanced customer connections completed and brought into use:

Further Education

- Bedford College
- Berkshire College of Agriculture
- Bishop Burton College
- Bradford Metropolitan District Council
- British Universities Film and Video Council
- Bromley College of Further and Higher Education
- Brooklands College
- Chelmsford College
- Christ the King Sixth Form College
- Colchester Institute
- College of North West London
- Croydon College
- East Berkshire College
- Farnham College
- Hackney Community College
- Harlow College
- Havering College of Further and Higher Education
- The Henley College
- Hereward College of Further Education
- Leeds College of Art and Design
- Leyton Sixth Form College
- Milton Keynes Council
- New College, Durham
- Newbury College
- Newcastle College
- Northumberland College
- Notre Dame Sixth Form College
- Sir John Deane's College
- The Sixth Form College, Colchester
- Solihull College
- South East Essex College of Arts and Technology
- Southgate College
- Southport College
- St Charles Catholic Sixth Form College
- Suffolk New College
- Thanet College
- Treloar College
- Walsall Adult & Community Learning
- West Herts College
- Wigan & Leigh College

Higher Education

- Royal Agricultural College
- The University of Bath
- University of Birmingham
- University of Bristol
- University of East Anglia
- University of the West of England, Bristol
- University College Birmingham
- University of Worcester

Research Councils

- British Geological Survey, Eskdalemuir
- British Universities Film and Video Council
- The Medical Research Council Glasgow

Self-funded

- CableCom Networking Ltd
- Coventry City Council
- Cranfield University
- Derwentside District Council
- Evesham and Malvern Hills College
- ifs School of Finance
- Imperial War Museum
- Morse
- RM plc
- Shropshire County Council
- Solihull Metropolitan Borough Council
- Staffordshire County Council
- Stoke-on-Trent City Council
- Telford & Wrekin Council
- University Campus Suffolk Ltd
- University of Essex
- Workers' Educational Association, Exeter

- Workers' Educational Association, Birmingham
- Working Men's College
- Wyke Sixth Form College
- Yeovil College

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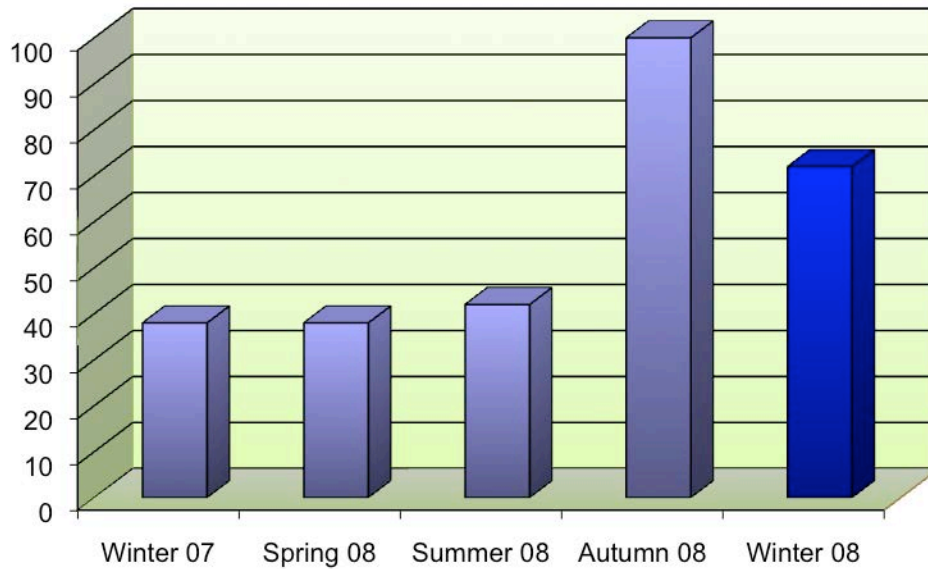
For information regarding current upgrades or connections, please contact JSD at: connect@ja.net

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

(b) FE

In England, work has continued on the capital-funded project to implement upgrades beyond 10Mbit/s. Upgrades have now been delivered to 204 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. The number of fibre breaks due to vandalism in Leeds area has reduced significantly.

The second phase of the 40Gbit/s upgrade was successfully completed in December. The core of the JANET network has been running smoothly at 40Gbit/s ever since.

A plan has been drawn up for upgrading certain Regional Networks' access links from 2.5Gbit/s to 10Gbit/s. Implementation will start in the next quarter.

(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 2.5Gbit/s backup connection from the Telehouse® R-PoP. Peak traffic over the connection is normally under 2.0Gbit/s; however, there were peaks at 4.5G bit/s during this quarter. The backup link will be upgraded to 10Gbit/s in the next quarter.


Peak traffic over connections to GÉANT (Gbit/s)
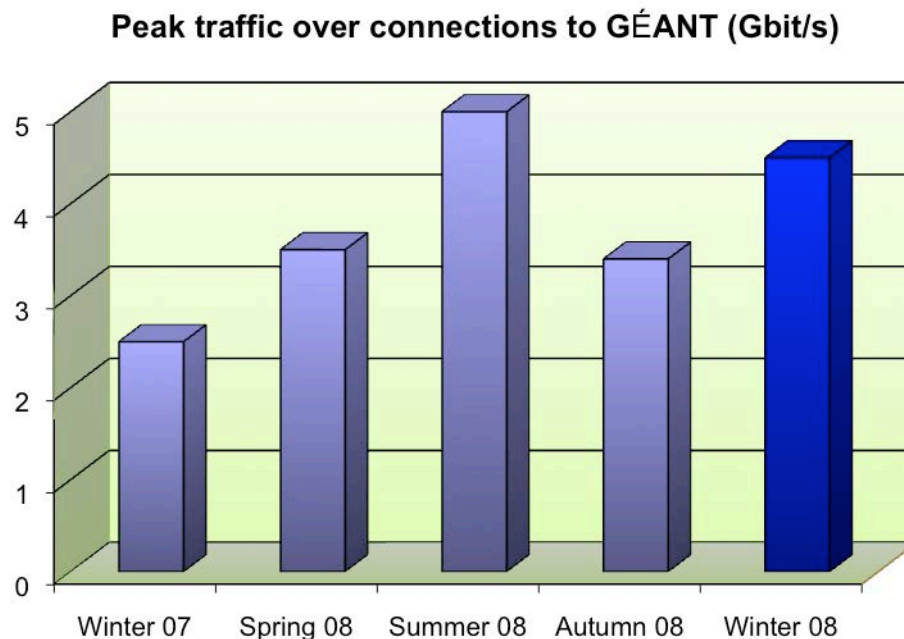
(ii) Access to the Global Internet

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 Telecity in London. Aggregated peak traffic reached 11.5Gbit/s during the past quarter.

Peak traffic over connections to Telehouse® and Telecity (Gbit/s)
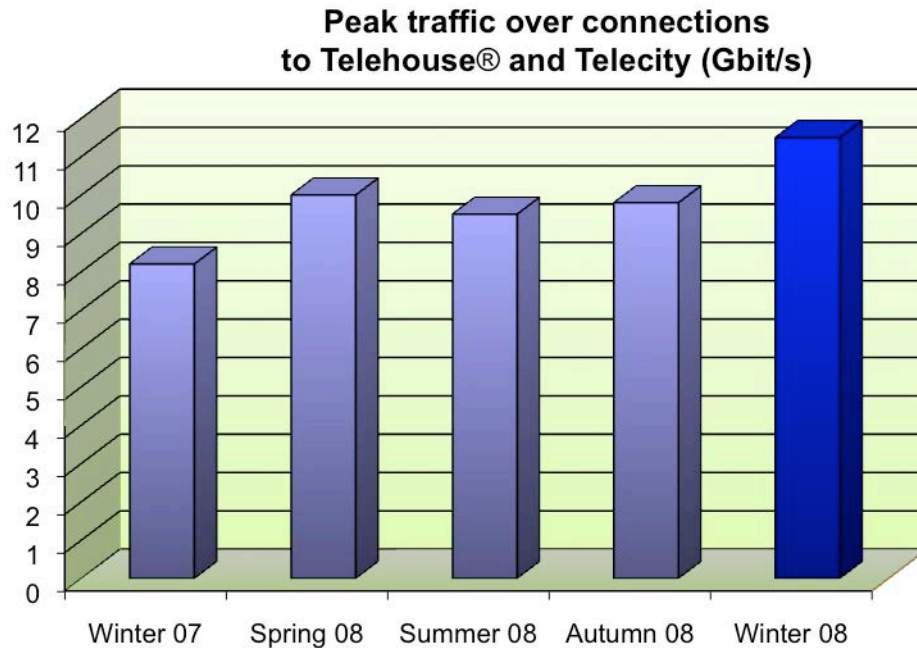
A price review on the existing contracts took place in December; one of the suppliers has been awarded a contract extension for another year. A procurement for replacing the other supplier was launched early in January.

(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 Telecity PoP locations. Aggregated private peering traffic reached 14.6Gbit/s late in the quarter.

