

# JANET news

June 2010



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[www.ja.net](http://www.ja.net)

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## Editorial

You may notice, if you notice such things, that JANET News has undergone a redesign with this issue. This is part of an ongoing programme to bring all our publications into a common house style that will make it easier to seek the information that readers require. It is no merely cosmetic exercise. Like all JANET services, our publications are constantly open to scrutiny and review: are we offering the best that we can? Are there changes or improvements that can usefully be made?

This attitude permeates everything that JANET has to offer. For example the lead story in this issue is about Moonshot, a project to bring the proven authentication benefits currently available to web-based services to other types of application as well; and the Service Level Agreement between JANET and JISC, which covers our core activities and services, was reviewed

at a recent stakeholders meeting.

Our minds are also fixed firmly on the future, as shown by our review of bandwidth capacity requirements (p.3) and subsequent upgrades.

**Ben Jeapes**  
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### Electronic news

The current and previous issues have always been available on the JANET web site as PDFs, but starting with this issue we are also offering JANET News as an HTML newsletter that will be sent out by email. If you would like to receive JANET News this way, or to change your current paper-based subscription to the electronic one, please send an email to [janet-news@ja.net](mailto:janet-news@ja.net).

# Project Moonshot: federated identity beyond the web

A new JANET(UK) project aims to widen the benefits of federated authentication and network access beyond just web-based services.

JANET(UK)'s customers already enjoy the benefits of using federated authentication to access web-based services through the UK Access Management Federation, and using JANET Roaming to obtain access to networks. Both cases utilise simplified single sign-on with credentials issued by users' home organisations.

Moonshot is an exciting new project to bring these benefits to other types of applications. Specific cases include the use of federated authentication to obtain access to out-sourcing providers who are increasingly providing services (such as storage, email and instant messaging) to the JANET community; and the High Performance Computing community who are interested in taking advantage of existing identity and access management infrastructure to improve business continuity and widen access to their facilities.

Moonshot also intends to address some of the current issues relating to web single sign-on through the UK Access Management Federation – for example, improving the user's experience of selecting their organisation's identity provider. Finally, Moonshot also provides a novel approach to establishing trust between network hosts and services, which may significantly improve the flexibility, robustness and scalability of federated services such as JANET Roaming.

JANET(UK) has been developing the

# JANET backbone update

technical approach underlying Moonshot for several years. At the end of last year this was considered sufficiently well-developed to warrant consideration for a proof-of-concept implementation. An independent analysis of the architecture was commissioned which, while identifying some issues that needed addressing, confirmed the technical feasibility of the approach.

Project Moonshot has subsequently been presented to a number of audiences, including the wider European Research and Education networking and Internet2 communities in February and April respectively. It was also the focus of a well-attended Bar BoF at IETF 77 in March, where it was well-received, including some early interest from vendors. The response from these communities has been overwhelmingly positive.

As the name suggests, Moonshot is an ambitious project. JANET(UK) is organising contributions from world experts from the relevant technical communities to increase confidence in the successful attainment of its goals. JANET(UK) is also in discussion with many other stakeholders, including members of the JANET community, the relevant standards development organisations, and interested vendors and application developers. The next step is to investigate the possibility of creating a new IETF Working Group to provide a vehicle for this and other related work with the intent of developing interoperable standards that address the wider Internet community's requirements.

Members of the JANET community are welcome to contribute to this project. There is already an active mailing list, 'moonshot-community', on JISCmail (<https://www.jiscmail.ac.uk/MOONSHOT-COMMUNITY>). For further information on Project Moonshot, please contact the author:

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**JANET(UK) has completed a review of ongoing bandwidth capacity requirements on the JANET national backbone transmission infrastructure, and also of how the infrastructure will scale according to future bandwidth requirements.** The review was undertaken as part of JANET(UK)'s routine operational planning with Verizon Business, which provides the infrastructure under contract to JANET(UK).

The backbone currently has a total capacity of around 1 terabit and as a result of this review of future bandwidth requirements we expect this to rise to nearly 2 terabits by 2013. To prepare for this a number of engineering upgrades will be taking place over the coming months that will allow bandwidth identified by the capacity review to be added. The upgrades will ensure that the backbone remains fit-for-purpose going forward.

The award-winning JANET national backbone transmission infrastructure that underpins the JANET IP and Lightpath services started operation in October 2006. Since then it has been delivering the critical facilities identified in the requirements study that was undertaken prior to the procurement of the infrastructure, providing a highly reliable, resilient and scalable network infrastructure that meets the needs of all UK education and research.

