

# JANET NEWS

Issue 19 | October 2012

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# LOOKING FORWARD TO THE NEW ACADEMIC YEAR

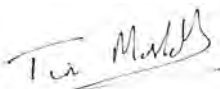
janet

## CEO WELCOME

What a summer we've had – despite the undeniable lack of sunshine, the UK came together to celebrate the Diamond Jubilee; we've had an Olympics to rival any other show on Earth, and here at Janet, we've been developing the technology that will take you into the next decade. Work on the next generation of our network, Janet6, continues with funding principles approved and key equipment suppliers selected. This glimpse into future networking capabilities hasn't been our only success story. Working with the BBC and Japanese broadcaster NHK, we successfully carried the data to screen live super hi-vision broadcasts of the Olympics, across the UK as well as to the USA and Japan; a truly impressive feat underlining Janet's position as a world leader.

I am delighted to announce that Mark Wright has joined the team at Janet as Finance Director, bringing with him a balance of both private and higher education experience. We will no doubt be given an insight into Mark's view of the sector in a future issue of Janet News, but for now, I would like to extend my sincerest thanks to Pramod Philip. Pramod joined Janet over 12 months ago as interim Finance Director and has fully supported the team following the sad loss of Andrew Taylor, and during the JISC transition process. Pramod's work has been of the highest quality and we all wish him the very best with his future endeavours.

As the new academic year stretches ahead of us, we look forward to working with members of the JISC family to ensure that we have the right strategic vision to provide the best possible service to meet the evolving needs of all our customers.



Tim Marshall,  
CEO Janet

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## EDITORIAL

Welcome to the autumn issue of Janet News. With all hands on deck as the new academic year begins, this issue focuses on how we're improving our services so we can continue to meet your future requirements.

Janet Brokerage celebrates its first year in business and forges ahead with its work on delivering value to the community. The Brokerage has negotiated a framework agreement for you to purchase Microsoft 365 (pg3), and will be beginning talks with Google to offer something similar if the community shows enough interest.

As we gaze into the crystal ball, we see the future of broadcasting with super hi-vision (pg11) and a cutting edge network that will deliver super fast speeds across the core Janet infrastructure (pg4) beginning at 2 Terabit/s. Christine Sexton, IT Director at the University of Sheffield, shares her thoughts on how the technology of tomorrow is informing her strategy today (pg20), and Janet Training looks at how you can future-proof your staff skills (pg24).

Finally, you may have noticed that Janet has a new website (pg18) – in fact we have two; one to update you with the latest service developments, and a second for members of our community to connect and collaborate with us and each other. We live and work in an interactive world and hope that these new channels will encourage you to share your thoughts and ideas with us.



Dan Perry,  
Director, Product and Marketing

# MAKING THE MOVE TO MICROSOFT 365 HOW THE BROKERAGE IS HELPING YOU

This autumn, we will be releasing a single sector agreement to help you harness the benefits of Microsoft cloud services, including Office 365 for education - a service that will save our research and education community valuable time and money.

## Listening to you

Several institutions approached us in March 2012 asking for help to overcome the hurdles which they faced when adopting Microsoft 365. Office 365 is a collaborative tool for staff, students and relevant third parties that focuses on productivity and communication. It supersedes Live@Edu and Microsoft offers several free and paid-for academic plans.



We worked closely with these universities and colleges to negotiate amendments and clarification to Microsoft's standard contract documents, which are available to use as part of the Janet Microsoft service. Following extensive legal advice from internal and external experts, this was approved by the participating organisations' compliance teams. This will reduce the amount of legal due diligence needed to move institutions to Office 365 in the future.

As institutions move from in-house email systems or migrate from Microsoft Live@Edu to Office 365, the single agreement will avoid duplication and reduce legal costs throughout the sector, ensuring a good deal for everyone involved.

## Working on your behalf

Janet Brokerage was keen to work with Microsoft, acting as a single focus for sector negotiations. Our aim has been to save time and money for institutions, who can now take advantage of standard contracts available through Janet. **JN**

**For more information on how you can use the single agreement, please contact us:**  
email: [brokerage@ja.net](mailto:brokerage@ja.net)  
Tel: 01 235 822337

Are you interested in moving to Google Apps for Education?

We're starting discussions to help you with this move. Join our community group at <https://community.ja.net/groups/cloud-email> or contact the Brokerage team and let us know if you'd like our assistance.





On 5 July, over 100 members of the Janet community got online to hear our latest update on the progress of Janet6. Jeremy Sharp, Head of Strategic Technologies, explored how we had gathered essential requirements from our community; Rob Evans, Chief Technical Advisor, discussed how these had translated into the design for the architecture of Janet6 and Neil Shewry, Project Manager, covered where we had got to in terms of implementing the project.

# JANET6: FROM REQUIREMENTS TO EVOLUTION – NEXT GENERATION INFRASTRUCTURE ONLINE BRIEFING

## Requirements

With regards to requirements, we've had clear messages from the community that Janet6 needs to have the capacity to keep up with the exponential growth in both normal network traffic and the anticipated data bonanza in research. This improved capability, could save organisations money by facilitating access to cloud and other new service providers, as well as support an increasing diversity of public and private sector partnerships. It will need to be robust, reliable, scalable and agile to respond in a timely and effective way to any new demand placed on it.

## Design

SuperJanet5 is due for replacement in a planned programme of re-procurement. It has already undergone extensive upgrades during its life, and we are still proud that it is one of the first networks that implemented 100 Gbit/s technology. New dark fibre will be acquired and lit by the latest generation technology optical equipment. To get the scalability and agility we want and need, we have decided that we need to take management of the optical equipment into our Network Operations Centre (NOC) and we are actively doing so. New optical engineers will be recruited, and the successful supplier will also provide staff to train members of Janet in the first year. We have already selected our preferred fibre supplier SSE Technology, and our optical equipment supplier Ciena signed contracts with Janet on 5 September.

## Implementation

Installation and transition to the new network will be complete by the end of March 2013. The fibre will be installed first, followed by the optical equipment, and SuperJanet5 will continue to run in parallel to provide continuity of service until the migration is complete.

Once the team had completed their presentations, the community dove in with a number of questions, including:


### *Will Janet offer PSN services?*

We are still primarily a network for research and education, but we will engage with regional PSNs where it is mutually beneficial, and keep a watching brief on how the PSN market develops.

### *What is Janet doing about upgrades to the regional networks?*

Upgrades have already been planned on a rolling timetable over the next couple of years. We will have the flexibility, through a Framework Agreement, to change the shape of the fibre network in future to keep in line with the evolving needs of our regional infrastructure.

### *What about traffic access to flow data?*

We have a system that allows information about Janet traffic to be exported for an agreed purpose, but we have to consider various privacy issues. Our new routers will be able to handle and export this more accurately and reliably. 

To listen to the recorded session and to find further technical information discussed on the day please visit the project webpage: <https://www.ja.net/products-services/janet-futures/janet6>

### Further Information

We will be running a webinar on Janet6: From Procurement to Design on 4 October 2012. For more details about the event see pg36.

If you want to contribute to the development of the network, or have any questions about the network, its design or the approaches we are taking, please join our community group at <https://community.ja.net/groups/janet6>

## JANET COMPETITION Where am I?



For a chance to win your own Janet water bottle, go to <https://community.ja.net/groups/janet-news> and tell us on which famous film location was this photo taken?

Please note: the first correct (or closest) answer submitted to the forum before 31 October 2012, will be the winning entry; we will only be able to contact the winner; the answer will be posted by Janet on the website on 1 November 2012; Janet staff may not enter.

# EXPLORING TECHNOLOGY CAPABILITIES FOR RESEARCH

On 21 June, Janet held a research-focused meeting at the Royal Society in London, where 50 people joined Janet's research support team to hear about the latest news affecting the research community. The attendees came from a wide range of scientific disciplines, including particle physics, high performance computation and molecular biology.

The main emphasis of the programme was Janet's next generation network, Janet6, and an exploration of how it will benefit high-end research. The agenda also included the new e-Infrastructure initiative, launched over the winter of 2011/2012.

Jeremy Sharp, Head of Strategic Technologies at Janet, began the day with an update on the new Janet infrastructure. Jeremy highlighted the benefits of Janet6 for the research community, including developing the acquisition of the Janet infrastructure into its constituent parts of fibre and optical, taking operational control of the optical transmission equipment layer, and harmonisation of equipment on the backbone.

Jeremy also described how Janet has been involved in planning for improved

network capability to key strategic research facilities within the UK as part of the Department for Business, Innovation and Skills (BIS) e-Infrastructure initiative. This is in addition to a number of significant changes that are due to be implemented via the Janet6 transition.

## Programme highlights

The event gave members of the Janet community an opportunity to share developments and opinions on networking and technology-related topics. Mark Leese, network architect at the Science and Technology Facilities Council (STFC) presented on the large-scale e-Infrastructure resources that STFC operates on behalf of the UK research community. Mark spoke about the new capabilities they have for data processing within climate research as well as the Large Hadron

Collider (LHC), and the realities of redesigning networks to accommodate large data generating instruments. One of the key points made by Mark was that it was unrealistic to expect to connect systems to a campus network and immediately obtain high data-transfer performance. Achieving the high data-throughputs that are increasingly needed by research scientists is likely to require significant end-to-end system optimisation.