Peak traffic over connections to LINX (Gbit/s)
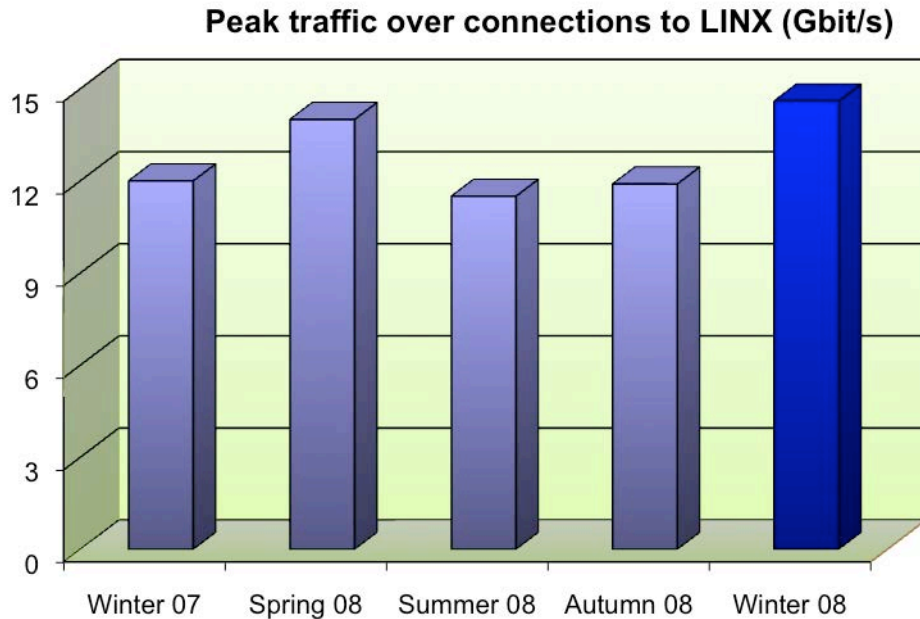
(iv) Access to CERNET

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 intial request by peer	Date all info received from peer	Date of accept/reject of peering agreement
LINX	30094	Giganews	17/07/2008		
LINX	34305	EuroAccess Enterprise Ltd	29/08/2008		
LINX	34790	Waveworks Ltd	10/09/2008 28/10/2008		
LINX	33926	EuroTransit GmbH	05/10/2008		
LINX	24867	Adapt Services Limited	16/10/2008		
MANAP	42973	Manchester MetroNet UK	23/10/2008	29/10/2008	31/10/2008
LINX	8001	Net Access Corporation	25/10/2008		
LINX	44042	root eSolutions	05/12/2008	10/12/2008	10/12/2008
LINX	9153	Burstfire Networks Ltd	No request PP invites to multicast peer		
LINX	1267	WIND / INFOSTRADA	11/12/2008		
MANAP	25582	Linix	15/12/2008		

LINX	681	Jersey Telecom	15/12/2008	16/12/2008	19/12/2008
LINX	12715	Jazztel	16/12/2008		
LINX	24916	Orbital Net Limited	22/12/2008	06/01/2009	07/01/2009
LINX	35228	Telefonica O2	06/01/2009		
LINX		GX Networks	No request PP invites to multicast peer		
LINX	15444	Netservices Plc	No request PP invites to multicast peer		
LINX	30914	ioko365 Ltd	No request PP invites to multicast peer		
LINX	3303	Swisscom	No request PP invites to multicast peer		
LINX	4739	Internode Pty Ltd	23/01/2009		
LINX	4117	Switch Media	28/01/2009		
LINX	41230	Ask4 Limited	14/11/2008	17/11/2008	17/11/2008
LINX	13030	INIT SEVEN AG	25/11/2008	25/11/2008	26/11/2008
LINX	21396	NetConnex Broadband Ltd	25/11/2008	25/11/2008	01/12/2008
LINX	29611	Elite Limited	09/12/2008	10/12/2008	16/12/2008
LINX	42 & 3856	Packet Clearing House	21/11/2008	26/11/2008	02/12/2008
MANAP	41197	Switch Media	05/12/2008	05/12/2008	05/12/2008

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)

During the reporting quarter there were a total of 10 planned maintenance sessions, allowing for a Christmas moratorium period between 22 December 2008 and 5 January 2009.

Major activities included:

- 40G upgrades to backbone core links
- New routers deployed at Leeds, Warrington & Manchester
- 10G upgrades at Leeds, Manchester and Warrington
- New Juniper routers deployed throughout JANET for new JANET Lightpath infrastructure
- JUNOS upgrades.

3.4 Network Status Information (SLA J3.4)\

Seven Regional Networks – AbMAN, FaTMAN, KentishMAN, LeNSE, NorMAN, SWERN and YHMAN – have now been transitioned to the new Netsight system. Unexpected technical issues continue to cause delays to the process. The transition of the remaining Regional Networks will

continue during 1Q09. The original Netsight system will still continue to provide a view of the status and performance of JANET, pending the completion of the transition process.

The phased rollout of the new Netsight system is approaching the half-way point. Seven RNOs have now been transitioned to the new system, with another three expected to follow within two weeks of this report. Monitoring of the JANET core will be available in a similar time frame.

Those involved will be contacted to co-ordinate the transition between the old and new systems. To smooth the transition process, both systems will run in parallel for a short time.

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.

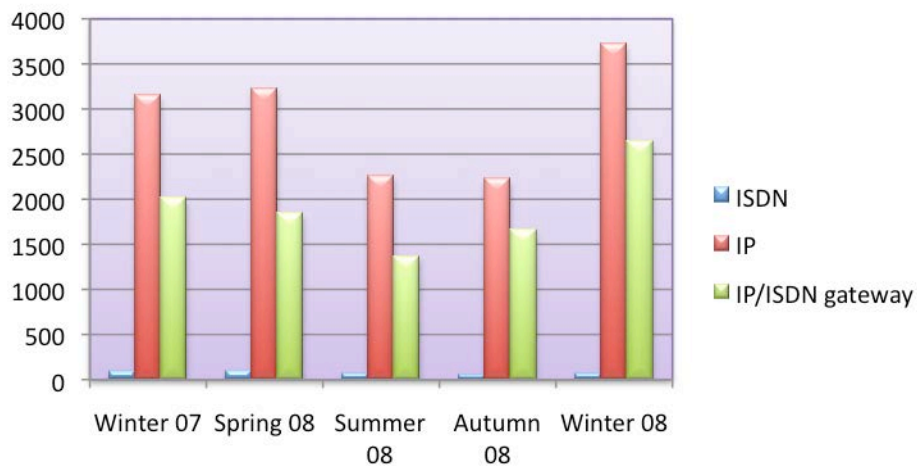**Number of organisations using the JANET NTP service**
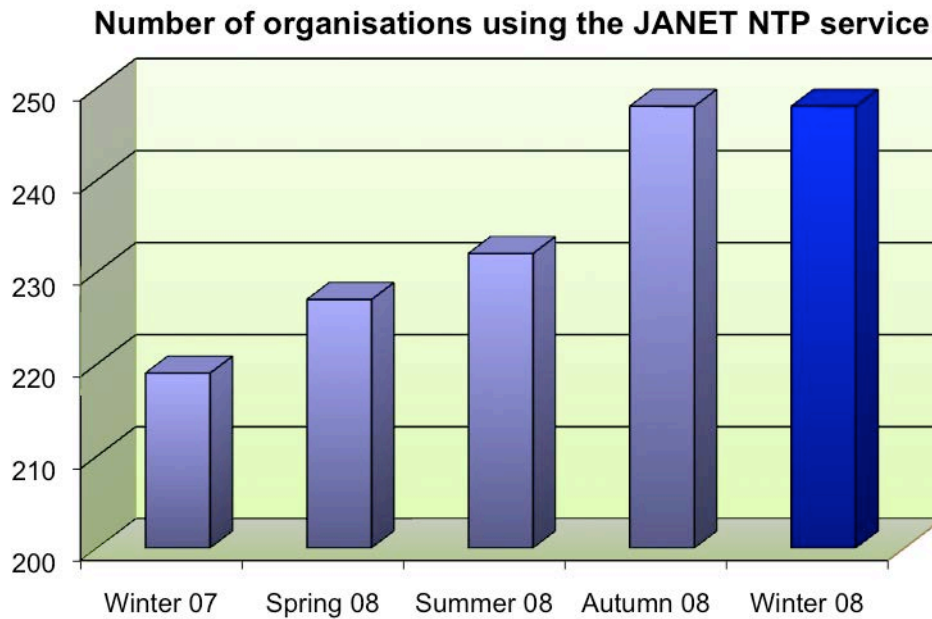
4 Application Services (SLA J4)