One of the key requirements that the design and implementation of the network has been predicated on

is having a scalable infrastructure in terms of bandwidth capacity. To date the network has grown according to a bandwidth growth plan that was defined in 2006. Associated with this, JANET(UK) was a leader in the networking world in introducing 40Gbit/s channel capacity last year and JANET was recently the

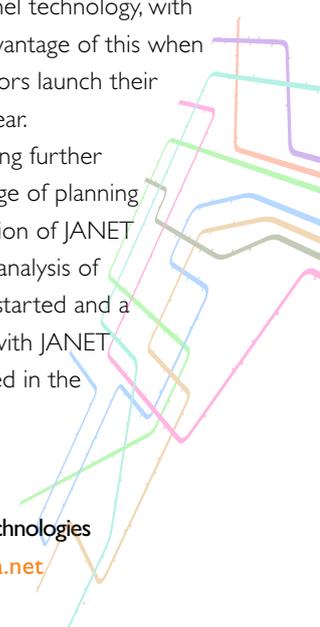


*JANET was recently the first research and education network to trial 100Gbit/s channel technology, with the aim of taking advantage of this when the equipment vendors launch their products later this year.*

first research and education network to trial 100Gbit/s channel technology, with the aim of taking advantage of this when the equipment vendors launch their products later this year.

Meanwhile, looking further forward, the first stage of planning for the next generation of JANET – the gathering and analysis of requirements – has started and a broad consultation with JANET users will be launched in the coming weeks.

**Jeremy Sharp**  
Head, Strategic Technologies  
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# JANET Web Filtering Service

**Upgrades to the system on which the JANET Web Filtering Service runs have led to a more flexible and accountable filtering service for users.**

Different filtering rules can now be applied at different times of day: of use, for example, to organisations that offer adult classes in the evening, or residential sites that ban social networking during regular school hours. The page that is displayed when a site is blocked can be customised to reflect the organisation's local policies and an optional filter list can distinguish between educational and non-educational games. The improved user interface is more intuitive than before; and organisations will appreciate the provision for multiple admin users that reduces the dependency on one person for all changes. An associated task audit trail is provided for accountability.

Other improvements include faster performance and as-you-type filter searches, and a means of dynamic failover that offers complete resilience in the event of a hardware failure.

As well as the improved centralized service it is now also possible for eligible organisations to purchase a local solution which is compatible with Active Directory and which enables individual filtering rules to be applied to users or groups of users.

For further information please go to <http://www.ja.net/services/web-services/janet-web-content-filtering-service.html> or contact the JANET Service Desk at [service@ja.net](mailto:service@ja.net).

**David Heard**  
**Facilities & Content Services Co-ordinator**  
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“  
 JANET Web Filtering Service now offers both a centralised and a local filtering solution as well as a means of dynamic failover that offers complete resilience in the event of a hardware failure  
 ”

# JVCS Booking Service feedback

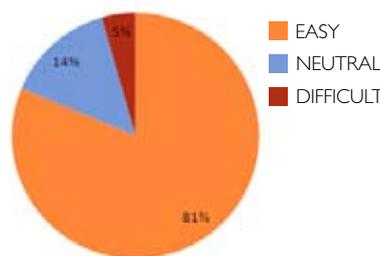
**A survey among users of the JVCS shows that the vast majority are happy with the JVCS Booking Service.**

However, a number of suggestions have been made for how it could be improved further, such as the provision of quick lists to view 'Saved Bookings', 'Future bookings', 'My Account', 'My Organisation', etc., and these are being considered as future updates to the system.

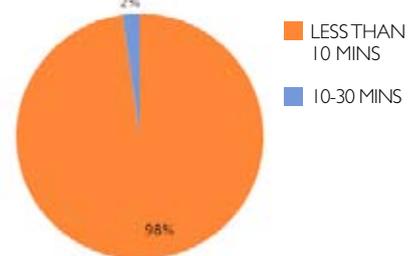
Our thanks to everyone who provided this feedback. A total of 92 responses have been received to date and the charts show a breakdown of impressions. The service is continually being updated and it is always useful to receive your comments and suggestions.

**Phyllis Callinan**  
**Network Services Co-ordinator**  
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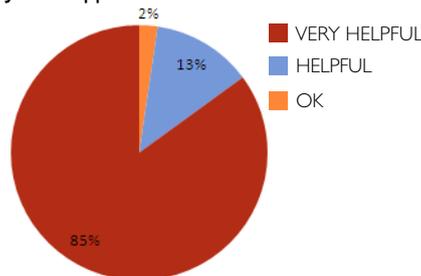
**Booking System Ease of Use**