## GlaxoSmithKline (GSK)

An industrial research perspective was provided by Darren Green, Director of Computational Chemistry, at GSK. Darren spoke about the current and future impacts that modelling and simulation techniques have on GSK's research and development activities. Alongside this paradigm shift, from wet-bench chemistry to modelling







and simulation, significant e-Infrastructure challenges exist. These challenges include the storage and curation of petabyte sized datasets, transferring the data between systems and most importantly, having the skills and expertise to perform the analysis on Big Data.

#### Connecting through Janet

The event concluded with a panel session where a number of key themes were explored around collaboration, industrial connectivity and strategic planning.

The concept of connecting industrial research and development organisations to Janet was mentioned at several points throughout the day. At present, Janet policies permit commercial organisations to connect to the network through two

mechanisms. Direct connections to Janet can be made where organisations are involved in bona-fide research collaboration with other Janet-connected organisations such as universities or research-council laboratories and facilities. The second mechanism operates through the Business and Community Engagement (BCE) policy that allows Janet-connected organisations to share some of their network access capacity with organisations that they may be hosting on campus.

One of the goals of the e-Infrastructure programme is to improve industry access to the skills, knowledge and resources within the academic community, and it is likely that the Janet eligibility and connection policies will need to evolve as the programme matures. One focus on this topic will be

the regional High Performance Computing (HPC) consortia funded through the programme as they develop relationships with businesses and promote the potential of HPC.

The event was a great opportunity for the research community to connect with each other. Historically, Janet has always been responsive to the needs of the research community and we're eager to continue to strengthen our engagement with you to gain a deeper understanding of your network requirements as disciplines and working patterns evolve. **JN**

If you would like further information about the event or to download the presentations, visit our community group at <http://community.ja.net/groups/janet-research>.

# CELEBRATING TEN YEARS OF EDUROAM

## The history

eduroam, the federated wireless network developed by GÉANT that supports roaming connectivity between educational venues, began as an idea in an email in May 2002. That led to a four-country proof-of-concept project in which the UK was represented by the University of Southampton. This was followed by the UKERNA 'location independent networking (LIN)' trial... And the rest, as they say, is history.

Some of that history was written by Janet – from the first ever international eduroam authentication; the concept of a standardised technical specification to provide consistency; early use of eduroam at conferences; through to our current support offerings, eduroam on public



transport, and companion apps. Today, the service is a popular and well-used fixture of the educational landscape.

## eduroam in practice

An independent monitoring outfit (<http://www.wigle.net/gps/gps/main/ssidstats>) places eduroam as the third most 'visible' provider of wireless Internet access globally. In the past year, over 250 million successful authentications have taken place, which translates to 400,000 unique 'device days'. This

connectivity is being provided at more than 5,300 venues across Europe, with a presence in Africa, Asia, and the Americas to cover 54 countries in total. In the UK, we now cover 78% of the HE sector, and see approximately 100,000 unique devices per month.

About 6% of transactions result from international roaming, so the core constituency is users roaming within their home nations. Institutions are increasingly using eduroam as their primary production wireless network, since its design represents WLAN best practice, allowing greater control with reduced support costs, and offering users the best possible experience.

## The success

From a simple idea, we now have a world-leading infrastructure. At its heart has technical excellence coupled with the fabric of trust between organisations all pursuing the same goal and contributing to the eduroam endeavour unselfishly. This is a unique combination that the commercial world cannot match.

Janet is proud to lead the UK's ongoing engagement with eduroam, supporting our healthy and growing roaming community, and contributing our local innovations back to the international eduroam effort. Who knows where the next ten years may take us? **JN**

Free eduroam companion apps are available for iOS and Android platforms at <https://www.ja.net/products-services/janet-connect/eduroam/eduroam-companion>

Follow us on Twitter @eduroamUK

## Latest Twitter buzz around eduroam

**@mcbjazz**

#eduroam is the next best thing to sliced bread, with bacon on top

**@FHeinderyckx**

#eduroam rocks. Get to the other side of the world, walk into a campus, flip your laptop open, and you're online

**@christinaoesl**

#eduroam saves me so much wifi-finding grief, especially at conferences.

**@maria\_alhinai**

#eduroam is the best invention ever!!!

**@johnhawks**

Once again, words can't describe how convenient #eduroam is





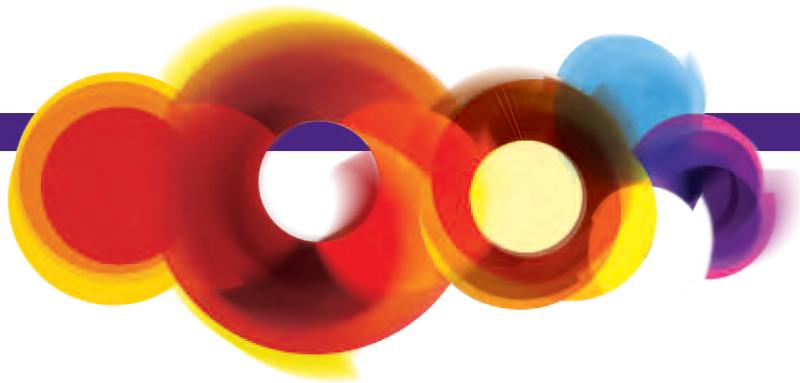
# THE EDUROAM CONSULTANCY

The Janet eduroam consultancy service has been in existence for ten years, delivered in partnership with Loughborough University, which provides the technical management of the Janet national RADIUS servers. The University is well placed to deliver the consultancy service as it provides eduroam technical support, as well as training courses. Dr Alan Buxey, who heads up the support team and plays a vital role in the consultancy service, shares his insights.



Alan Buxey,  
Senior IT Services  
Specialist at  
Loughborough  
University

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**Q: What does the consultancy service offer?**

**A:** The consultancy can be used for a range of activities, including on-site problem solving, post-deployment auditing and QA work, eduroam installation and setup, and on-site training. It's very useful in situations where an organisation's IT Support staff require additional resources to carry out a specific eduroam-related task, or they simply do not have the time or expert knowledge to effectively and efficiently complete a project. Other scenarios where the service can be of benefit include situations where staff that originally set up the eduroam service have moved on or changed job roles, leaving the organisation with a skills gap. Consultancy can be used to audit the deployment, implement best practice and provide on-site training for the new administrator.

**Q: How does the service work?**

**A:** Each case is different, but initially we'll meet with the customer and agree the scope of the work and number of days required to complete the job. The commercial arrangement (which may include travel and overnight accommodation) is arranged directly between you and Loughborough University rather than Janet, since this is the most efficient method. We begin working with the customer, initially on a remote basis to analyse the existing configuration and then work on-site. Once we've concluded our on-site work you will receive a written report detailing our findings, the work carried out and any recommendations.

**Q: In which sectors has the service been most popular?**

**A:** There have been 12 projects over the past two years, which have kept us fairly busy considering the wide range of eduroam-associated work we do. The majority of projects have been for universities, although we would like to see greater uptake by the FE community. We had one case where we were able to put a college in contact with its local university whose eduroam administrator was happy to act as a mentor. In that particular case the local JISC Regional Support Centre was also involved as they regularly visited the college to provide on-site support services.

**Q: So what is the range of consultancy projects that you have undertaken?**

**A:** Anything you can think of – auditing the service, streamlining a deployment, simplifying a wireless networking environment to a single primary SSID, dealing with authentication proxy issues and local authentication requirements, preparation of RADIUS server for Moonshot, setting up RADIUS servers from scratch. The list goes on!

One project undertaken in July 2011 was for the University of Oxford. The University already had a working eduroam service that had been deployed throughout the University departments, local hospitals and local authority locations in and around Oxford. However, the Oxford University Computing Service wanted assurance that the deployment met all

requirements of the eduroam Technical Specification.

So we worked with them to ensure they were conforming to best current practice, particularly with regards to the efficiency and effectiveness of their RADIUS server configuration.

The OUCS Network Team detailed the full story on their blog: <http://blogs.oucs.ox.ac.uk/networks/2011/09/01/maintenance-work-on-eduroam/>