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

The number of users of this service continues to grow steadily; currently 5383 of the registered venues are able to use the JANET Videoconferencing Service over IP (JVCS-IP) and 692 are able to use the service over ISDN (JVCS-ISDN). During the reporting period 66 conferences took place using ISDN over 133 hours, 3718 conferences took place using IP over 4575 hours, and 2639 conferences took place using the IP/ISDN gateway over 3169 hours. The overall statistical trend indicates an increase in the use of videoconferencing, particularly IP videoconferencing.
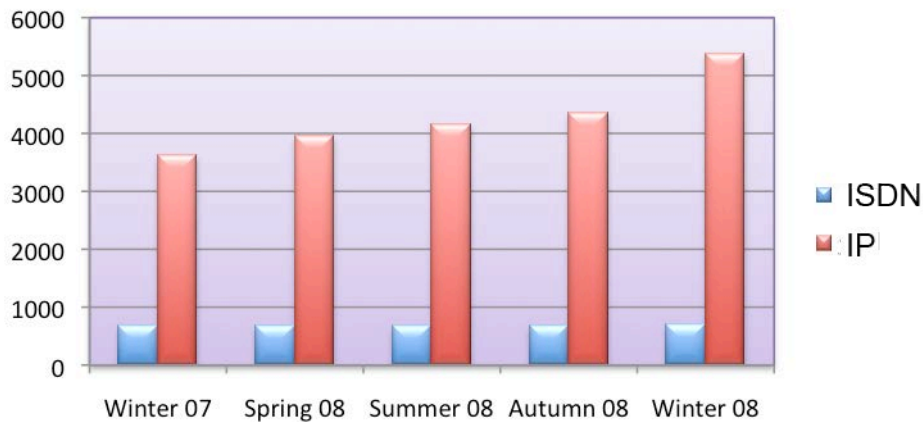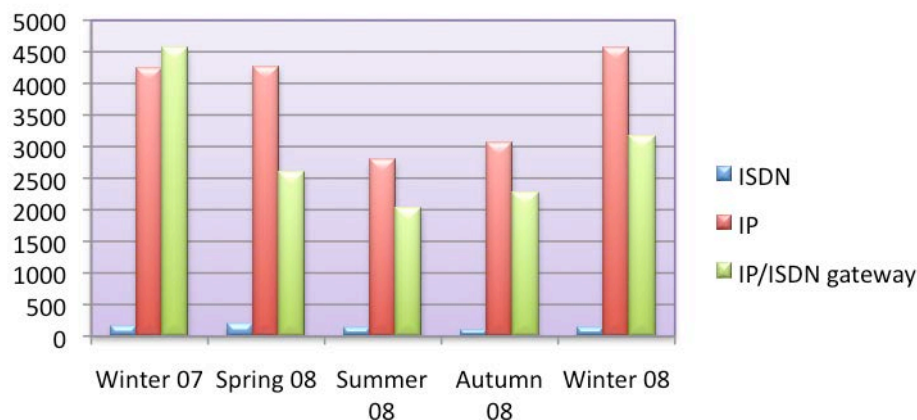
Number of videoconferencing hours over IP and ISDN

(a) **JVCS (more information)**

The new JVCS core equipment is now operational, capable of supporting both high definition videoconferencing and standard definition endpoints. A feature of the new equipment is a noticeable improvement in video quality received from older standard definition endpoints through the use of the Clearview software on the new MCUs.

A JANET Videoconferencing Recording Service pilot is expected to start in February with a number of organisations participating from across the JANET community. 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.

Another feature to be made available in this next quarter on the JVCS Booking Service is live videoconference streaming. This will allow the option to stream a conference to attendees who may not have access to videoconferencing equipment using a standard web browser. Sessions could be made available to users in remote locations as well as avoiding cancellation for technical or attendance reasons, especially if used in conjunction with the telephone dial-in system.

(b) **VTAS (more information)**

Two new product evaluations were completed during the reporting period: the Tandberg Edge 95 MXP and the Polycom® HDX 8004. These are both high definition CODECs.

A new overview table was also created for the website. This summarises the main features of the evaluated products and allows users quickly to choose which of the evaluated products they may be interested in. They may then download the full reports for their chosen products.

Previous evaluation reports, the summary table, an overview document and an outline of the testing schedule can be found at: http://www.ja.net/services/video/vtas/productevaluations.

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® (AG) 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 341, including the UK academic desktop nodes, and the number of users stands at 553. Based on server usage we believe the number of users is higher but are unable to measure the exact number at this current time.

Total Number of Conferences October 07 to January 2009

# of Uses October 2007 to January 2009
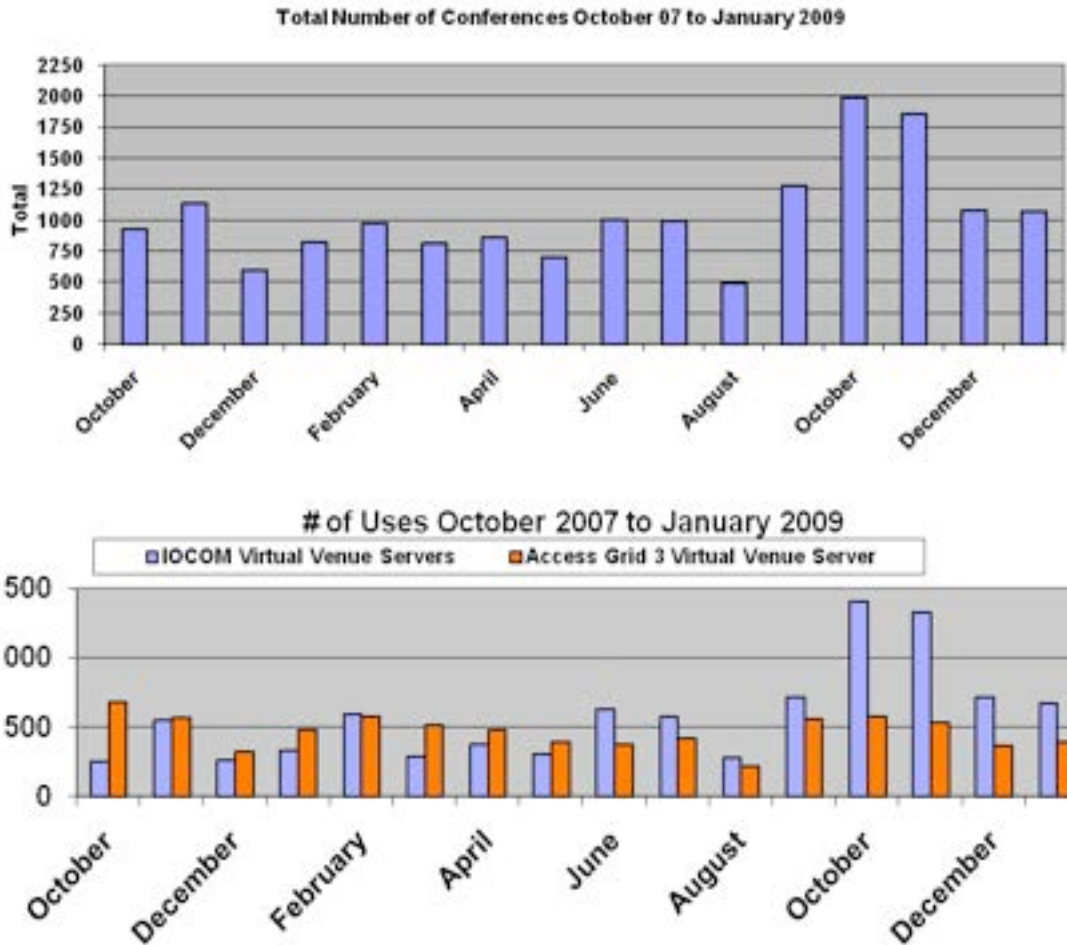
Usage remains steady in the last quarter due to AG-based programs such as MAGIC and TCC providing lectures via IOCOM.

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.

Outreaches
The AGSC continues its outreach programme both internally and externally. It has recently hosted a demonstration of Access Grid to five different institutions at Manchester University. The organisations were all very impressed and are hoping to develop strategies to implement the product into their infrastructures. A number of colleges across the UK have also received demonstrations of Access Grid technology both remotely and on site.

Details of some of our visits are available on our site at:
http://www.ja.net/services/video/agsc/AGSCHome/whatsnew.html.

New AGSC leaflets are now available. Feel free to call the AGSC on 0161 275 5997 or email them at support@agsc.ja.net to receive a soft copy.

A mobile AG node has been put together which includes four regular cameras and HD webcams to be used to demonstrate AG client capabilities at outreaches.

PAG (Portlet Access Grid)
PAG is like the standard Access Grid client as it uses the same video and audio tools but is web-based. This means it is expected be easier to install and upgrade (it uses Java web start); it should automatically detect the need to use unicast bridges; it can be used through restrictive firewalls; and it can be used from low bandwidth connections. Stage 2 testing was successfully carried out by a number of remote sites. The AGSC is hoping to roll it out as a pilot in this next quarter.