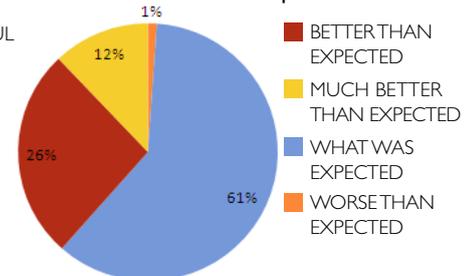
**Time taken to complete booking form**

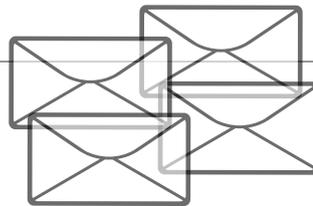


**JVCS Support Comments**



**Videoconference Overall Impressions**





# JANET txt Update

JANET txt customers can now benefit from a new low message rate of 4p, no set-up fees or monthly charges. The signing of a new four year framework agreement with PageOne for JANET txt means that any JANET connected organisation can make use of this leading SMS service. The new upgrade includes improved reporting and diary function, as well as support for extended messaging types such as voice broadcast capability, fax and intra-account messaging.

Tim Marshall, JANET(UK) CEO, commented that 'We are delighted to be working with PageOne for a further four years. The success of JANET txt is a further demonstration of the value that JANET(UK) delivers by aggregating demand from the education and research communities. PageOne's commitment to further improving the JANET txt product, at such a competitive price, reiterated to us that PageOne is the ideal supplier to deliver our JANET txt service exclusively.'

## SIF Integration

Meanwhile PageOne is developing a SIF (Systems Interoperability Framework) agent for JANET txt. SIF is a mature international, open standard used widely to link data systems together. The agent will enable integration between JANET txt and any SIF-enabled MIS (management information system) with the result that, for example, a school could seamlessly import the details of all absentees from its MIS into JANET txt, send text messages to the parents and monitor delivery of the texts.

Becta was involved in two UK proofs

## JANET txt benefits

- No set-up fees or monthly charges for the basic service
- Messaging at 4p (+VAT) per message sent
- View and manage the message sending of users through your Master account
- Secure encrypted connectivity
- ISO27001 Registered Supplier

of concept, looking at how the SIF standard could work in practice in the UK education sector. There are currently several regional and local interoperability pilots underway providing identity management, user account provisioning, and 14-19 solutions. For information go to Success Stories at: [www.sifassociation.org/uk/](http://www.sifassociation.org/uk/) or visit [www.becta.org.uk/industry/interoperability](http://www.becta.org.uk/industry/interoperability) statement.

JANET txt users will be able to import their MIS contacts directly into their existing JANET txt contacts list within their web accounts, as well as send text messages directly from the contact data held within their MIS.

JANET(UK) and PageOne are working with a Local Authority to test this latest development. Results will be published on the JANET txt webpage as they become available.

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## STOP PRESS

We are pleased to announce that PageOne/JANET txt in conjunction with the RNIB College have been awarded Highly Commended for Innovation or Initiative in this year's National Government Opportunities (GO) Excellence. The GO Awards were presented at a special ceremony on 15 June 2010.



## Configuring 802.1X for Windows

**JANET(UK) is pleased to announce the release of a tool that solves the problem of how to configure large numbers of Windows computers correctly for 802.1X deployment on enterprise networks.**

802.1X is currently the most secure authentication and accounting mechanism for wired and wireless networks, and in recent years there has been a significant increase in its deployment and use at academic institutions. It also allows an institution to participate in the edu roam federation, enabling users to enjoy authenticated network access at any participating organisation without the need for guest network account administration.

However, the complex issue of configuring an 802.1X client, or supplicant, has always acted as a brake on its universal adoption. 802.1X represents a fundamental change to the way users access the network and for first time connection, the process requires certain parameters to be configured in a way which is not always simple or straightforward, particularly for inexperienced users. The reward, however, is that after initial setup, connection is simple and in many cases automatic. Configuration of Windows supplicant software is not technically difficult, but users are generally students and staff who do not

have much knowledge about or interest in wireless networks or login mechanisms. Due to the nature of the many different configuration options, step-by-step instruction guides – even with screen-shots – can be quite daunting for the average user.

The SUIX 802.1X Configuration Deployment Tool, developed by Gareth Ayres at Swansea University in association with Loughborough University and supported by JANET(UK), is a major step towards solving the problem of wide scale deployment of 802.1X configuration on Windows devices. The tool can be freely downloaded, complete with comprehensive documentation, from: <http://sourceforge.net/projects/suix/files/suix-both-v081.zip/download>. (Note that this link is for system administrators to get the package, not for end users.) The zip file contains a package

including two executables (suix-setup.exe and getprofile.exe), a readme file, a User Guide and a case study.