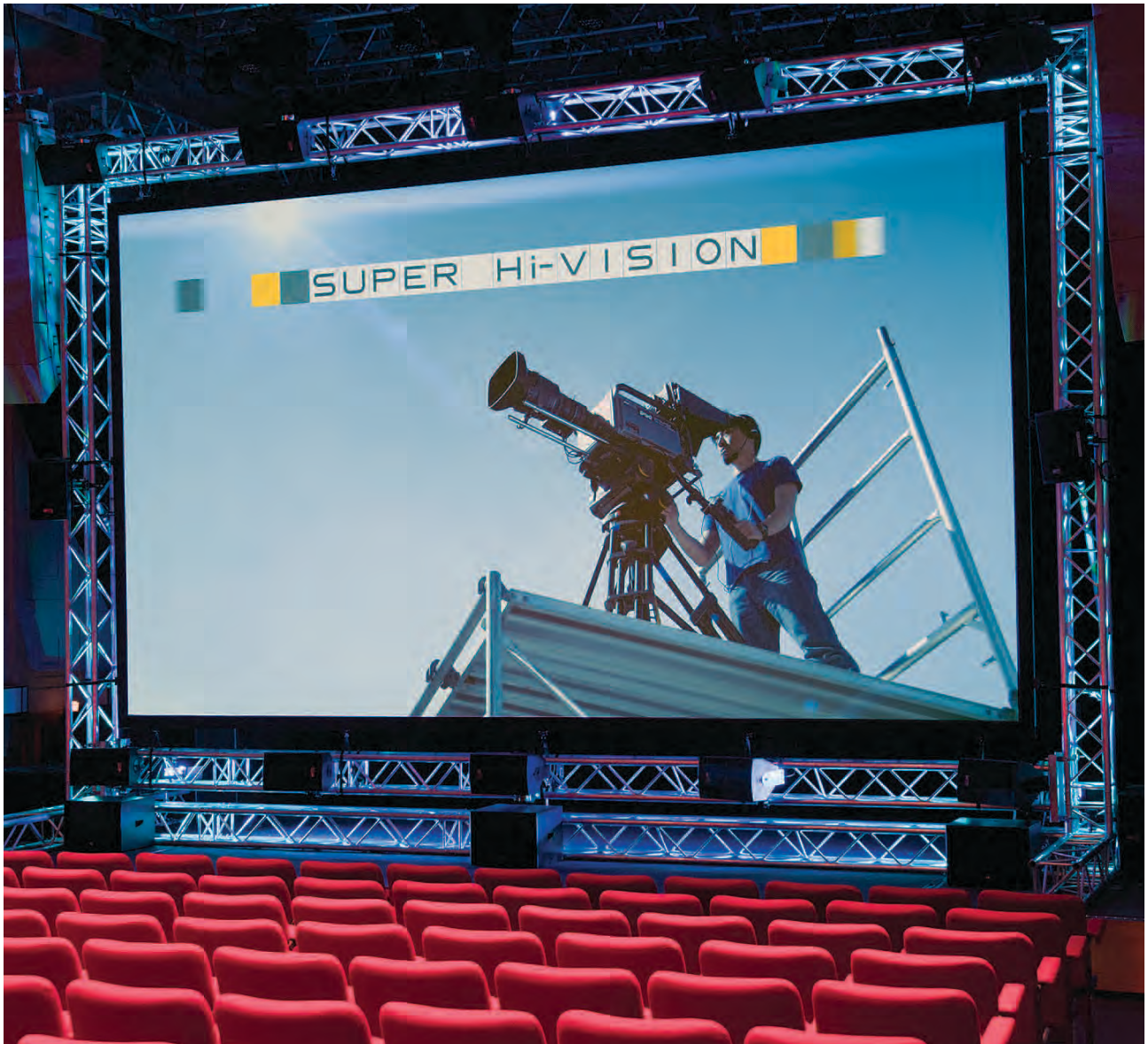
**Q: What are the highlights of running the consultancy?**

**A:** We've witnessed a number of instances where, upon enabling eduroam at customer sites, visitors from other eduroam-enabled organisations were suddenly able to seamlessly connect to the Internet, when previously they had no connectivity. It's very satisfying to see the service just work – the ease with which users can connect to eduroam without having to get network teams to generate guest accounts, or pay for costly 3G is well worth shouting about. **JN**

**BOOK NOW**

The cost of on-site consultancy is £580 + expenses (excluding VAT) per day. To take advantage of the service, contact the Janet Service Desk ([service@ja.net](mailto:service@ja.net)) requesting more information about eduroam consultancy, briefly outlining your requirements, or simply ask us to contact you.





# 8,000 PIXELS OF SPORT: JANET DELIVERING GROUNDBREAKING SUPER HI-VISION THIS SUMMER

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The bigger the screen and the more pixels, the cooler it is – a simple correlation known to gadget-loving techies everywhere. So imagine my excitement about the latest project that Janet got involved in – streaming live sporting content to huge screens at such a high resolution, that the idea of giving the audience binoculars is being seriously considered, even though they will be only metres from the screen.



Tim Boundy,  
Strategic Technologies,  
Janet.  
email:  
tim.boundy@ja.net

This summer the BBC and NHK, the Japanese Public Broadcasters, filmed and streamed the Olympics in Super Hi-Vision (SHV). The SHV stream, which at 8K resolution is 16 times the resolution of HDTV, was streamed live by Janet around the UK, and then around the world back to NHK in Japan.

In the UK the 350Mbps video stream was delivered to public viewing screens at BBC Broadcasting House, London, The National Media Museum in Bradford, and the BBC Pacific Quay in Glasgow. Internationally the stream was viewed in Washington, USA and at three sites in Japan, making this the widest global viewing of live SHV content ever performed. In the UK, the BBC invited the public to apply for tickets to view the fruits of this groundbreaking project during the games.

Technically, dealing with the cutting edge SHV technologies has been fascinating for the Janet teams involved. The cameras were bigger versions of standard TV cameras and the microphones looked like large fluffy balls on sticks, consisting of 22 individual mics that provided the 22.2 channel surround sound. In the theatres, playback involved a scaffold to position the 24 speakers around the audience and a projector – the size and weight of two washing machines.

Alongside the essential 10 Gigabit Janet-connected router, were the racks of decoders, decryption devices and, recording drives. Each site made for an impressive technical demonstration of the stunning audio and video footage.

To ensure the sporting moments reached every end site as a beautifully intact 8K video stream, NHK were utilising a system called Super Forward Error Correction. This new system ensured that the picture would be perfect at the point of viewing in the event that the signal was lost between BBC Television Centre and Japan. Up to 10% of the signal could be lost but the picture can still be recovered perfectly without a pause in the show. The Janet streams have not required this kind of real time failsafe but for the NHK's vision of a future where SHV is delivered to homes via domestic broadband, it will be essential.

Setting up the connections and fine-tuning them for SHV initially presented some new challenges but the Janet connections to the public viewing sites in Bradford and Glasgow have run continuously without significant issues. At one point in Glasgow the intensive testing for the SHV connection led us to watch some other ClydeNET traffic in more detail. The Glasgow Super Computing project known as GRID,

habitually uses large data rates between Glasgow University and the Large Hadron Collider at CERN. Alongside the SHV traffic were bursts of data peaking at 5 Gigabits per second (Gbps). Due to the amount of bandwidth available on the Janet core the SHV stream was unaffected.

The SHV project has brought together so many different types of expertise. Network gurus from the Janet NOC, ClydeNET and YHMAN have been working closely alongside TV sports producers, all keen to make it the most stunning AV event of the games. SHV will provide a great demonstration of an NHK, BBC and Janet project, giving something back to the Janet community and to sports fans across the UK. [JN](#)



Prototype technology: The BBC broadcasts the 1948 London Games.



# FIVE MINUTES WITH NICOLA DANDRIDGE

Nicola Dandridge, Chief Executive of Universities UK, remains upbeat about the future of UK academia, despite the current challenging economic times. She spoke to Janet News about how technology will increasingly drive the future education agenda.

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*Nicola, you were recently quoted as saying that 'Universities have a critical role to play in pulling our economy out of the recession'. Is this realistic?*

Definitely. Given that we are in an economic downturn it is essential that people get the skills they will need when things pick up. People with a degree are still far more likely to get a job and there's no 'up front' payment when taking up your place at university. Certainly, the CBI tells us that employers are still looking at graduates to fill their roles.

We're helping to provide the UK with the skilled workforce that will support the economy, and UUK's work within that wider brief covers many areas – research and business engagement are just two I could mention.

*When you spoke at the Higher Education Futures event in May 2011, you mentioned the challenge of adapting to change. What do you think is driving this change?*

Technology is a major factor in determining what happens next. It already plays a key role in our public engagement work across the different communication platforms. It underpins the UK's globalisation programme and as students move away from traditional on-campus tuition, it will help universities establish different tuition models.

Education is increasingly web-based and students who want to fit their education around the demands of

work and family will want improved online provision, so universities need to offer flexible alternatives to the current learning structure. Also, the devolved nations will want policies that reflect their own identities and across the UK we see increasing collaborative partnerships with major organisations facing similar challenges – the NHS is a good example. Working with partners will help us identify the efficiencies that we need to implement; we can always do things better.

*How do you expect Janet6, the next generation of the Janet network, to meet the changing needs of UK universities?*

While I can't answer for individual member universities, I'm confident that Janet understands the need for increased flexibility in meeting the changing requirements of the education sector.

Universities, whether they be research or teaching focused, are facing rising bandwidth requirements from students, staff and researchers. Janet is working to match and exceed these requirements. At UUK we've been involved, to some extent, with the development of the new Janet6 network, and we have made the case

for the future needs of UK universities. But, we can't be content with just introducing the relevant hardware and we need to work with Janet to ensure that the sector is aware of all the additional services Janet offers and how, for example, Janet and UK universities can work together to deliver online tuition. Will Janet6 support international teaching? UK institutions need Janet on board as they expand internationally. I have every confidence that Janet can deliver and I see the future relationship between Janet and UK universities as being more of a co-dependent partnership than the traditional supplier/institution model.

*Clearly you have a lot going on at the moment and it's a very busy time of year. Can you describe a typical day in your working life?*

Exciting and challenging! My job has so many aspects that there is no typical day. On any one day we will be working on policy development, on infrastructure support for individual universities, on an innovative programme established with students in Brazil, or organising conferences and workshops for universities. We collaborate on shared services – such as Janet – and we use media engagement to demonstrate the value of universities both here and abroad.

My job is demanding and there are long hours, but it's a great area to work in and I get to meet so many creative people. I don't think you'd find this diversity in any other sector. **JN**





# STEERING THE WAY FORWARD: THE JANET STAKEHOLDER GROUP

On 25 June, the Janet Stakeholder Group met to discuss (1) the outcome of the JISC transition and how it would affect the operation and funding of Janet, (2) to hear the latest developments in the Janet6 procurement and (3) to receive an update on the infrastructure company portfolio.