AG Web Hits
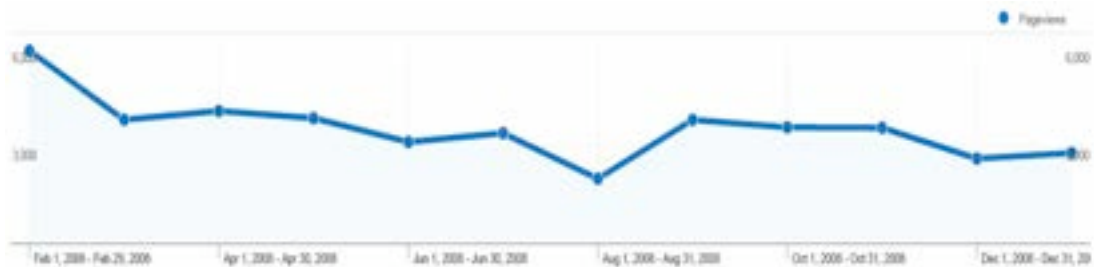
Google Analytics is now being used as our web reporting tool. Over the next quarter the AGSC plans to examine a number of reports to try and improve usability of the site.

More documents have been added to the documentation page:
http://www.ja.net/services/video/agsc/AGSCHome/documentation.html containing a variety of information for a wide user skill set.

EVO (Enabling Virtual Organizations)
The EVO – Telephone Bridge is now live. This is a VoIP gateway which allows anyone with a telephone to dial into an EVO meeting. 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.

EVO Usage
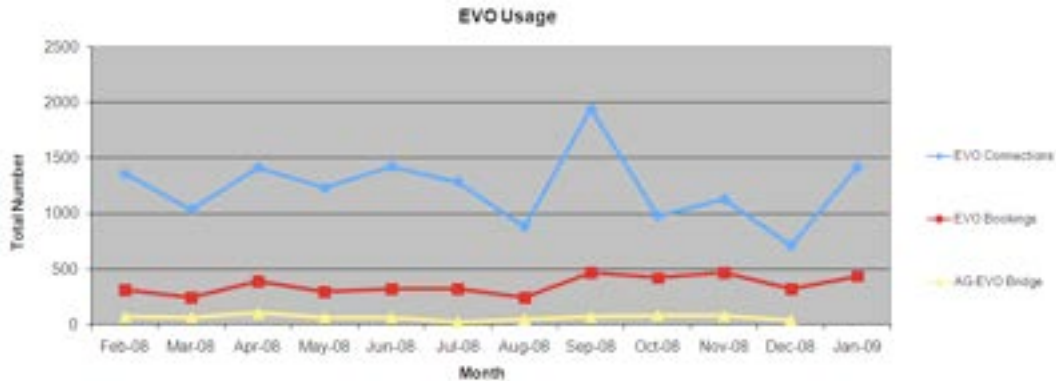
The above graph shows the number of regular EVO meetings, and the number of these meetings that were booked meetings and AG-EVO bridged meetings.

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

The JANET Usenet News Service continues to offer two ways of receiving News over JANET (see below). Light users of the News Feed Service are being encouraged to change to the News Reader Service to lighten the load. Some organisations have recently migrated, which is reflected in the service statistics, and some have left the service.

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

The News Feed Service continues to function well. There are 26 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]

No more organisations have joined the News Reader Service during the reporting period. There are currently 81 sites connected to the Service.

4.4 Electronic Mail Services (SLA J4.4)

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

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]

During the reporting period one site joined the service. 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 62,000 visits.

4.6 Nameserver Services (SLA J4.6)

### 4.6.1 Second Level Domain Service (SLA J4.6.1)

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

DNS (Whois Service)
There were no reported problems with whois.ja.net during this quarter.

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

One organisation registered to use the JANET Primary Nameserver service and one organisation left us during the reporting period. There are now a total of 96 users of the service.

Number of organisations using the Primary Nameserver service
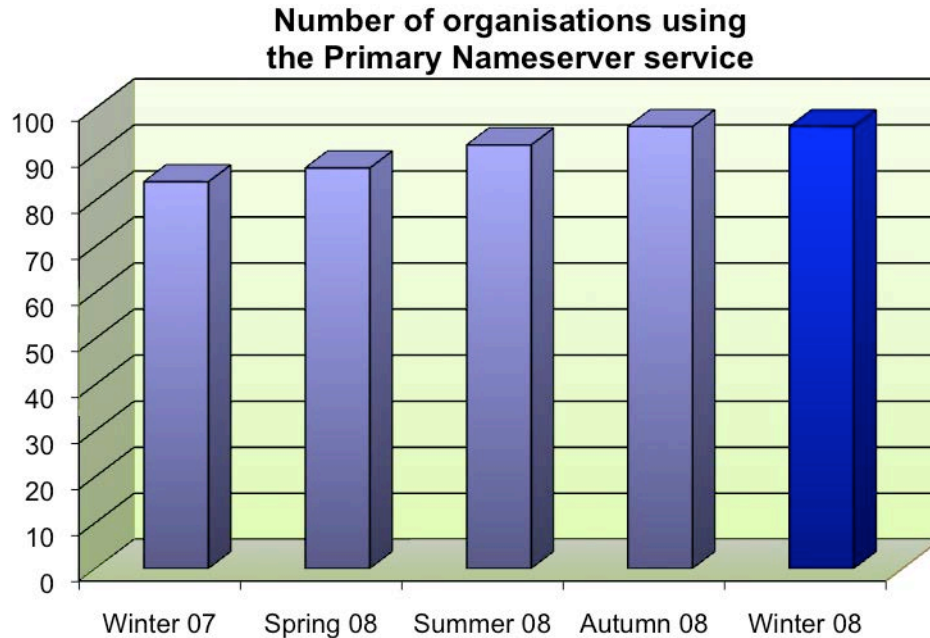
4.6.3 Secondary Nameserver Service (SLA J4.6.3) [more information]

At the end of this reporting period, the number of organisations using this service has increased to 520.

Number of organisations using the Secondary Nameserver service
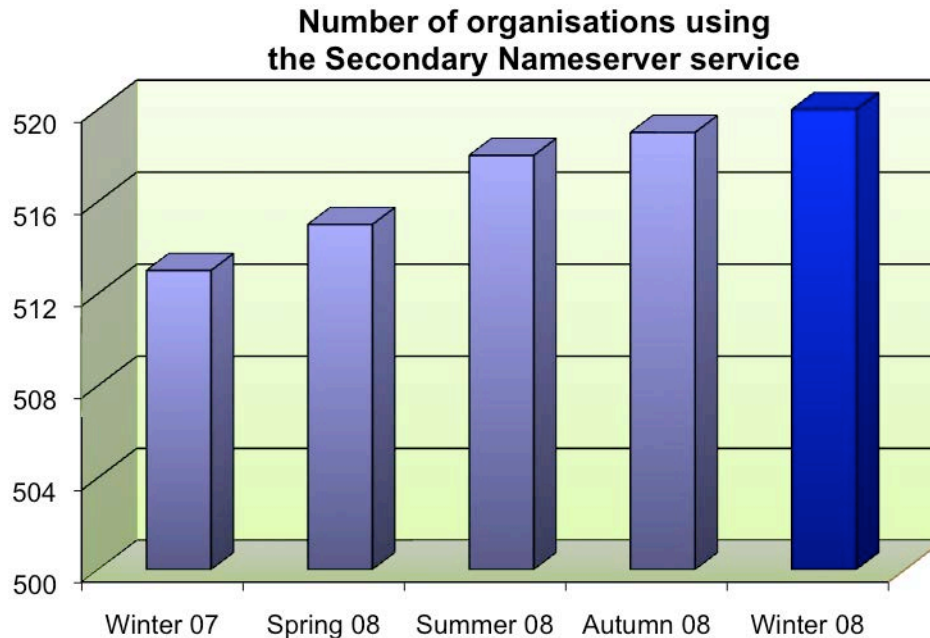
4.6.4 Off-site Resolver Service (SLA J4.6.4) [more information]

The service continues to run reliably and effectively. One site joined during the reporting period, taking the total number of users up to 96.