In practice utilisation of SUIX involves two steps; acquisition of the configuration details of a working Windows client by the network manager; followed by distribution and execution of the client setup utility. Typically all the end-user has to do is to click on a programme icon and allow the utility to run, which takes around 20 seconds. Full operating details are available from the JANET Roaming website. Although a little time is required to become familiar with the tool, to capture the settings for the various Windows platforms in use on the network and to decide on the distribution mechanism, the payback is potentially immense. Use of SUIX saves significant time over manual configuration as well as ensuring that the configuration is carried out accurately, ultimately requiring less support from IT Support staff.

For further information please download the case study and user guide from the [sourceforge.net](http://sourceforge.net) web site given above or visit [www.ja.net/roaming](http://www.ja.net/roaming) and follow the link to SUIX. ▶

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**Core benefits of 802.1X:**

- Port-level authorisation on a per-user or per-host basis (the user's device will have no access at all to the network from the wireless access point or network switch until the RADIUS server signals that the user supplicant is authorised)

- Efficient utilisation of IP address space – addresses only allocated after authentication, unlike captive portal systems which allocate IP simply on association
- Support for multiple authentication methods (thanks to the use of Extensible Authentication Protocol)

- enabling user credentials to be encrypted inside secure tunnels
- Separation of the authenticator from the back-end authentication server; allowing user management and policy decision making to be centralised.

Features

**SUIX Tool features:**

- Capture of configuration details of operational reference client on network
- Independent configuration of any 802.1X settings prior to distribution
- Configuration of automatic or manual proxy server settings for Internet Explorer and Firefox
- Removal of first time connection

- 'setup' SSID and up to two further legacy profiles
- Automatic connection of Secure SSID
- Popup with instructions and hints on how to connect and fill in username
- Support for Windows XP (SP3), Vista, Windows 7
- Server certificate installation

- WPA2 support check: Tool tries to apply a profile (WPA2 profile) and if client adapter does not support profile (no WPA2 support) will apply a fall back profile (WPA-TKIP).
- Tool checks for third part supplicants and if found alerts users
- Sets Windows supplicant to automatic and starts it.

# New improved JANET Certificate Service

**The new improved JANET Certificate Service now offers:**

- A simple, faster, automated, online interface (typical turnaround time 1-2 mins)
- The ability to monitor certificates and receive automated alerts when certificates are close to their expiry date
- Federated access for nominated contacts.

Users have been quick to identify the multiple purposes to which a server certificate can be put. Some of the top uses that have been identified for JANET Server Certificates so far are:

- Web-based mail servers
- Virtual learning environments
- the UK federation

- wikis
  - network-based authentication services.
- The service's interface means that users can order trustworthy server certificates and encryption for any server within their organisation, online, with a typical turnaround time of 1-2 minutes. The same interface also lets them request, manage, renew and revoke certificates, and receive automated alerts when certificates are close to their expiry date. Another attractive feature to the new service is the ability to provide federated access for nominated contacts.



**EV certificates**

In addition to the free certificates, JANET-connected organisations are now able to purchase Extended Validation (EV) certificates from Comodo CA at a discounted price of \$150 (£103) + VAT, normally priced at £269/yr). For more information please visit [www.ja.net/company/news-2010/ev-certificates.html](http://www.ja.net/company/news-2010/ev-certificates.html).

The new JANET Certificate Service is now six months old, and in that time over 400 organisations have registered for the service and over 3500 certificates have been issued to secure communications.

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Communications Manager  
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## First Collaborative Access Grid meeting in Further Education

**Access Grid technologies at Ashton Sixth Form College and Carlisle College have been used to host a collaborative meeting between South Manchester Information Learning Technology (ILT) and Cumbrian eLearning Collaboration (CEC), saving time and money whilst being good for the environment.**

With the RSC North West region stretching from Liverpool to Carlisle, it has four sub-region groups: North Manchester, South Manchester ILT (SMILT), Merseyside ILT and the CEC. These groups meet regularly to share good practice and work ideas. The distance between these sub-regions however has so far limited the opportunities for a meeting involving all four groups. Even within sub-regions such as CEC, attending a meeting can take a whole day. With money saving and green initiatives being at the forefront of everyone's mind, the AGSC was able to showcase that its supported products

are cost effective, green methods of enabling video collaboration.

The joint meeting between SMILT and the CEC was well received: issues that would usually have been discussed on a sub-region basis were opened up and a broader level of experience was brought to the meeting due to the new increased attendance. Documents were shared between the two groups using the AG collaborative tools, as were desktop screens and web pages. A participant from Carlisle College was able to share some updates on a project that they had been working on: this allowed for increased feedback and comments from two sub-regions, as well as being able to share the development of new ideas with the SMILT group. The multiple video feeds that are possible with AG technologies provided the instant communication that is required for a videoconference meeting.