The meeting was attended by representatives from the Scottish Funding Council, GuildHE, the Research Councils, the Russell Group of IT Directors, the 1994 Group, University Alliance, the Association of Colleges, IT Directors in Wales, NATSPEC, the PSBA, UCISA and JISC

The briefing began with Janet's CEO Tim Marshall highlighting Janet's involvement with the JISC transition. He reminded the group that the JISC review, carried out by Sir Alan Wilson, identified a number of key points including that the JISC activity was too widely spread and should be focused to achieve more of an impact in critical areas. In the future, the report recommended that JISC should be funded with a combination of grants and subscriptions or user charges.

Wilson also recommended that JISC became a legal entity.

It has been proposed that the new JISC should be owned by Universities UK, Guild HE and the Association of Colleges (AoC), to encourage inclusion for all sectors of the community. Tim stressed that the brand identity of Janet will be preserved and as an existing operating company, Janet along with JISC Collections, will form an operating company as a subsidiary of the new JISC.

Following the JISC reorganisation, the value of the Stakeholder Group will be even greater in helping review and shape our services to better serve the community. The Group considers Janet to be an accountable partner to organisations within the community

and as such, a method of community feedback will need to be established – the Stakeholder Group is well placed to take that forward. **JN**

If you would like more information on the Janet6 procurement process, please read pages 4-5. You can view the Janet6 presentation given by Jeremy Sharp (Janet's Head of Strategic Technologies) as well as learn more about Tim Marshall's view on the infrastructure company portfolio by visiting <https://www.ja.net/about-janet/janet-stakeholder-consultative-panel>



For details of the next stakeholder group, please visit the Janet website for updates: <https://www.ja.net/about-janet/about-us>

# THE INTERNATIONAL DIMENSION



Josh Howlett,  
Head of  
International  
Collaboration,  
Janet

Josh Howlett is Janet's Head of International Collaboration. Having taken over the role from newly retired Steve Hogger, Josh will be responsible for developing our international relationships and maintaining our role as a leading influence in this space. Previously, Josh was an Activity Leader within GÉANT, coordinating work across many European NRENs. Josh has been an active member of the TERENA community for many years and shares his thoughts on the international arena.

Almost every industrialised nation, and many emerging and developing economies, have a National Research and Education Network (NREN) – and some have more than one. It's very easy to overlook the significance of our international NREN partners when we're so preoccupied with meeting the needs of our local users.

The highly collaborative and increasingly globalised nature of research and education, and the need for cost effective and dependable services, mean that all NRENs share a desire to work together. However given the number, diversity and geographical distribution of NRENs you probably won't be surprised to learn that there are significant challenges involved.

The simplest route to collaboration is through a bilateral partnership, where it is easiest to identify and satisfy a common need. A good example is

connectivity between the UK and Ireland, which Janet and HEAnet (Ireland's NREN) work together to provide. However, in some cases it's impractical to apply bilateral partnerships where several NRENs need to get involved.

This was recognised in the early days of research and education networking and subsequently the NRENs developed structures to facilitate multilateral collaboration. Today, collaborative projects within Europe are supported through TERENA and GÉANT. The combination of TERENA, with its focus on collaboration and information exchange, and GÉANT, with its tighter focus on service development and delivery, has proven tremendously successful, making Europe the hub of the research and education networking community.

#### Janet abroad

We strive to ensure that Janet is heard globally, attending other international venues, such as the Internet2 Member Meeting in the USA. And our international collaborations are not restricted to the NREN community; we engage within international technology standardisation organisations (such as the Internet Engineering Task Force) and with policy-making organisations such as the European Commission.

In fact almost all parts of Janet's business have an international dimension. And this is increasingly true of institutions within the Janet community, where the growth of trans-national education, remote campuses and globalised research is becoming an increasingly important part of their businesses. So while Janet serves a UK-

### Facilitating European Collaboration

TERENA is an organisation based in Amsterdam, which provides 'soft infrastructure' to facilitate collaboration, innovation and sharing of knowledge. TERENA organises work within a number of themed Task Forces that address a range of technical and non-technical disciplines. TERENA's annual conference is attended by many hundreds of technologists, managers and policy makers from the European and International networking and vendor communities.

[www.terena.org](http://www.terena.org)

GÉANT, operates the 'hard infrastructure' necessary to deliver services at the European level. This body provides the advanced pan-European network that interconnects 40 European countries, and offers global connectivity to the Americas, China, South-East Asia and Africa. As such, GÉANT is without doubt the most ambitious NREN partnership. In addition to the backbone network, GÉANT also manages a portfolio of other multi-domain network and application services, such as GÉANT Bandwidth on Demand and eduroom.

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

based community, we can't afford to neglect your international relationships. And so where are we likely to go? Historically GÉANT has acted as a catalyst to improve the quality and consistency of services across European NRENs. With the need to reduce costs, it is likely that this cooperation will become increasingly close, with NRENs and their communities taking a more consolidated approach to service development and delivery. This trend is already apparent in the planning of the next iteration of GÉANT ('GN3plus'), which commences in April 2013.

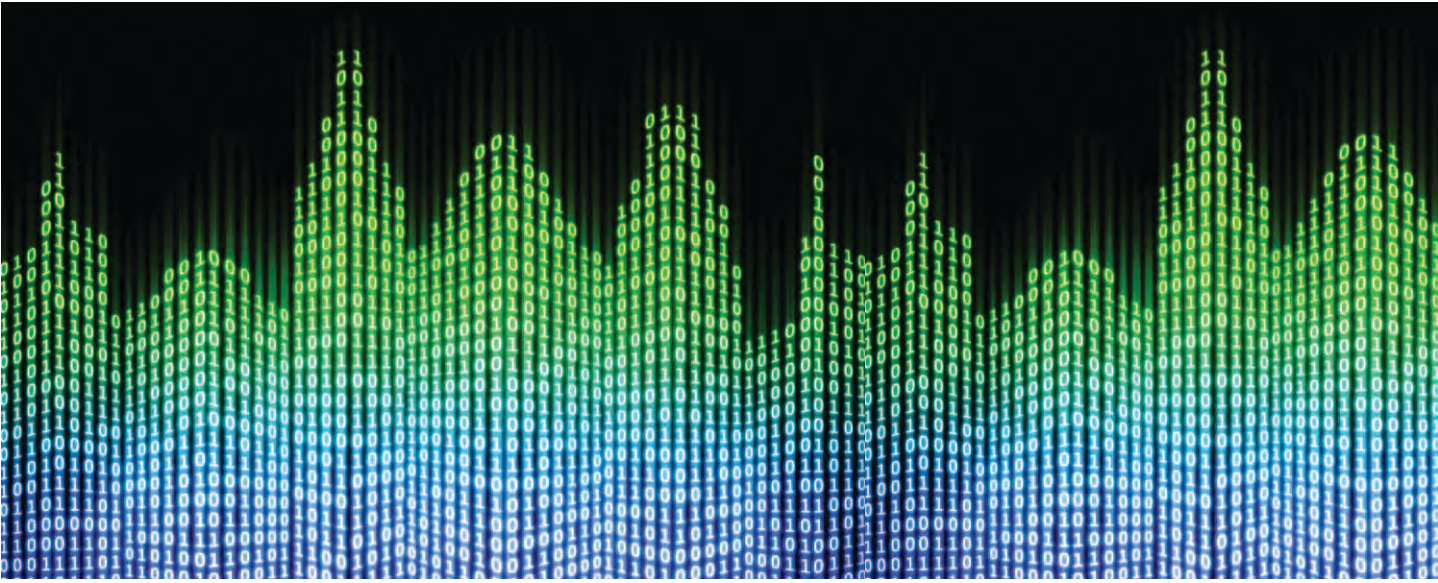
There are aspirations to engage in more intelligent pan-European procurement and to centralise aspects of service operations. This is likely to be mirrored in other world regions, with the regions seeking more effective mechanisms enabling them to work together to 'do more for less'.

#### What lies ahead

It's probably going to be a bumpy ride since NRENs and their communities are all very different. But cooperation is in everyone's interests – increased globalisation means that regionally or nationally organised networks will need to work together to meet the needs of the communities that span their boundaries. The pace of this change is likely to continue, if not accelerate, over the coming years, so it's essential that we're positioned to take advantage of the opportunities that this will bring – and to avoid the potential pitfalls. **JN**

If you would like to discuss Janet's position on international collaboration, please email Josh on [josh.howlett@ja.net](mailto:josh.howlett@ja.net).