Number of organisations using the Off-Site Resolver service
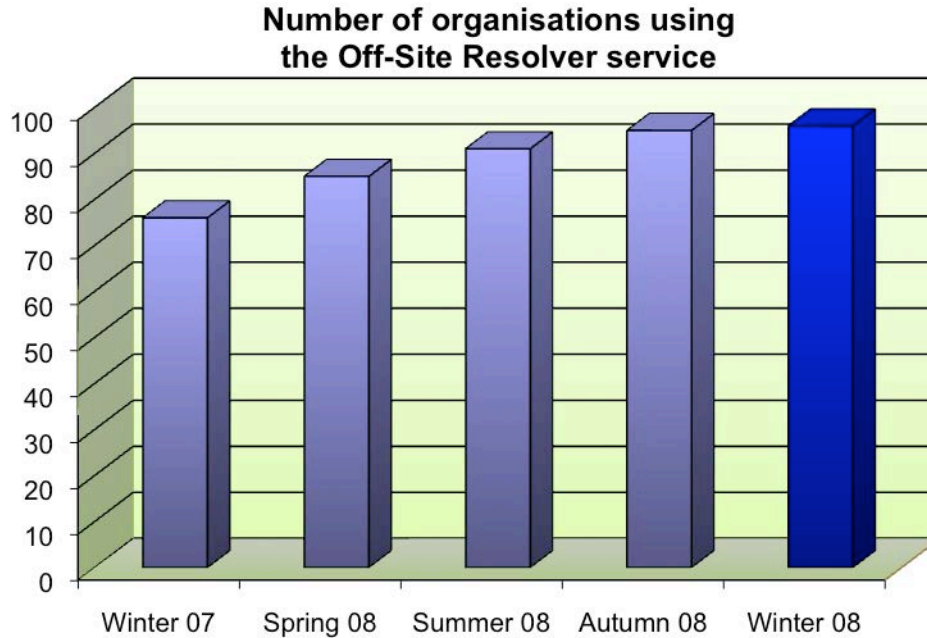
4.7 Managed Router Service (SLA J4.7) [more information]

Nothing to report.

4.8 Web-Based Services (SLA J4.8)
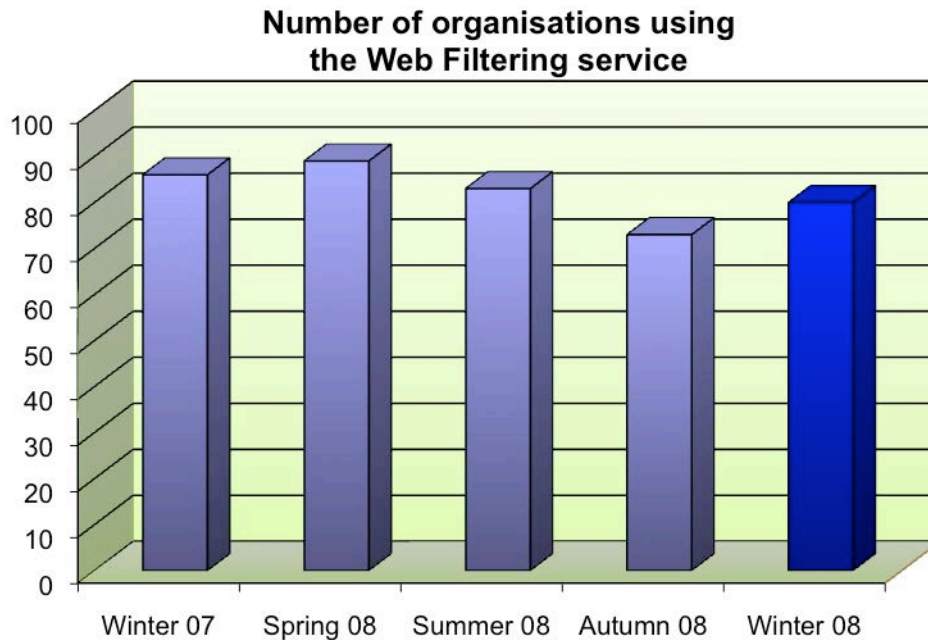
4.8.1 Web Hosting Service (SLA J4.8.1) [more information]

Three sites has joined the service during the reporting period and one has left, bringing the total number of sites using the service to 73.

Number of organisations using the Web Hosting service
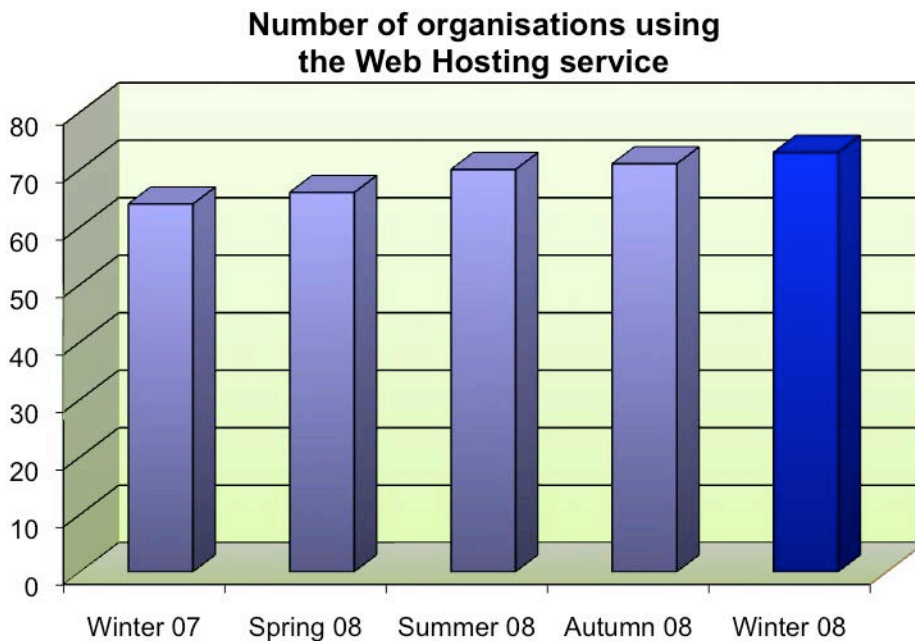
### 4.8.2 Web Filtering Service (SLA J4.8.2) [more information]

During the past reporting period two organisations joined the service. A few organisations have elected to have two filtering accounts. There are currently 80 individual organisations using the service.

Number of organisations using the Web Filtering service

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

Uptake continues to be promising, with the number of participating organisations now at 98 and a large volume of authentication traffic being seen.

Development of the service is now focusing on an update to the Technical Specification prior to the withdrawal of a service tier and other enhancements.

Number of organisations using the JANET Roaming service
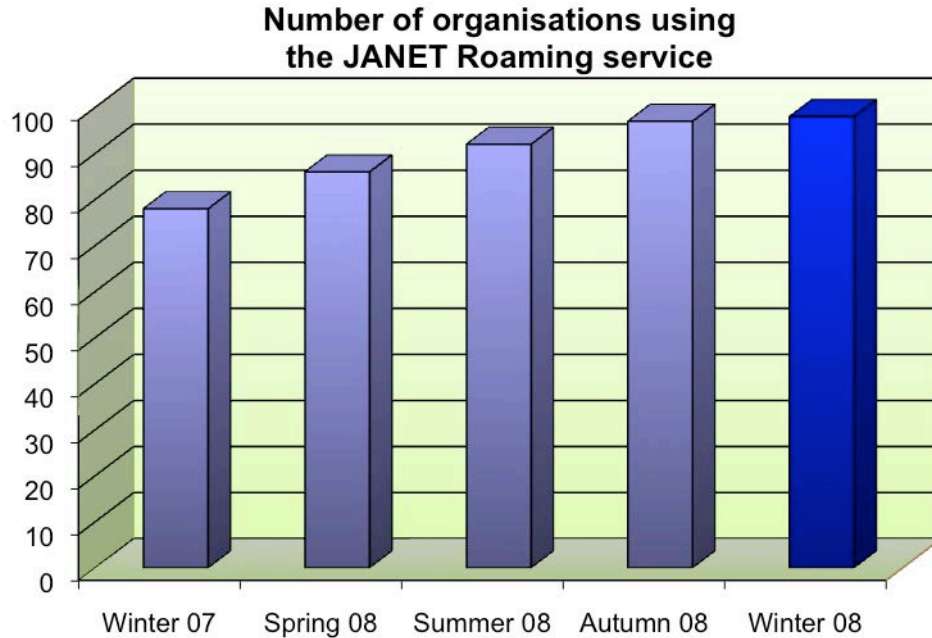
4.10 UK Access Management Federation [more information]

JANET(UK) is assisting Local Authorities in delivering the requirements set out in the Government's e-Strategy and so users across primary and secondary education are now seeing the benefits of joining the UK Access Management Federation.

At the end of January there were 657 members in the UK federation. Membership comes from UK education sectors and commercial organisations providing online services to these sectors.