One purpose of the AGSC facilitating this meeting was to provide the participants with feedback on how to make collaborative videoconferences a

better experience for all involved. Meeting etiquette in a face-to-face environment is quite different from that of within a videoconference session. Leading a meeting requires the chair to be as aware of those participants who are remotely attending as of those people who are in the room with them. The Ashton AG Node worked marvellously well, and with some advice from the AGSC – how to set out tables for meetings so that all participants are clearly on camera; how to lay out video feeds on the main screen – the next meeting that takes place will be a productive experience for all involved.

Over the coming months, the Access Grid Support Centre will be working closely with Ashton Sixth Form College to explore the new opportunities that lie before them with AG collaborative video technologies, and encouraging other FE institutions to follow Ashton's lead.

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Access Grid Support Centre  
[katy.boyle@manchester.ac.uk](mailto:katy.boyle@manchester.ac.uk)

## JANET Usenet News

**The JANET Usenet News Service will close on 31 July 2010.**

Over recent years the numbers of registered users of the JANET News Feed and News Reader Services have continued to decline, and the current infrastructure is nearing the end of its life. JANET(UK) has therefore reluctantly decided that (in the

present economic climate) it is no longer economically viable to run the service.

All user organisations have been contacted regarding the service termination. News Reader users are doubtless aware that there are alternative options they may wish to investigate and the current supplier has suggested that Feed users may be able

to take over existing ISP feeds.

Please contact the Applied Network Services Group ([ansg@ja.net](mailto:ansg@ja.net)) if further information is required.

**David Heard**  
Facility & Content Services Co-ordinator  
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## Ealing Hammersmith & West London College

### first FE to self-fund to a 1Gbit/s connection

**Ealing Hammersmith & West London College has become the first FE organisation to self-fund to a 1Gbit/s connection. The investment illustrates the importance of JANET to the strategic development of our customers.**

The college is a large general FE provider that delivers its learning provision over four main campuses, supporting around 20,000 staff and students. Its network and IT systems have expanded rapidly over recent years, to take into account organisational growth as well as an increased user demand. This demand for connectivity is almost outstripping the current 100Mbit/s capacity, and in conjunction with the college's strategy to continue to support ubiquitous access to its applications and services, a greater capacity JANET solution was required.

The upgrade is also the first under new JANET connection terms which state that for any English college with a line

above 10Mbit/s, JANET makes no charge for the upgrade. This is a happy bonus for Ealing, which was unaware of the change in terms when it committed to the change. As it now stands, the organisation simply picks up the additional access link charges. JANET(UK) hopes that several other colleges which may have considered costs to be a barrier to upgrading will wish to reconsider.

The college has already invested heavily in its infrastructure with a strategic plan to move towards an 'open' model with Google, a significant partner through the delivery of Google Apps and Gmail, as well as the utilisation of other Open Source and web-based technologies.

The college will also be the first to deploy a Cisco 2951 router, which became available as a device to support full 1Gbit/s connectivity during the provisioning process, and at a much reduced cost to existing hardware options.

Martin King, Head of IT Systems at the college, said that after considering trends in education thinking, culture and technology, this investment is part of a direction 'towards active learning, personalisation, collaboration and participation – to provide "learning without boundaries"'. It is an important shift in thinking and investment priority towards connectivity and the use of "the Internet as our computer" to take advantage of the easier, faster and more flexible development opportunities that Internet-based resources often provide.'

**Paul Wakefield**  
FE Account Manager  
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**JANET(UK) has issued a new tariff for connections to JANET which comes into effect on 1 August 2010: see page 10 for further information.**



*It is an important shift in thinking and investment priority towards connectivity and the use of "the Internet as our computer" to take advantage of the easier, faster and more flexible development opportunities that Internet-based resources often provide.*

## Stakeholders review

### SLA



Aspects of the Service Level Agreement (SLA) between JANET and JISC were studied at a recent meeting of the Stakeholders Consultative Panel, where valuable contributions were made by attendees representing JISC, the HE funding bodies, RUGIT, AoC, Becta, local authorities and JANET. The SLA is negotiated annually between JISC and JANET (UK) and covers the core JANET activities, JANET services and performance monitoring.

JANET's key performance indicators were seen to be high reliability and availability; attendees felt that the growing trend to move applications and data to external third party providers requires that JANET look to being able to put high bandwidth, reliable connections to those providers in place to meet this trend; and as the JANET community continues to evolve, the group felt it was important to continue to establish user requirements and to reflect them back within the SLA.

For this purpose, the model used to capture the requirements for JANET was considered a proven basis for development. JANET CSIRT was noted as an example of a highly valued service.

Many thanks to Mark Toole who undertook the Chairman's role, managing to ensure that all attendees were able to make useful and informative contributions to the day that will help to inform our thinking in this important area.