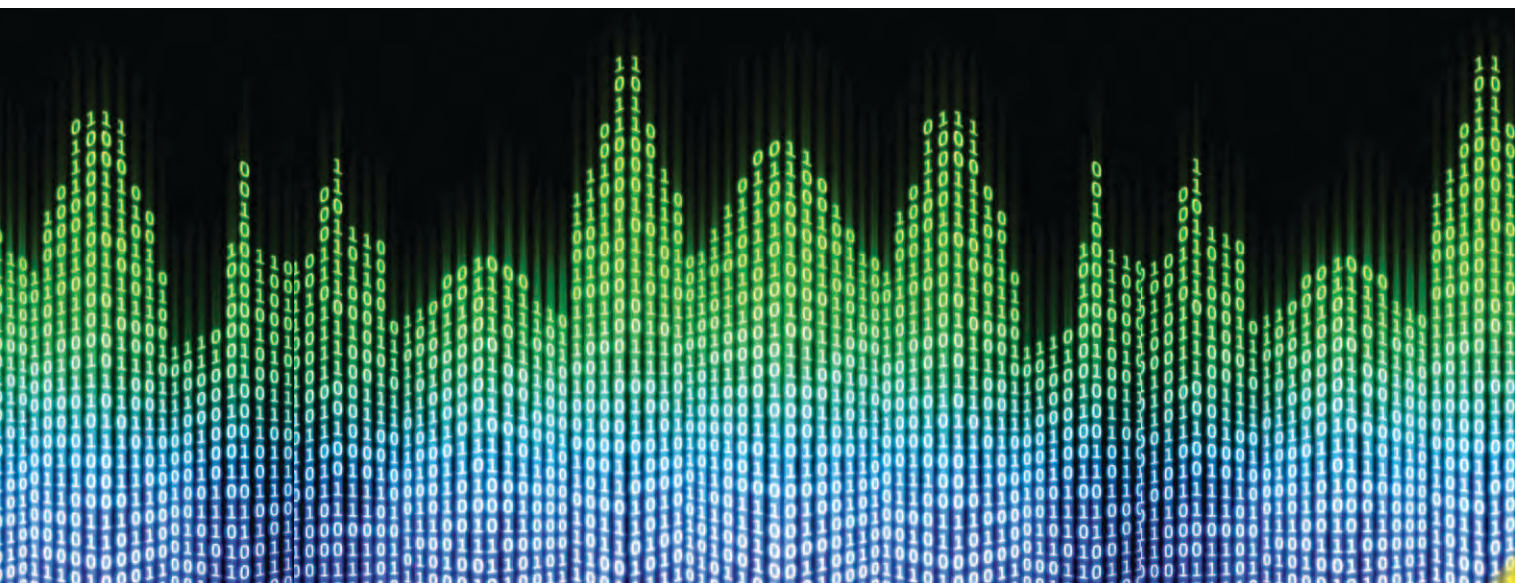


# INFORMATION ARCHITECTURE:

Too often websites are considered as separate to the core business of an organisation. They become isolated islands of accumulated, often outdated content. Over the past 18 months at Janet, we have been rebuilding the information architecture that underpins how we operate. This evolution has enabled the rethinking, redeveloping and re-engineering of our websites.

Our objective was to create websites that met the core requirements of our customers – helping you to find the products, services and information you’re looking for. Secondly, we wanted to provide a platform for you to contribute to existing content, as well as collaborate with us and each other. The new sites will help us to work more effectively as an organisation, further benefitting the sectors we serve.

When we started out on this journey, our approach was to look at our web presence as a core part of how we work rather than viewing it as a separate entity. We looked internally at our business processes and how our systems were able to better serve our customers through online services. We also considered external factors, recognising the real expertise and knowledge is with our customers. With the birth and increasing uptake of social media, and the influence this has in business, we aimed to understand how customers were making the most of these social features of online engagement.



# THE HIDDEN BUILDING

We have now split our external web presence into two sites. [www.ja.net](http://www.ja.net) is the first port of call for visitors either new to Janet, or those who want to gather some top level information about our products and services. The site has been re-structured to present the information more clearly and concisely. Advancements in web development mean that increasingly, visitors to websites will be able to find, book and pay for services, courses and events online, as well as having better access to support and other services. Our new site is now more user-friendly and we've made these tasks simpler and quicker to complete. However, this is only your first stop – <https://community.ja.net> is the second site, and offers more opportunities to get involved with Janet.

Our community site is an open and public platform that facilitates and encourages collaboration, providing access to technical resources, community experts, and each other. Our goal is to facilitate community interaction, whether the common ground is service enhancement, or resolving issues. Our aim is to feed this material into our internal product management discussions, helping to develop and deliver products and services that will suit your future requirements. In addition, this is the space where we will create and host our technical knowledge bases, which we hope will encourage peer support.

A central facet of the community site will be the 'groups'. These enable you to have discussions and share ideas before

opening those back to the community and Janet. The groups are wholly user-controlled, rather than being managed by Janet, to allow open discussion.

By integrating our web presence and back office systems together, we're looking to operate more efficiently as a company and be more effective in supporting you, our community. You now have the opportunity to have a greater say in shaping the future of Janet so get involved. Join the community groups, learn and teach, and initiate discussions on areas that interest you.

We look forward to meeting you online. **JN**

Take a look: <https://www.ja.net> and <https://community.ja.net>





University of Sheffield Students' Union

# SPOTLIGHT ON: CHRISTINE SEXTON



As IT Director at The University of Sheffield, Christine explains how her partnership with Janet is helping her to meet future technology challenges.





*How has your background helped you in your current role?*

I have a PhD in genetics and spent nine years as a scientist before moving on to become the Head of Administration in the Faculty of Medicine, then Director of Corporate Information in 1996. Later that year, my department merged with Academic Computing Services to form 'Corporate Information and Computing Services'.

I don't think of myself as an IT person, more of a leader and manager surrounded by IT experts: I work at a strategic rather than a technical level. I understand the University's business needs and regard my lack of 'backroom' IT experience as a bonus – I never say 'we can't do that' when looking at potential solutions because the truth is I simply don't know that we can't!

*Sheffield is a research-intense university. How do your technological priorities differ from those of a more traditional, teaching university?*

A thousand of our six and a half thousand staff are engaged in research work and their IT requirements vary. As our agenda is essentially research-led, we push out and receive a lot of data so we need plenty of bandwidth. Successful research requires online collaboration, both within and beyond the University, so we need a robust network that can safely move huge volumes of data around. We run high-powered computers that support enterprise applications specific to the research environment and we use several petabytes of data storage. Safety and reliability are major considerations and suppliers have to deliver these unique requirements.

"Sheffield could be a model of how the intelligent use of technology can help in other areas – for example, reducing our on-site infrastructure and outsourcing some services also feeds into our sustainability agenda."

CONTINUED ON PAGE 22 >>>



Information Commons

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*You're known in the industry as an innovator – what new technologies have you introduced at the University?*

We use social media to communicate with our students and we were one of the first universities to develop our own mobile app. I like to keep an eye on what's happening in the IT environment and our students are a great resource for discovering what's out there – there are plenty of 'feedback' channels to harvest this information. We were also one of the first universities to publish 'gigapixel' photos of our graduation ceremonies, enabling our students to use them to 'tag' themselves on Facebook.

We're also embracing consumerisation. More than 60% of our students have smartphones and 96% own laptops, so we're harnessing the power of these

Bring Your Own (BYO) technologies; all our services are now available on mobile applications. In the future, we want to deliver all our services over the web.

Sheffield could be a model of how the intelligent use of technology can help in other areas – for example, reducing our on-site infrastructure and outsourcing some services also feeds into our sustainability agenda. And then of course there is cloud computing, which is important in meeting our storage needs and we use different technologies to suit the requirement.

*So you're an advocate of cloud computing, outsourcing and data centres?*

Absolutely. We have gone for off-site hosting in a big way and have outsourced our calendars and email to

Google. None of our email is based on the campus. It drives our thinking and strategy; my first question when looking at a new requirement is 'can we outsource this?' I like to make savings on infrastructure and re-assign our IT people to supporting the core aims of the University – teaching and learning, and research.





Firth Court

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*Can Janet, and more specifically Janet6, meet the changing needs of your university?*

Certainly. Our partnership with Janet has always been important but as we grow more dependant on technology then it becomes even more so. Clearly, with huge amounts of our data whizzing around, high bandwidth is important. The Janet network is very robust and has survived regular upgrades without compromising the service.

We're keen to see how Janet can support our growing use of video-conferencing – another innovation that could support the new ways of learning that we should be looking at.

I also like the way Janet is funded – it puts the traditional customer/supplier relationship on another footing. Having everything we need on one network

certainly makes life easier - fragmentation could be disastrous. Similarly, CSIRT is vital in maintaining network security. There's a lot of confidential material on our wires and Janet's security support gives us complete confidence in what we're doing. The guys who keep us safe are Janet's unsung heroes.

*What would you like to see in the IT landscape that doesn't currently exist?*

We're very interested in the Janet Brokerage scheme and other innovations in the cloud data storage sectors. We'd like to see some standard terms and conditions introduced that cover off the wider application of these services – particularly important with new products, such as MS365 on the horizon. I'm currently on the Janet Brokerage Advisory Board so I have a full 360-degree view of the project.

*What are your priorities over the next academic year?*

The changes to student fees and numbers are going to present a whole new set of challenges so our IT priorities include improving life for students, making it easier for them to share their experiences. Offering an enhanced student experience, underpinned by the innovative use of IT, could help our marketing efforts more than any brochure.

We'll continue to support the use of BYO technology. If students are happier using their own stuff then we should support, rather than fight it. Handled properly, it can be a win/win situation.

Longer term, we'll need to be more agile in responding to the opportunities that future technologies offer. Our systems need to be flexible so we're not faced with a situation where we have to 'lockdown' external IT equipment. For example, Skype was initially banned at the University. Having the infrastructure and suppliers to support our projects have helped us to come a long way in embracing new technologies.