4.10.1 Membership of the UK federation

Total UK federation membership
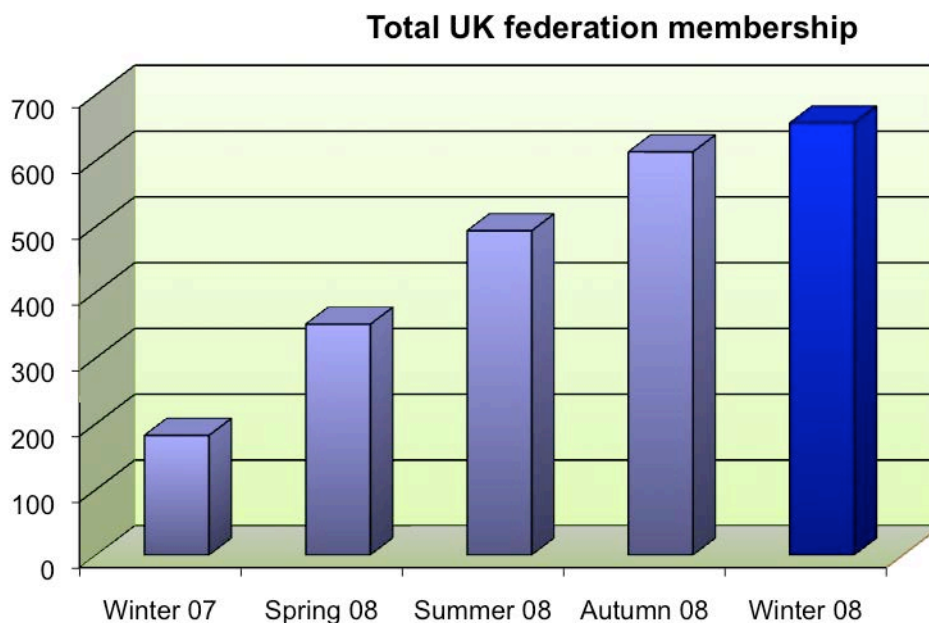
4.10.2 UK federation Support, Training and Events

JANET(UK) is continuing to advise and support UK federation members to implement federated access management (FAM) across their organisations, enabling more and more users to access the ever increasing number of online services and resources beneficial to UK education. Three 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 have been planned. These will take the form of the event held in Brighton in February 2008 and be based around group discussion sessions. More details can be found at http://www.ja.net/services/events/calendar-2009.html.

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 High-Definition CODECs were evaluated during the quarter. The Tandberg Edge 95 MXP was evaluated between 20–24 October 2008 and the report was published on the website on 27 November 2008. The Polycom® HDX 8004 was evaluated between 4–11 December 2008 and the report was published on the website on 6 January 2009. A summary table of the CODECs evaluated from March 2006 to present was also developed, to provide an at-a-glance view of the main features of the products. This was published on the website on 23 December 2008.

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 and SIP trunks.

5.5 Wireless Technology Advisory Service (WTAS) (SLA J5.5)
[**more information**]

Typical areas in which the service is able to provide independent technical support to organisations include security techniques, surveying and monitoring, WLAN management, standards and technologies, and user support models.

6. Training Services (SLA J.6)

The Training team continues to deliver a portfolio of courses across the country. Nine courses were run this quarter including two pilots for our new courses 'Computers, Privacy and the Law' and 'Implementing Shibboleth 2 Service Provider'. New courses are also scheduled to be trialled in the first half of 2009. The JANET Training schedule is available on the web site: http://www.ja.net/services/training/schedule/by-date.html. Additional dates and courses are added when available.

The development of EdLab®, our online learning and collaboration facility, is continuing with access to online course support for many of the courses rolled out during the period. These areas include additional course information, a message from the trainer, details of what to expect, and pre-course information and activities. After the course delegates have access to all the course materials, activities used in the course, additional resources and subject tests. Discussion forums and other tools are available to continue class discussion and collaboration.

Work has started on the development of Networkshop Online which will support delegates during the conference by providing access to presentations, news and updates as well as audio and video resources. Following the conference the area will be updated with video- and PowerPoint-synced presentations of all the talks we have permission to publish. This area will also be opened up to all EdLab® users for their information.

Registration for EdLab® is available at http://www.ja.net/training/edlab.
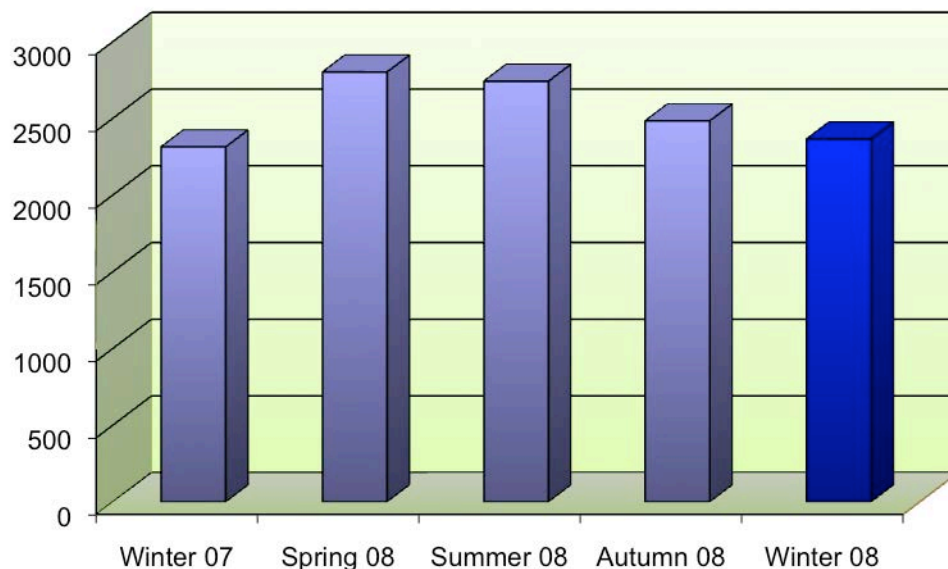
7. Administration Services (SLA J7)

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 of enquiries received was 2366. Most of these queries related to the Domain Name registration service, requests for JANET connections and applications or queries relating to other JANET services.

One complaint was received, which was 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 three new Sponsored Connection Licences 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 462 requests for both new domain name registrations and modifications to existing entries were received. The rate of applications for new domain names averaged 58 per month, with an average of 96 modifications for each month.

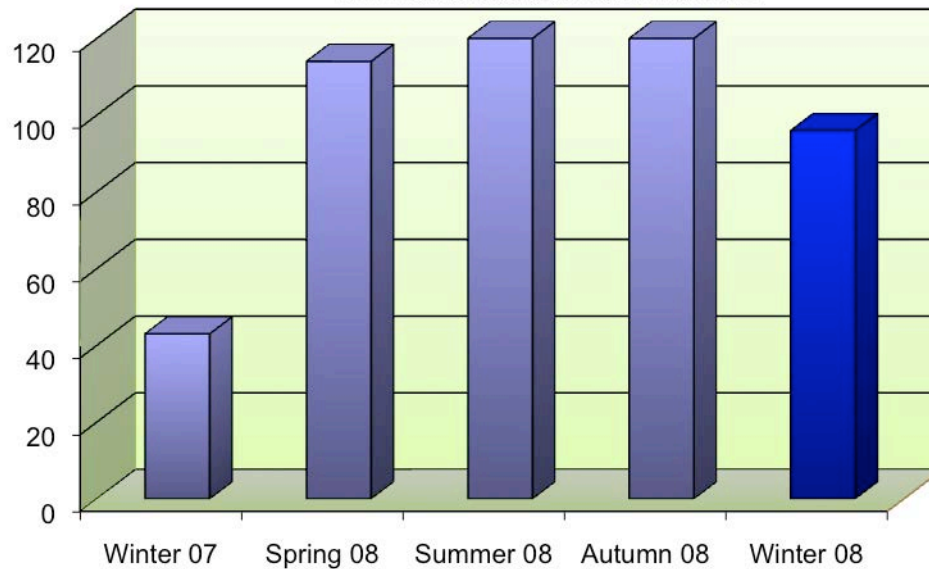**Requests for new or modified domain name registrations**
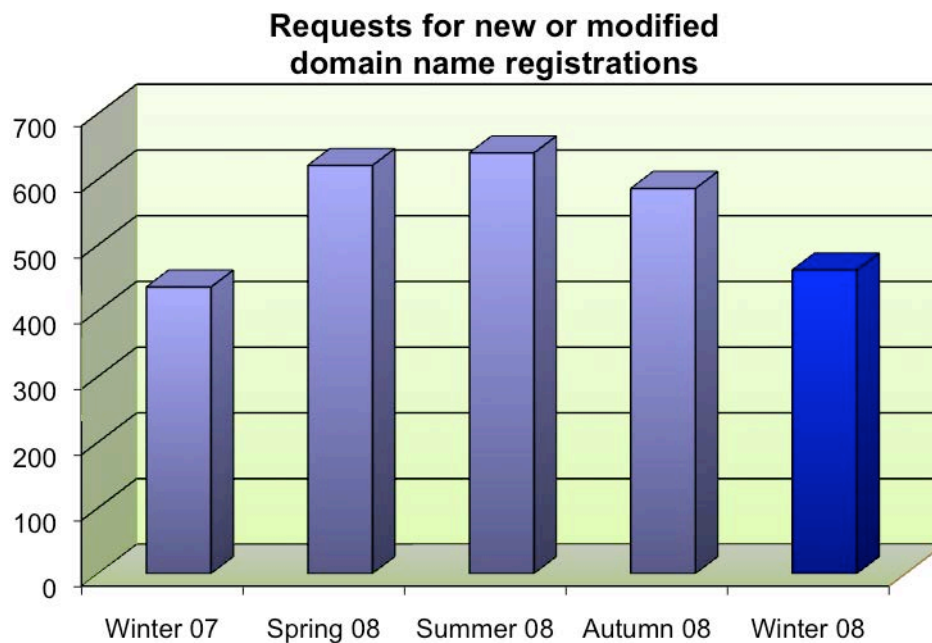
Average rate of monthly applications for new domain names
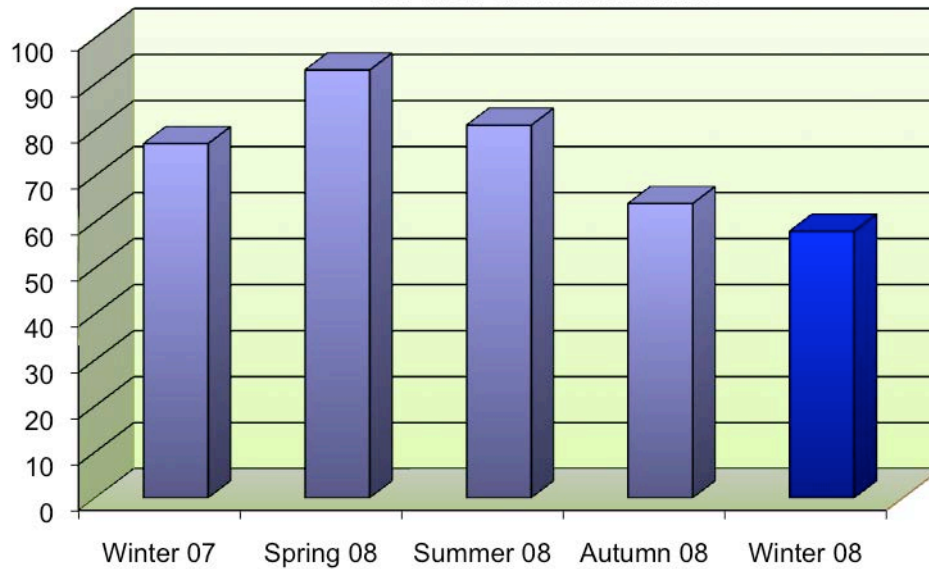
Average rate of monthly applications for modified domain names