The next meeting will be on 22 September.

**Robert Prabucki**  
Customer Engagement  
[robert.prabucki@ja.net](mailto:robert.prabucki@ja.net)

#### Minutes and presentations

[www.ja.net/company/stakeholders.html](http://www.ja.net/company/stakeholders.html)

#### The JANET SLA

[www.ja.net/services/publications/policy-documents/service-level-agreements.html](http://www.ja.net/services/publications/policy-documents/service-level-agreements.html)

## Reduced connection charges

The same uncontended, highly reliable JANET connectivity is now available for less with the removal of the JANET charges for additional connections for HE and FE organisations. In addition the JANET charge for FE Colleges wanting to increase bandwidth beyond 100Mbit/s has also been removed.

An increasing number of organisations require additional connections, either because they need to connect more than one site to JANET or for resilience against the failure of a single connection. While JISC funding pays for the first connection to JANET, additional connections previously incurred a charge consisting of two components: the cost of the circuit which connects the organisation to the closest JANET node plus a charge for those JANET costs we can't recover from JISC funding (also known as the JANET tariff).

Thanks to our careful control of costs and robust reprocurement of contracts, we have been able to remove the JANET cost component leaving only the circuit cost to be paid. Our network provisioning and procurement teams always seek the best possible price for such circuits (and the cost of the circuit is passed on without any mark-up) so an organisation can be assured that it is receiving the most cost-effective solution available.

These changes will all come into effect on 1 August 2010 and will be applied automatically at renewal time. If you would like to request a quote for an additional or backup connection, or an increase above 100Mbit/s then please call 0300 300 2212 or email [service@ja.net](mailto:service@ja.net)

**Shirley Wood**  
Head of Customer Engagement  
[shirley.wood@ja.net](mailto:shirley.wood@ja.net)

- No JANET charge for additional connections for HE and FE
- No JANET charge for FE Colleges increasing beyond 100Mbit/s

## Mobile Broadband: Present State, Future Plans

JANET(UK) aspires to be a 'one stop shop' for networking solutions and expertise, including areas of connectivity provision that are not currently addressed by actual JANET services. On behalf of our customers, in keeping with our fiscal responsibility towards the public fund entrusted to us, we monitor technical trends, make judgements, and where appropriate provide advice and support.

One such area is that of mobile data access for personal devices when off-campus. Along with many others, we believe that truly broadband, ubiquitous connectivity to mobile users increases their productivity and opens up new opportunities in teaching and research in the field.

Although at present there is no specific JANET offering that meets this need, there is one broadband wireless technology with which the JANET community is very familiar: 802.11-based WiFi wireless LANs. Wherever eduroam is currently available, education users can get straightforward access to reliable broadband speeds using hardware already present in their platforms of choice. JANET(UK)'s mobile broadband strategy currently focuses, therefore, on extending the footprint of eduroam into more and more social spaces: public transport, libraries, leisure facilities, even 'wireless city' initiatives. There will never be complete national WiFi coverage but we can usefully target our efforts to cover locations where most of a user's off-campus time is spent to maximise their mobile connectivity. For example, we are exploring the possibility of introducing eduroam connectivity on public transport vehicles.



*Telephony carriers' networks are optimised for call traffic but the mobile data demands of a modern smart phone far exceed this.*

An alternative technology for mobile broadband delivery, and also one with which many JANET users will be familiar, is via a 3G USB dongle that can offer telephony-based data. As noted at the recent Network Access event<sup>1</sup>, our Irish colleagues in HEAnet offer such a service in partnership with a national mobile telephony provider.

However, we note that the Irish market is rather different to ours: UK academia

doesn't represent as great a proportion of potential subscribers to make commercial concessions likely, but there are too many of us to make direct subsidy feasible. Moreover, surveys detect satisfaction issues among subscribers to 3G data plans at present regarding the speed and price of 3G. The simple fact is that telephony carriers' networks are optimised for call traffic but the mobile data demands of a modern smart phone far exceed this ▶

1. [www.ja.net/services/events/2009/network\\_access](http://www.ja.net/services/events/2009/network_access)

# development

(for example, a typical YouTube clip is the equivalent of half a million SMS messages). JANET(UK) cannot realistically license and install a national radio network ourselves, and there is little our expertise could do to improve the user experience or cost. At present, therefore, we have no plans to involve ourselves with 3G provision though it remains a technology and service which we will continue to monitor carefully.