It seems the future for higher education in the UK is one of universities using innovative technologies – underpinned by the security of a robust, reliable and secure dedicated network – to meet the future challenges head on. The winners will be those establishments who do it more successfully than their competitors. **JN**





# CLOSING THE SKILLS GAP

In 2011 Janet commissioned a study to review the skills of technical staff. The study set out to identify the key capabilities of network operations staff and highlight what areas within teams needed improving or refreshing. Initial results have given us a fascinating insight into the wide range of activities carried out by these particular members of staff within the community.

## Research Process

The results of the study were a culmination of research and one-to-one consultations with members of the Janet community. This included over a dozen telephone interviews with line managers, a review of over 20 job descriptions plus an online survey. Due to the statistical significance of the results and strong community support, we proceeded with the review.

In addition to the consultation, the study also referred to the Skills Framework for the Information Age (SFIA), SFIA is an international reference model designed to support the review and identification of the skills needed to effectively manage and develop ICT systems. For more information on SFIA visit <http://www.sfia.org.uk/>.

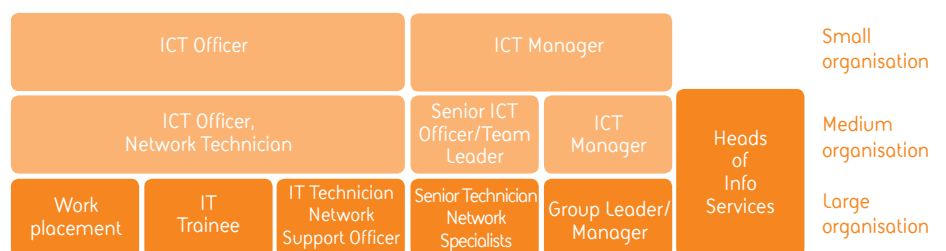
The results of the study were used to develop workshops, initially run at Loughborough University. This provided a unique opportunity to work directly with networking experts and provide an environment in which they could develop a shared understanding of their skills.

## Key Findings

### Skills tables

The main outcome of the study to date is the creation of the skills tables, which cover three generic roles: IT Officer, Network Officer and Senior Network Officer. These roles can be mapped to most academic settings using the table below.

### The skills table



Each skill was then categorised in two ways:

1. **Type:** this aims to support the on-going development of each skill.
2. **Area:** providing a useful way to group these skills to identify current strengths and weaknesses. The area classifications are as follows: customer support, technical, management, responsibility, and creative relationship/communications.

Category	Development of the skill	Working Definition
Knowledge	Books, manuals, just-in-time online support, training	Understanding of facts, truths, or principles
Skill	On the job, shadowing, practice, workshop, interactive e-learning, training	Ability to carry out a task or process
Behaviour	Practised on the job, feedback, coaching, performance management, role-play	Demonstrated way of behaviour that contributes to carrying out tasks or relationships

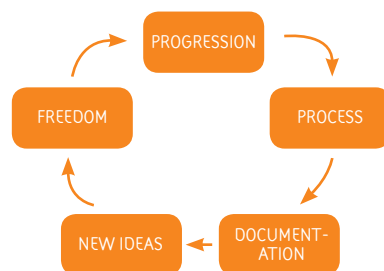
### Training needs

Feedback from the survey provided valuable insight into the tasks of networking staff and their training requirements. Interestingly, the answers given for what respondents did 'most' and 'best' were the same for all non-management levels. The most common task was 'problem solving', while 'hardware management' was noted as their area of expertise. A host of training requirements and information briefing topics were highlighted, ranging from product specific updates through to leadership training.

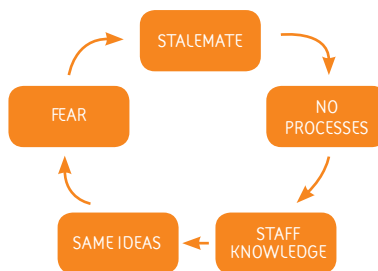
A key take-away item from the research was that there is a need for networking technicians to continually stay in touch and up to date with changes in technology. However, there is a general concern that training providers are not always able to keep pace with these developments. These issues and the training requirements will be considered by the training team at Janet and used to inform their development activities as they seek to meet the needs of the community.

One of the most interesting findings, was the impact of staff turnover on line managers. Managers with a low

### Happy managers



### Unhappy managers



turnover of staff seemed more stressed by the situation than those with high turnover. While this seems counter-intuitive, a high turnover of staff allows for continual progression, focused professional development, as well as fresh ideas and skills being brought to the team.

Low turnover means knowledge is continually stored in people and not documented. Staff get frustrated by a lack of progression and recruitment becomes an ad-hoc process.

### Using the results

A full report will be published for the community later this year. This will include recommendations on good practice based on case studies identified within the Janet community. The skills tables will be presented in a way that allows individuals and line managers to easily benchmark their skills or the skills of their team against a UK-wide list.

Building on the success of the skills workshop, Janet is piloting an updated version based on the outcomes of this report.

This workshop will help IT teams understand the skills within the group and identify the most effective way to develop new skills within the team, as well as allow individuals to develop their own development plans based on this.

The study was carried out by Gill Chester, Director, Little Man Project. For more information about the skills review, please email [skillsreview@ja.net](mailto:skillsreview@ja.net)



# GUIDING THE JANET BROKERAGE

The newly formed Janet Brokerage Advisory Board ensures that the Brokerage delivers what you need to move to cloud and data centre services.

Made up of 12 leading representatives in IT, finance and sector bodies, the advisory board provides independent governance, guidance and strategic advice from the community perspective to Janet Brokerage. Importantly, it ensures the Brokerage is acting in the community's best interest

We asked Mary Visser, Director of IT at the University of Leicester and Chair of the Board, to share her thoughts on cloud computing, as well as explain how the Janet Brokerage Advisory Board will help to strengthen the service proposition:

"The role of a university's IT service is being overturned. We used to be introverted, running systems from our own data centres for staff and students who were generally on campus. As

long as Janet provided a reliable Internet connection, we were happy. However, now our users ignore the boundaries of institution, geography and time. They expect to be constantly connected and are technically savvy enough to create their own Dropbox accounts. We have to work hard to stay relevant. We need to care less about the location of our data centres and be far more concerned about the services that can be reached from a smart phone.

"Cloud computing is real but requires us to relate to suppliers in new ways. Janet is already using its unique knowledge of the sector to provide practical help – cutting the cost of doing business and building understanding on both sides of the relationships that are going to be most critical.

"The framework agreement is a great start and the recent negotiation with Microsoft over its Office365 offering is another excellent example. The Advisory Board is keen to help Janet spot these opportunities and tackle the inhibitors one by one."

Meeting regularly throughout the year, the Board will play a crucial role in the development of the service. You can contact members of the board through the Brokerage advice page on our website.

However, it's not the only way to influence what we offer the Janet community; if you have any suggestions, please email [brokerage@ja.net](mailto:brokerage@ja.net) or call 01235 822337. **JN**





# PASSWORD SECURITY



Lee Harrigan,  
CSIRT member, Janet  
email: irt@csirt.ja.net

In the last six months there have been a wide range of successful attacks on public services such as Yahoo, LinkedIn, last.fm, eHarmony, Hotmail and Stratfor, which have led to usernames and passwords leaking onto the Internet.

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Password advice is a common request from our community, so here is a brief look at how you can better secure your users' passwords, and some thoughts on password best practice to share with your colleagues.

### Storing passwords

Passwords stored in databases should never be in plain text or easily reversible algorithms such as base64.

User: Alice@example.com  
Password: 'password'

User: Bob@example.com  
Password: 'password'

User: Charlie@example.com  
Password: '14m\$3cur€'

We can see that if the above data were compromised then the details could be easily reused on other services or sites. At a minimum, they should be stored using a one way hashing function such as sha256 or sha512.

User: Alice@example.com  
SHA1:5baa61e4c9b93f3f0682250b6cf8331b7ee68fd8

User: Bob@example.com  
SHA1:5baa61e4c9b93f3f0682250b6cf8331b7ee68fd8

User: Charlie@example.com  
SHA1:3cb5609a5a42f715c327f0b625700feeea536f6c

These hashes can still be recovered by using brute force tools such as John the Ripper or OclHashcat. Alternatively, a hacker or security professional could use pre-computed rainbow tables where hashes are pre-generated and a lookup table is used to recover the plain text version of the password. In previous examples, both Alice and Bob have the same hash and therefore the same password – making them immediate targets of a brute force attack. Using a 'salt' with your hash generation adds some random characters to the password before it is hashed, meaning the generated hashes will all be unique.

User: Alice@example.com  
Salt:t#3X  
SHA1:241ae51cad23bc52c96ef1f00a093bd8f4758a4b

User: Bob@example.com  
Salt:K!s!  
SHA1:2df597b5c427d84f4113cd4548ebc97c6bf2c684

User: Charlie@example.com  
Salt:)sY  
SHA1:2f69dda4c65811888fd145c73d6a47111185d1a4

Even though Alice and Bob are using the same password, by salting the password the hashes are no longer identical. If your user authentication details do get compromised, this method will render rainbow tables useless, as new tables would need to be generated for each salted password.