7.5 IP Address Assignment (SLA J7.5)

During the reporting period 18 applications were received and completed.

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)

Service responsibility for JANET Lightpath has passed from Development to Operations. No Lightpaths were provisioned during the reporting period. New Juniper routers deployed throughout JANET for new JANET Lightpath infrastructure.

Server Certificate Service

The number of Server Certificate requests increased by 918 to 7767 in this quarter.

Total number of Server Certificate Service requests
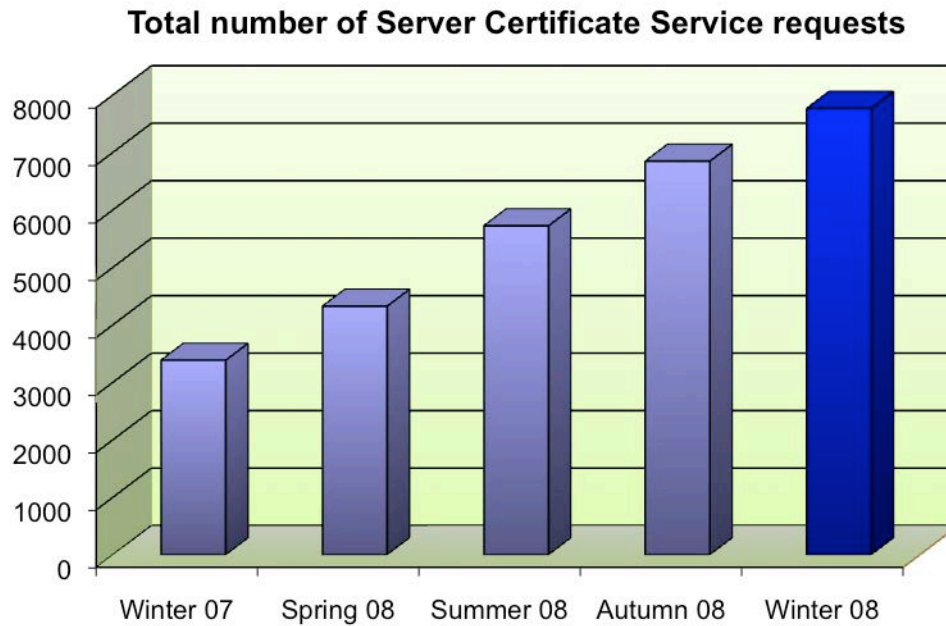
8. Security Services (SLA J8)

November 08
This month saw sustained levels of reporting of copyright infringement notices. Peer-to-peer applications continue to be prevalent in the analysis of the CSIRT Netflow data for traffic going across JANET.

December 08
There continues to be a high volume of incidents relating to copyright infringement notices following on from the previous two months. Port scanning for vulnerable systems is ongoing although the incidence of reported compromised systems remains constant. There are still episodes of phishing being picked up by the monitoring systems on the network and the ubiquitous botnets are still being traced by CSIRT.

January 09
January saw the usual mix of spam reports and port scanning, with the majority of investigative time being taken up with reports of computers infected with the Conflicker/Downadup worm. The reports reach JANET CSIRT from individuals monitoring the domains which the worm contacts to download further payloads.

Currently the Conflicker worm does little beyond disabling security updates and anti-virus software; it uses a combination of techniques to spread that have highlighted problems in many organisations' infrastructures. Primarily these are due to ineffective or insufficient logging on proxy servers, or address translation devices. JANET CSIRT members investigating possible infections are finding it increasingly difficult to track the root of the attack/infection as many sites do not have effective logging in place.

Having more proactive logging on these devices would prove to be a great asset to organisations trying to trace infections. Many sites are still not blocking the Windows LAN ports which many worms use to spread.

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]

A questionnaire was sent out to the community in order to gauge the demand and requirements for further supplicant work in this area. 45 responses were received which showed that 80% of organisations had deployed 802.1X network access control technology over all or part of their organisation's network. A further 13% of respondents had plans to deploy 802.1X within the next 18 months. The Windows and Mac supplicants proved to be the most popular, as anticipated, given their provision with the operating system. However, it is surprising and gratifying that 30% of respondants were using the XSupplicant/OpenSea Supplicant. The responses received will be used to help specify the requirements of the next phase of development activities in this area.

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]

The final deliverable documents against this project, technology and security reviews and a number of case studies, are undergoing editorial review with a view to publication at Networkshop. A closedown meeting with participants will consider any future work requirements in this area.

9.3.2 Local-Loop Unbundling [more information]

Three organisations, subject to contract, will now be taking part in trial activities in this area.

Contracts are currently being drawn up and will be circulated to the participating organisations in due course, with an aim to launch the project before the end of Q1 2009.

9.3.3 Location Aware Wireless Infrastructure

Document deliverables are approaching their final drafts as this phase comes to a close. It is hoped to conclude editorial review in time for publication at Networkshop, where results from the programme will be presented.

A close-down meeting will consider any requirements for future activities in this area.

9.3.4 Portable WLAN

This new project area seeks to address network access under extreme conditions, such as at the rockface in support of a geology fieldcourse. This will be accomplished by developing portable standalone wireless stations that can be used to establish temporary point-to-point wireless links across rough terrain, coupled with wireless backhaul technologies from a base camp back to the campus or JANET network.

This activity will further extend access to JANET's resources off-campus, meeting another aspect of the need for 'any time, any place' networking.

Subject to contract, five organisations will be contributing to this programme, scheduled to commence in Q1 2009.

9.4 Network Engineering

9.4.1 IPv6

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

JANET(UK) is progressing with the development of the IPv6 training course with a view to running it in 2009.

9.5 Voice [more information]

9.5.1 JANET Talk [more information]

Following a second call for participation in December, well over 100 JANET sites are taking part in the JANET Talk trial, providing a user base of over 7500. A wide range of JANET sites are taking part in the trial including FE, HE, RBCs, Local Authorities and research organisations. The one year trial in now over half-way thorough and will run until 31 August 2009.

Feedback from those participating in the trial is being collected. Together with the results from a market research exercise, which is nearing completion, it will be used to inform a report that is drawing together the conclusions of the trial and providing recommendations on the next steps.

9.5.2 JANET Voice Advisory Group (VAG) [more information]

The Voice Advisory Group continues to ensure that JANET's voice activities are relevant and appropriate. At the last meeting held in April it was decided that the VAG would focus on the future of JANET Talk and also concentrate on the development of services to enhance and improve local voice services. The results of a recent ENUM market research activity proved to be positive, and as a result JANET(UK) is now building up a business case with a view to operating as an ENUM registrar on behalf of the JANET community.

9.6 Video [more information]

9.6.1 IPTV (Internet Television) [more information]

The JANET IPTV Special Interest Group is continuing to provide invaluable advice on JANET's video activities. The group has decided on a number of key development areas which

JANET(UK) has included in a JANET(UK) Internet and Broadcast Media Strategy. The strategy focuses on both the technical and copyright issues associated with all video applications available on the network. The JANET(UK) Internet and Broadcast Media Strategy is now available to read on the JANET website.