## Future technologies

So what about future technologies? If the bandwidth bottleneck is solved, competition ought to drive down prices, so inherently faster protocols should save the day. We have engaged with WiMAX providers: however, at present there is no national infrastructure across which to offer a service. A campus-by-campus rollout could be envisaged but excellent wireless mobility on and between campuses is already provided with local 802.11 WLANs and the eduroam service, and the individual costs to organisations of deploying their own WiMAX cells (within some kind of agreement with a spectrum licence holder) are considerable.

Meanwhile, close on the heels of WiMAX is the 4G Long Term Evolution (LTE) which is favoured by telephony providers. This is not deployed in the UK yet and may incur licensing costs that will inflate initial data plan pricing when it arrives: however, once it has arrived we will

This is not to say that we have abandoned exploration of alternative technologies and mechanisms; we have approached the market in the hopes of identifying innovative ways to deliver mobile connectivity that can complement our short term approach of expanding eduroam. Equally, we have not

““”

*The role of wireless, both as a research topic in itself and as a mobility enabler for education, research, training and cultural activities, is one of the core considerations for the design of the next generation of the JANET network.*

certainly include it in our consideration of current trends.

An excellent talk at this year's Networkshop<sup>2</sup> set out the merits of each of these technologies and the realistic timescales for their realisation. In the medium term, however, we find that neither of these are as yet viable for a national pervasive service.

forgotten that our sector needs more than simple connectivity in this area: we intend to support researchers working on future wireless standards. As an initial step, we are exploring to what extent availability of reserved spectrum would enable currently-planned research in the UK, with a view to preparing a case to Ofcom for this application. The role of wireless, both as a research topic in itself and as a mobility enabler for education, research, training and cultural activities, is one of the core considerations for the design of the next generation of the JANET network.

In the meantime, our interest in the ways in which you are using mobile data hasn't ended with our formal consultation that finished in January (many thanks if you assisted us with this activity). If you, or your staff or students are doing something interesting in this space, please contact the author!

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2. Accessible online via EdLab (requires registration).



## Campus Network Infrastructure (UCISA) 30 June 2010

UCISA is hosting a one day event focusing on a series of case studies from UCISA members who have developed, procured or installed solutions to address campus-centric networking challenges. A number of sessions will focus on the 802.1X technical standard and its practical deployment within sites. The event is open to all and it is hoped that you come away with a better understanding of emerging technologies and how they can be used within your organisation.

Presentations will explore issues of concern with current hot topics explained and described by community members. Whether you want to deploy NAC and 802.1X solutions, want to manage your PC fleet more effectively by using WoL

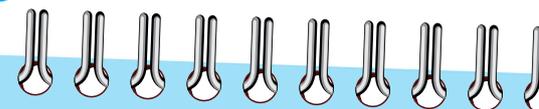
technology or are concerned about how you are addressing Green IT issues, this event will be of interest to you.

The event will be on the Loughborough University campus in the Sir Denis Rooke Building, which is located at Holywell Park with good free parking and a 10/20 minute shuttle bus direct to Loughborough railway station.

Pervasive eduroam wireless access for delegates will be available throughout the event using eduroam. Colleagues will be on hand to assist with any enquiries.

For further details and booking procedure see:

[www.ucisa.ac.uk/groups/ng/Events/2010/campusnetwork.aspx](http://www.ucisa.ac.uk/groups/ng/Events/2010/campusnetwork.aspx)



## Events Calendar

### JANET Strategic Briefing

23 November 2010

Central London venue

Further details can be found on JANET Events website: <http://www.ja.net/services/events/calendar-2010.html>

### ADVANCE NOTICE

#### Networkshop 39

12 - 14 April 2011

University of Hertfordshire, de Havilland Campus



## Forthcoming courses 2010

### JUNE

#### Implementing a Shibboleth 2 Identity & Service Provider

June 16th-17th 2010, Manchester

#### Introduction to Videoconferencing

June 24th 2010, Swansea

#### Technical Support of Videoconferencing

June 25th 2010, Swansea

### JULY

#### Technical Support for Videoconferencing

July 2nd 2010, Cambridge

#### Introduction to DNS

July 28th 2010, Llandrindod Wells

#### Virtualisation Fundamentals

July 29th 2010, Llandrindod Wells

### AUGUST

#### Implementing a Shibboleth 2 Identity Provider

August 4th 2010, Bristol

#### Implementing a Shibboleth 2 Service Provider

August 5th 2010, Bristol

#### Wireless LAN Fundamentals

August 10th 2010, Manchester

#### Information Security Policies

August 11th 2010, London

#### Computers, Privacy and the Law

August 12th 2010, London

Dates and online booking for all courses are available on our website.

A mailing list is available for the distribution of information regarding JANET training courses. Discussion of training requirements relating to the JANET network, suggestions for new courses, locations or course frequencies are also welcomed. To join this list, access the JSCmail site at: [www.jscmail.ac.uk/lists/janet-training.html](http://www.jscmail.ac.uk/lists/janet-training.html).