“One of the best ways that a user can create a password is by using a phrase, and taking the first letter from each word to create it. Using the phrase ‘One day I will own a Bugatti Veyron’ by adding a few special characters and replacing some other characters we can generate the following “# I d I wo@BV\$”, ”





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### Complexity requirements, ageing and password audits

Overly complex password requirements will often force your users into using weak passwords, for instance requiring passwords to consist of unique characters – a common, guessable password would be 'Abcd#123'. The sequential nature of the password makes it very weak, despite using a variety of characters. Some places force people to select a randomly generated password from a list, this leads to the password being written down somewhere by the user, commonly on a note under their keyboard.

One of the best ways that a user can create a password is by using a phrase, and taking the first letter from each word to create it. Using the phrase 'One day I will own a Bugatti Veyron' by adding a few special characters and replacing some other characters we can generate the following "#1d1wo@BV\$". This ten-character password is sufficiently complex and would prevent all but the most determined attacker from breaking it. Using OclHashcat with a current off-the-shelf graphics card would take up to 947 years to crack this password via brute force. Compare this to a pure lower case version of the password 'odiwoabv', which would only take up to 105 seconds. By mixing the case, adding numbers and using some symbols, we can exponentially increase the security of our passwords.

Password ageing forces users to change their passwords after a set interval, preventing a compromised password from being used for a prolonged period of time. The most common way that somebody will

change their password is by incrementing a number within their password for instance 'odiwoabv3'. If an attacker knows a previously working password they will try a derivation of that first. For password ageing to be effective you need to compare the new password to previous passwords and check for similarities between them. If you are frequently conducting password audits then the need for ageing is less of a necessity as you will be aware of any insecure passwords that could be compromised.

Frequent password audits with applications like John the Ripper can detect users who persistently use weak passwords and allow you to advise them accordingly. You may also detect systems that are not generating passwords according to your policies.

### Advising Users

People reuse passwords and this is a major security concern when they use the same password for social media sites and payment sites such as PayPal. A determined attacker could identify a user's home address, when they are away from home, their friends, and even bank account details. The user could also use the password for work-related accounts, so potentially, the breach of confidential information could be damaging to the individual as well as their organisation.

Users should employ a different password for each website they visit. Password management tools such as keepassX will keep track of your passwords and generate new random passwords for you.

Following any attack where security is compromised and especially with

high-profile targets that garner significant media attention, there will be a run of phishing emails and website-based attacks. These are designed to harvest user credentials by directing people to change their passwords on fake webpages. Warn your users about these types of attacks and advise them only to enter password details on a website where they've typed in the web address or browsed to it via an online search result.

### Here to help you

Part of our role as Janet CSIRT is to alert you to potential compromises. Recently we were alerted to an attack against a customer site. In this case we were able to crack 48% of the passwords at the compromised site using a single set of rainbow tables. The passwords were eight characters or less, comprising only lower-case letters and numbers. If the passwords were made up of mixed case characters, numbers and symbols, we wouldn't have recovered such a large number of passwords.

During the clean up, we worked with the customer affected to provide advice and help them secure their compromised system. They reset all of the compromised passwords and implemented minimum password complexity requirements and salting on stored passwords, in order to prevent the success of rainbow table recovery methods in the future.

Our new community group provides further advice and information on password security: <https://community.ja.net/groups/security> **JN**

For one-to-one technical advice, email [irt@ja.net](mailto:irt@ja.net) or call us on 0300 999 2340



# STREAMLINING VIDEOCONFERENCING

IOCOM offers Visimeet videoconferencing and collaboration software to research and education institutions in the UK. 12 months after IOCOM became a Janet Connected Service, the company's VP of Operations, Gary Refka gives us an update on what the future holds and what Visimeet users can expect to see.

The first year of the Visimeet service on Janet has been a success with over 450 users signing up and supporting over 350 meetings a month.

#### Visimeet mobility

In 2011 we introduced an Android app enabling mobile users to instantly participate in a meeting from any location. Work on a Visimeet iOS application is currently underway, and should be available in Autumn 2012, which will allow iPhone and iPad users to enjoy the same functionality. Users that require remote connection whilst traveling will find this new development invaluable.

#### Enhanced collaboration

We're working hard to fill gaps in the market; for example, a Linux compatible version of Visimeet is




available and will give Linux-based institutions, departments, or groups the ability to participate in meetings with greater ease. This will help institutions collaborate and work with partners.

And to improve the use of videoconferencing, we have been working with Janet to make the process of joining a meeting simpler.

The Janet Videoconferencing Service will include an option to add a Visimeet guest to a meeting. Other enhancements include the ability for Visimeet users to add a one-click dial to Janet Videoconferencing endpoints on the buddy list; Visimeet users can have their Janet Videoconferencing Service

partners on their list and invite them to a meeting as they would a Visimeet user. Our goal is for the two systems to interact seamlessly, simplifying the process for users.

#### Seamless connectivity

To further enhance the service offered to Janet users, the public Visimeet service and the Janet Visimeet service will be linked. This will enable users on the Janet server to meet with anyone in the world. Users will continue to experience a quick and reliable connection but will no longer be limited when collaborating with those outside the Janet network. 

To find out more about the Visimeet service and to get the latest updates on our multi-platform apps, visit <http://janet.iocom.co.uk>.



# THE FUTURE OF TELEPHONY IN THE CLOUD

With IT and operations budgets under increasing pressure, research and education institutions are looking for innovative, cost-effective ways to consolidate their communications services while continuing to derive value from legacy investments. Fortunately, technology is constantly evolving new ways to meet these challenges head on.



### Innovation in the cloud

Cloud-based IP telephony, including Unified Communications and legacy PBX (telephone exchange)-extension technology SIP trunking, is just one way in which institutions' IT departments are fulfilling the demands of the 'do more with less' mantra.

Established in 1983, InTechnology was the first Janet Connected voice and data service provider. It offers fully managed data and IP telephony services to the research and education sectors, amongst others, across the UK. Recent clients include Oxford University and the London School of Economics (LSE).

### Significant operational and economic interest

InTechnology divisional director Richard Quine says that managed IP telephony solutions are of "significant operational and economic interest" to the research and education community. "Unlike the traditional approach of installing a physical PBX system at each location required, all equipment is hosted at a secure, highly available data centre facility and delivered by the user's existing Janet connection." According to Quine, this approach can lead to savings of up to 40% on phone bills and 70% on line charges – within four weeks.

"From a technical perspective, the key benefits of InTechnology's IP telephony solution include single circuit access to multiple organisations – that's over 18 million users across the 1,200 institutions served by the Janet network – and the fact that it's a fully managed, hosted service," says Quine. "Our Unity IP Voice service, for example, is delivered via Janet as a fully managed solution and it's completely scalable – our network, with Janet access, can adapt to the different needs, sizes and types of academic institutions."

InTechnology is the only service provider to offer a mix of value-added hosting, voice and data services that are integrated and delivered over our own end-to-end quality assured IP network. Although the learning never stops, we have learned more than most.

Over 30 years we have developed leading business and consumer ISPs, built application platforms from scratch, rolled out complex next-generation networks and built a cloud delivery and support infrastructure that is second to none.

Find out more about InTechnology at [www.intechnology.com](http://www.intechnology.com)

### Convergence marches on

Unified Communications allows institutions of all sizes to integrate all their communications services into a single, consistent user experience across multiple devices and locations. Presence-based applications such as click-to-dial, desktop sharing, instant messaging, video calling, conferencing and call recording are included within this service.

Fully converged services mean you can manage and control phone calls from a laptop, regardless of where you are. Hosted Microsoft Office Communications Server gives you total convergence and brings head offices, regional sites and remote workers together through a single PC interface. According to Quine, this ties with InTechnology's vision for the evolution of its services over the coming year.

"Ultimately, we see the future of telephony as being one without desk-based phones," he says. "The majority of users will access all of their communications using apps on their smart devices – which is what most people want to do anyway," Quine says that although desktop phones won't disappear overnight, regular InTechnology Customer Steering Group sessions have been driving the move in this direction for over a year.

### In action

Recent work with Oxford University saw InTechnology implement SIP trunking across the Janet network following a highly successful pilot project. Using InTechnology's carrier-grade hosted VoIP and Unified Communications platform, Oxford University were able to cut costs, reduce supplier dependency and enhance service growth potential.

InTechnology's recent landmark deal with the LSE, meanwhile, will enable and support the making of three million plus calls made by the University each year. "InTechnology's Cloud-based service will provide LSE staff with a wide range of tools that will not only improve communication, but also deliver savings on travel costs and the associated impact on sustainability," says Quine, pointing to the extensive collaboration capabilities provided by the solution. Janet's CEO Tim Marshall praised the agreement, saying, "We especially welcome the LSE and InTechnology approach which has developed a 'model contract' that other Janet-connected institutions can benefit from." **JN**

For more information about InTechnology's partnership with Janet, and the service offering, please email Janet's Customer Engagement Manager Paul Wakefield, [paul.wakefield@ja.net](mailto:paul.wakefield@ja.net).





## The European Commission has launched a separate consultation on the European law that regulates website liability for all types of unlawful material added by third parties.

Two consultations this summer may give us a chance to improve the situation. The UK Parliament is discussing a new Defamation Bill. Most of the Bill is about preventing threats of legal action being used to suppress critical comments in newspapers and research papers, but the law also tries to address the current problems for website operators. In doing this it will have to strike a difficult balance between the interests of critics, victims of defamation and website operators. However the consultation before the Bill was published suggested that these issues were understood, even if the answer was not yet clear.