9.6.2 Content Providers

Work continues with a number of content providers including JISC, IET, OSTN, INUK and SUB TV. Activities in this area are focused on understanding how these and other services and provisions may be suitable for deployment in the JANET environment. Early work to understand the potential for a JANET-based content sharing portal is also underway.

9.6.3 Ultra High Definition [more information]

Video technology has progressed in recent years with High Definition becoming an international standard. Ultra high bandwidth video and audio technology have begun to be used within the broadcast and research industries worldwide.

A Call for Expression of Interest will be released in the next month, with the intention for a workshop for selected parties within the new year.

9.7 Measurement & Monitoring [more information]

9.7.1 Netsight [more information]

See section 3.4.

9.7.2 Research [more information]

Nothing to report.

9.7.3 Schools

JANET(UK) was in the early stages of a joint project with Becta to define the requirements for gathering network measurement information from schools networks. This work is on hold pending completion of the new Netsight rollout.

9.8 Support for Research [more information]

9.8.1 JANET Aurora [more information]

JANET Aurora is currently being extended to connect the University of Cambridge and the University of Southampton. The dark fibre extensions are being undertaken by JANET(UK)'s contractor for this project, ntl:Telewest, and are scheduled to be in place by the end of April 2009.

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]

A Call has been sent out to selected members of the JANET community inviting them to take part in a project to investigate the features/functionality and maturity of two major strands of Carrier Ethernet technology:

- Ethernet over MPLS (EoMPLS) from the IETF
- Provider Backbone Bridges(PBB)/Provider Backbone Bridges Traffic Engineering (PBB-TE) from the IEEE.

The project will consist of a number of funded practical and theoretical activities. To help facilitate the practical activities, a JANET-wide testbed will be deployed. The project term is intended to be approximately two years starting from June 2009. Discussions are continuing with potential vendors to determine functionality and cost of the equipment that will be needed for the testbed.

9.10 Schools Services [more information]

9.10.1 Content Access

JANET(UK) continues to work closely with the National Education Network (NEN) Providers in England, LTS (Learning and Teaching Scotland), C2K (Classroom 2000) in Northern Ireland, and the local authorities, NGfL Cymru and DCELLS (Department for Children, Education, Lifelong Learning & Skills) in Wales, to enable access to high quality content for schools interconnected to the JANET network.

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

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. This was successfully launched at BETT in January 2009. The team has also continued to work closely with Becta on a National Digital Resource Delivery Strategy.

9.10.2 Videoconferencing

The take-up of videoconferencing by schools continues to grow. By the end of January 2009 the total number of schools sector endpoints registered with JVCS was over 3650 (as compared with just over 2950 at the end of January 2008). Almost 4000 videoconferences were undertaken this quarter (as compared with 2000 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.
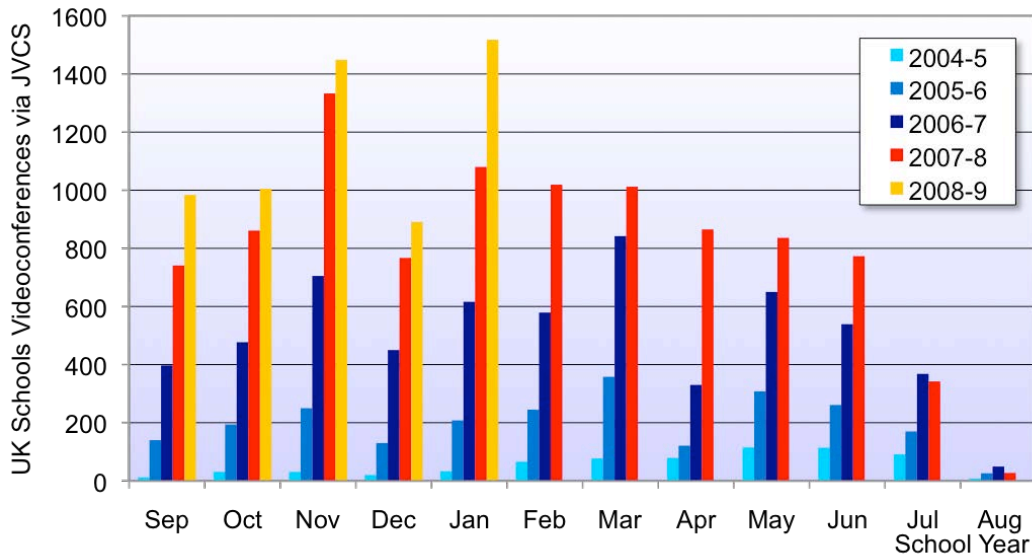
9.10.3 Collaboration [more information]

The JANET Collaborate prototype pilot was completed in July 2008. The 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

Tyne & Wear Autistic Society (Thornbeck College) and St. Elizabeth's Centre have requested funded connections, pending approval from LSC. LSC approval has been given for connection upgrades for six Specialist Colleges.

(c) PCDL (Personal and Community Development Learning)

Using the Power of JANET – Information for Local Authorities in England has been published by JANET(UK), providing details of the arrangements for connectivity and the benefits of joining the JANET community. A continuing high level of interest from Local Authorities is being seen.

The Local Authorities Account Manager attended NWeGG, the North West e-government group annual conference, and the BETT 2009 event, both of which resulted in a number of very useful follow-up requests. The Molenet Steering Group meeting discussed additional LSC funding to further develop services: one of interest was the MoleTV development, where it is possible to upload short video clips for training purposes and software on the site will then convert the resource into different formats for subsequent downloading onto a range of mobile devices such as iPods, PDAs etc.

(d) Scotland

Learning and Teaching Scotland is continuing its reprocurement process to build a new schools network to local authorities in Scotland. This new network will be in place by August 2009.

The Account Manager participated in the Scottish Further and Higher Education Unit ICT Communities of Practice meeting in Stirling. A similar presentation on JANET services and projects now appears as a video on the RSC (North and East Scotland) Technical Blog.

A JANET update presentation was given to the AbMAN mini-networkshop event in Aberdeen in January 2009. This event attracted 40-50 delegates from research bodies, HEIs and FECs. A wide range of interesting presentations were made at this increasing popular event.

(e) Northern Ireland

JANET training courses now have a new home in Northern Ireland. Queens University in Belfast will provide the venue for JANET courses and a range of courses will be offered there in the coming months.

The five area boards for education in Northern Ireland are to be merged into a single Education and Skills Authority. Education officials hope the new authority will raise standards in schools and strengthen child protection safeguards.

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

NHS-HE Forum
The next NHS-HE Forum will be on 22 April in London. The new Chair of the Forum, Ted Woodhouse, will lead a discussion to distil desired future directions for the Forum, and there will be keynote sessions on the NHS Research Capability Programme plus (to be confirmed) the work with the National Library for Health on federated access management and clinical applications for High Power Computer Resources. Please see www.nhs-he.org.uk/forum.html for more details.

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 has been drafted and is waiting on some further information on prices before it can be signed off and the order made. It will take all network traffic between N3, the core network for the NHS in England and Scotland, and JANET. It will be resilient with an active and standby link incorporating geographical separation by using POPs in London and Manchester. The existing early adopter N3 JANET Gateway will continue until the new service takes over, which should be in the autumn.

In the meantime we are pleased to welcome the University of Salford as the seventh early adopter for the existing Gateway. The university's involvement is to improve access to the its web-based resources when on clinical placement in the NHS.

The North Tees and Hartlepool NHS Foundation Trust has also joined South Tees Hospitals NHS Trust as a user of the JANET Videoconferencing Service over the N3 JANET Gateway**.**

(g) Research Councils

NERC has taken delivery of new 10Mbit/s circuit for ARSF Gloucester.

(h) Other Organisations

A second connection to ifs School of Finance at its London site has now gone into service. The connections to Imperial War Museum sites in Salford and London have now been delivered to enable those sites to operate in conjunction with the Museum's Duxford site.

An initial scoping visit to the Royal Palaces and several of the National and Regional Museums is looking at the opportunity and potential benefits of connecting to JANET, particularly in being able to provide videoconferencing for learners.

11. European Activities

(a) TF-Mobility

JANET is to survey location-aware infrastructure usage across Europe as the first step towards developing a coherent development programme for this activity. The next TF-Mobility meeting will be hosted in the UK.

(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

Nothing to report.

(g) Mobility Group - JRA5

Nothing to report.

(h) QoS Project - Service Activity 3

Nothing to report.

(i) GEANT 3 - Service Activity 3 Leadership

The GN3 contract negotiations with the European Commission are almost complete and it is anticipated that the project will start formally on 1 April 2009. Detailed planning of GN3, and SA3 in particular, has started. A joint meeting of the SA3 and JRA3 Activity and Task Leaders is planned for early March.

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

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