# event review



## Workshop 2010

The 38th Workshop conference took place at the University of Manchester between 30 March and 1 April, 2010. This year's conference was supported by the University of Manchester and Net North West. The conference began on the day the Large Hadron Collider began taking data at CERN in Geneva. The JANET network, along with the regional and

campus networks, will be delivering up to 10 Petabytes of data per year from CERN to physics departments across the UK. Such demanding requirements highlight how the UK's research and education infrastructure supports a wide range of activities. The conference covered many topics of interest to researchers, managers and support staff:

slides from the presentations are on the workshop website at [www.ja.net/services/events/2010/networkshop-38.html](http://www.ja.net/services/events/2010/networkshop-38.html).

Numerous speakers talked about the requirements for the next incarnation of JANET and many also took the opportunity to look back. Paul Harness, the director of IT at The University of Manchester reminded us that the last Workshop to take place at the University of Manchester was in 2005. He reflected on how the university has evolved in the last five years. Tim Kidd, Head of Operations for JANET(UK), gave an update of the operations and showed that the utilisation on several JANET links is over 10Gbit/s. He also gave details of JANET peering. JANET now has 169Gbit/s of connectivity to other networks and he expects this to jump to 208Gbit/s next year. Jeremy Sharp, Head of Strategic Technologies for JANET(UK), talked about extending the current backbone contract and preparing for the next backbone upgrade after 2013. The high-performance networking available to UK universities was highlighted from the other end of the spectrum, and the other side of the world, by David Blake from the British Antarctic Survey; he spoke about the networking infrastructure available to scientists in Antarctica who rely on expensive satellite



links running at speeds that JANET hasn't seen for 25 years. Interestingly enough, David informed the conference that the connectivity was very reliable and the only trouble they have had is with a BT line across the UK!

The bulk of the conference consisted of around 45 parallel sessions with topics ranging from Optical Networking to Networking During An Economic Crisis. Furthermore, numerous Birds of a Feather sessions and a new Rapid-Fire session gave the opportunity to talk about an even wider array of topics. Many speakers continued the theme of looking back to guess the future. The first transatlantic optical cable is only 20 years old; now cables can deliver 25 terabits per second with wave division multiplexing technology. What is next for fibre optic cables? On the application side, the attendees heard that YouTube and iPlayer continue to change the landscape, and how new network-based applications such as DNSSec and new 802.11 protocols will provide new opportunities and challenges for network providers and support staff. The conference also heard about a technology that is slow at being adopted: an IPv6 debate highlighted the rapidly depleting IPv4 address space but IPv6 supporters are still trying to talk



people into running pilot projects. What will happen? Either way, the community should make preparations.

As in previous years, JANET(UK) hosted a dinner on the Wednesday night of the conference, where delegates gathered for a night of entertainment and networking. The dinner took place in the beautiful

settings of Gorton Monastery where the recently restored building provided a striking setting for the evening's proceedings. This year's after-dinner speaker was Lenny Henry who gave an entertaining, slightly risqué but typically cheeky performance. The exquisite food

and entertainment laid the foundations for a perfect evening, enjoyed by all. This is sure to set the bench very high for future Networkshop conference dinners!

The 38th Networkshop came to a close with a look forward to some of the new opportunities and challenges. A presentation on An Infrastructure Challenge in the Digital Economy explored some of the opportunities and challenges in ubiquitous computing, crowd sourcing and cloud computing. These are sure to be hot topics at future Networkshops and important applications for the JANET community. Networkshop 39 will take place at the University of Hertfordshire, 12-14 April 2011.

**Warren Matthews**  
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*The JANET network, along with the regional and campus networks, will be delivering up to 10 Petabytes of data per year from CERN to physics departments across the UK. Such demanding requirements highlight how the UK's research and education infrastructure supports a wide range of activities.*

# recent publications

## NEWSLETTERS

### JANET News 11

[www.ja.net/documents/publications/news/news-11.pdf](http://www.ja.net/documents/publications/news/news-11.pdf)

## GUIDES

### JANET Services 2010

[www.ja.net/documents/publications/general-information/janet-services.pdf](http://www.ja.net/documents/publications/general-information/janet-services.pdf)

### JANET Development Programme 2010

[www.ja.net/documents/development/development-booklet.pdf](http://www.ja.net/documents/development/development-booklet.pdf)

## EMAIL UPDATES

### JANET Development Update Bulletin

To receive regular updates from the Development Team at JANET, sign-up at [www.jiscmail.ac.uk/lists/janet-development.html](http://www.jiscmail.ac.uk/lists/janet-development.html)



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Published by the JNT Association – ISSN 1755-2397