The UK proposal only relates to defamation, but the European Commission has launched a separate consultation on the European law that regulates website liability for all types of unlawful material added by third parties. Again, the consultation seems to recognise that the current situation doesn't provide the right incentives either for removing harmful material quickly, or protecting critical but lawful comment.

At Janet, we experience both sides of the problem. Janet CSIRT often responds to external threats to the network, such as phishing sites that

try to gather passwords from Janet users, or sites hosting drive-by malware that will infect visiting computers. Clearly we want these incidents detected and resolved as soon as possible, preferably before they cause damage to others. We also receive complaints about material on websites run by organisations connected to the Janet network, though it is quicker to send those direct to the responsible organisation.

When a university or college receives a complaint about material, they need to be particularly careful as, unlike commercial ISPs, they may be obliged by law not to take it down. Universities and colleges are required to support lawful free speech by their members and guests, so must assess whether or not the content in question breaks the law before removing or leaving it as appropriate. Often this decision is straightforward but sometimes it is not: even legal experts can find it hard to draw the line between criticism and defamation, or humour and racism. In such cases, the website operator is forced to decide between competing legal obligations, aware that if their conclusion does not match that of the judge (in any eventual trial) they may be found liable for breaking the law. Our consultation responses will

highlight what is needed to improve this situation and get the law to work effectively.

In responding to consultations, Janet always seeks to be an impartial, trusted advisor, offering a balanced view, helping policy makers develop viable solutions. We need to explain Janet's unique perspective of operating a national-scale network in support of the 18 million strong user base of the research and education community – something that policy makers may not be aware of.

Wherever possible, we work in partnership with other organisations with similar concerns on the particular issue – most recently JISC, UCISA, SCOUNL, LINX and the BCS – to show that our views are shared and that we are not just a lone voice.

You can find out about the areas we are currently working on from the Janet Legal & Regulatory blog (<https://community.ja.net/blogs/regulatory-developments>). If you know of other consultations that may be relevant then please get in touch. 



Follow us on Twitter @Janet\_LegReg



# EVENTS & TRAINING CALENDAR



## EVENTS

### Janet6: From Procurement to Design

4 October 2012

One hour online briefing

#### Aim

This is the second of a number of online events relating to Janet6 and provides the perfect opportunity to keep up to date with our progress to build the next generation of the Janet infrastructure.

This online session will include short presentations from members of the Janet6 project team:

- Jeremy Sharp – procurement and project and update
- Rob Evans – infrastructure design

The event will be useful for anyone interested in understanding how the changes to Janet will affect them and their users.

To find out more and to register, visit: <https://www.ja.net/events>

### Janet CSIRT Conference

5 November 2012

One day conference being held at 1 Wimpole Street, London

#### Aim

An excellent forum for the exchange of ideas and presentations surrounding a wide range of topics within computer and network security. The conference offers you the opportunity to network with other security contacts in the Janet community.

Speakers from the community will be announced via Twitter and the event webpage, but we are pleased to confirm that security veteran Graham Cluley will be presenting at the conference.

To find out more and to book your place visit: <https://www.ja.net/events/janet-csirt>



Follow us on Twitter @janetCSIRT

### VC User Group Event 2012

27 November 2012

One day conference being held at the National Space Centre, Leicester

#### Aim

This event brings videoconferencing users from across the sector together to explore content, developments in videoconferencing technology, share good practice and discuss challenges with your peers. The aim is to encourage the use of videoconferencing in research and education and exploit its true potential.

To find out more about the event visit: <https://www.ja.net/events/vc-user-group>

#### CALL FOR AWARD NOMINATIONS NOW OPEN

We are now receiving nominations for our VC User Group Awards. This year the categories are:

- Best collaboration
- Best demonstration of cost saving
- Best example of enhancing learning

To submit a nomination, visit <https://community.ja.net/groups/vc-user-group-event-2012>

The closing date for entries is Friday 26 October 2012.

## TRAINING

Janet runs a portfolio of one-day courses specifically written for the Janet community and delivered by experts working in UK education. Our high quality courses give you a chance to train with colleagues working in a similar environment. Courses are scheduled at locations across the UK throughout the year, and can be run at your organisation with our in-house service.

### Virtualisation Fundamentals

9 October, Manchester

This course provides participants with direct experience of virtualisation technology, the background theory and complete implementation examples. Hands-on experience is offered, demonstrating how the technology can be used in different environments. Participants will be shown how to test patches and simulate network changes, be given security analysis examples, and will learn about monitoring uses.

### IP Fundamentals

16 October, London

This course looks at the Internet Protocol in detail, from the basic principles of operation down to the actual data transmitted, with an emphasis on operation over Ethernet. However, it is presented in a way which should not deter those who do not have an overly-technical background, as they will still gain useful information from the course.

### Basic Networking

30 October, London

This course provides delegates with a basic understanding of computer network technologies and concepts. Delegates will be led through a very practical review of some of the key issues associated with campus networking. Throughout the course, delegates are given practical exercises and are shown demonstrations.

For further information about all of our courses or to make a booking visit <http://www.ja.net/training> or email us at [training@ja.net](mailto:training@ja.net)

### DEVELOPING YOUR TEAM?

Janet Training offers an in-house service to suit your needs. We will deliver the course in your own familiar surroundings, providing you with an expert trainer for the day, as well as workbooks and all necessary equipment. Running an in-house course means you can focus on the issues relevant to your team as well as being a cost effective training solution.

Contact us today to discuss your requirements.

Tel: 01235 822242 – email: [training@ja.net](mailto:training@ja.net)

Web: [www.ja.net/training](http://www.ja.net/training) – Twitter: [@janettraining](https://twitter.com/janettraining)

# CUSTOMER ENGAGEMENT TEAM PROFILES



FRANCES BURTON

On joining Janet in 2007, Frances brought her knowledge of both schools and local authority sectors to the role of Schools Coordinator for the UK federation. Her experience in building and establishing strong customer relationships in Janet are now of great value in her CE role for the London region.

Over recent months, a significant number of our customers in the region were involved with the Olympics and Paralympics. Many hosted athletes and support teams and their Janet connectivity enabled them to provide world-class IT facilities, helping them play a part in their region's success story for the Games and its legacy.

Outside of work, I am interested in art and genealogy. I have a long list of things to do once I've finished studying for an OU degree in ICT at the end of this year, including learning to play the guitar and submitting a painting for consideration for the RSA Summer Exhibition. **JN**



KEVIN SHARP

Kevin joined Janet in 2006 having spent the previous six years working with the South West Regional Support Centre where Kevin was the first, and for a while the only, member of staff. One role was installing Janet routers for FE colleges. He has also worked in Janet as Schools Business Manager and Schools Infrastructure Coordinator.

I support a large area stretching from Penzance to Shropshire including very rural areas, as well as the Birmingham metropolis. Resilient connectivity is becoming increasingly important for the FE community, bringing challenges for rurally-located FE colleges and smaller HE institutions, while cloud services are quickly becoming the focus for many institutions.

While I enjoy sailing and skiing, I'm a petrol head at heart, and used to race off-road motorcycles. I keep this to leisure and touring holidays now, although I still take part in national off-road car trials. **JN**



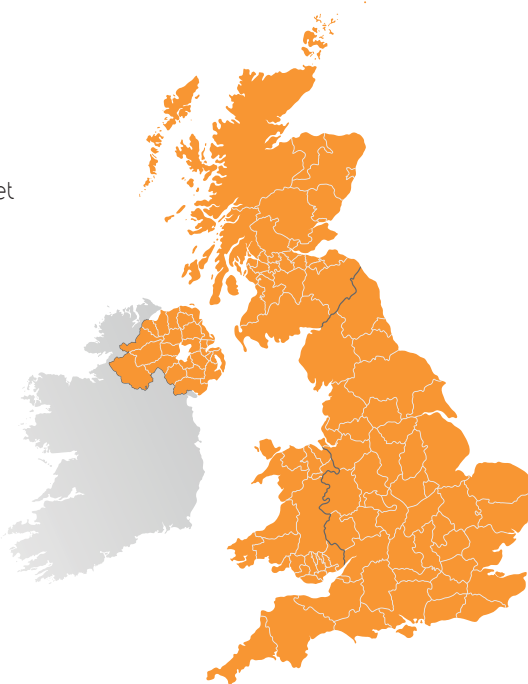
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**Northern Ireland**  
Position Vacant

**North West**  
Position vacant

Search for your regional community group at <https://community/ja.net/groups>

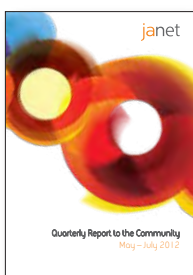
# RECENT PUBLICATIONS

Find our current publications at <https://www.ja.net>

Previous publications can be found on the community site at <https://community.ja.net>



Supporting Business and Community Engagement



Quarterly Report  
May – July 2012



Case study –  
Diamond Light  
Source



Case study –  
Cancer Research  
UK



Cloud and data  
centre framework



Janet News 19  
If you would like to receive alerts when the latest edition of Janet News is available online, please subscribe at: <https://www.jiscmail.ac.uk/JANETNEWS-ONLINE>

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### Janet Service Desk

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Fax: 0300 300 2213  
email: [service@ja.net](mailto:service@ja.net)

### Janet CSIRT

Tel: 0300 999 2340  
Fax: 0300 300 2341  
email: [irt@csirt.ja.net](mailto:irt@csirt.ja.net)

## STAY IN TOUCH WITH JANET



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