

JANET NEWS



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janet

Editorial



On behalf of everyone at Janet, I would like to wish you all a very Happy New Year and a prosperous 2014.

During the festive period we have the time to reflect on what we have accomplished and what we still want to achieve during the academic year.

As part of the Jisc group, our inspiration at Janet is always to ensure that we best support the Community through transformational innovation.

The TNE pilot projects (pg 14-15) are prime examples, demonstrating the progress we are making in enabling our customers to connect better, for less.

In this issue you can learn more about Jisc's new CIO, Dr Phil Richards (pg9), and the future of HE from Andy Westwood, GuildHE's CEO (pg26-27). We look at changes proposed by RIPE for IP addresses assigned before the Regional Internet Registry (RIR) existed (pg32-33) and the Strategic Technologies team explores the interoperability issues that arise when trying to use videoconferencing technology (pg28-29).

We welcome Dave Meseck, the new CE Manager for the North West, and wish Rob Prabucki, the CE Manager for Eastern and East Midlands, all the best for his retirement.

Last, and by no means least, our very own Ryan Doughty was a finalist in the IT Service and Support Professional of the Year category at the BCS & Computing UK IT Industry Awards (pg5). Well done Ryan!

We look forward to seeing you at Networkshop42 from 1-3 April at the University of Leeds, and continuing to work with you in 2014 and beyond.

Dan Perry

Director, Product and Marketing, Janet

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Letter to the Janet Community

With SuperJANET5 reaching the end of its life, three years ago we started working with you, the Janet community, to plan a new network that would meet your growing requirements. During that time, we have seen a significant increase in the size and amount of data being generated by the research and education community – data usage has been doubling every 18 months.

And so Janet6 was born. Fast forward to November 2013 when we marked the completion of the delivery of Janet6, providing you with a truly world class advanced network delivered on time, on scope and within budget.

You can be sure that Janet6 will continue to offer you a dedicated network that is designed around the needs of research and education in the UK. Our new network is constructed on a national fibre infrastructure equipped with advanced wave division multiplexing optical equipment. It offers a highly reliable, resilient and scalable network that will meet your key requirements today and in the future.

Whether you want to collaborate with national and international partners, support e-infrastructure initiatives or just a network that meets your changing requirements, Janet6 can and will do this.

I can only sit and wonder what discoveries and innovations will come in the years ahead. In 100 years time, will we look back at the development of the Janet6 network and regard it as a key moment in the development of the Janet network? Janet is a major national investment critical to the UK retaining its leading position in the global research and knowledge economy. Only time and your hard work will tell.

You can be sure that the new network is still one of the most advanced networks of its type in the world. Now that's something that we should all be proud of.

Tim Marshall
CEO, Janet & Executive Director of Technology and Infrastructure, Jisc

“You can be sure that Janet6 will continue to offer you a dedicated network that is designed around the needs of research and education in the UK”

Janet secures Google Apps for Education Agreement

As part of our ongoing goal of helping Universities and Colleges improve the staff and student experience whilst also saving time and money, we have recently completed negotiations with Google to offer improved terms and conditions for the usage of Google Apps for Education in Higher and Further Education.

No catches

Some of the cloud-based products offered by commercial providers are supplied free of charge, which is attractive. However, the legal conditions that apply can often be challenging for the research and education community.

Janet is supporting the adoption of cloud services and, at your request, we

have been clarifying and performing due diligence and negotiations on contractual terms and conditions with leading commercial providers for the benefit of research and education.

Working on your behalf

We have completed negotiations with Google on behalf of the sector, carrying out due diligence on contractual terms and conditions for Google Apps for Education.

The majority of our negotiations with Google focused on the areas of security and the storage of customer data, including:

- Data processing
- Security measures
- EU Model Clauses on data protection

Due diligence

All the relevant documents have been subjected to full due diligence, working closely with our legal advisers.

The agreement meets UK legal requirements and offers you peace of mind by ensuring that terms and conditions are consistent across all UK Higher and Further education. You have the added reassurance that Google's processes and terms and conditions have been thoroughly reviewed by Janet, and will be monitored on an ongoing basis.

In addition, Janet, in conjunction with Google, has written a Guidance Note to accompany the terms and conditions which will be released when applying for the Google Apps agreement. Adoption of the Janet Google Apps agreement (for a fee of £500 for one year's access) will give direct savings on legal and other fees plus savings in staff time, whilst the adoption of cloud provision of these services has been shown to deliver significant cost benefits to an organisation.

The reference-only set of documents can be made available for your institution to check prior to online registration and implementation.

A jointly-agreed process has been developed to enable sign up to Google Apps.

Frequently asked questions

How can I request the new agreement?

Please contact Phyllis Callinan on 01 235 822263 or cloud@ja.net

Our university has used Google Apps for Education for years. Can we sign up to this new agreement?

If you would like to sign up to the Janet amended agreement, please contact Phyllis Callinan on tel 01 235 822263 or email cloud@ja.net for further details. The Janet amended terms and conditions will take precedence over previous agreements.

Our university has used Google Apps for Education for years. Do we have to sign up for this new agreement?

No, you are not obliged to sign up to this new agreement. Your current agreement will be effective until its end date. If you renew, you will be signed up to the new Janet amended terms and conditions.

For more information, to share your experiences and to keep up to date, join your peers at Community.ja.net/groups/google-apps

If you would like to know how to proceed, please contact Phyllis Callinan on 01 235 822263 or email cloud@ja.net



Ryan Doughty

Finalist in the BCS & Computing
UK IT Industry Awards



We are delighted that Ryan Doughty, of the Janet Corporate Infrastructure Services (CIS) team, represented Janet as a finalist in the BCS & Computing UK IT Industry Awards. Ryan was nominated in the IT Service and Support Professional of the Year category.

Other nominees in this category were from companies such as Virgin Media, Midcounties Co-operative, MBNA Bank of America and the Post Office Limited.

Ryan has worked at Janet for seven years and is a Senior Technician in our CIS team, who provide over 50 services to Janet and Jisc staff. The CIS team is small and prides itself on its flexible and customer-first approach. Everyone in the team has to be a 'jack of all trades', and we rely heavily on Ryan being the master of many.

Although Ryan is primarily focused on server-side technologies, his enthusiasm for technology and his extensive experience means that he can quickly get to grips with anything we do - frequently going well beyond the traditional sphere of IT. Not only does Ryan use his broad range of technical skills to resolve day-to-day operational incidents and problems, he is also instrumental in implementing continual improvements through a varied stream of projects while supporting other members of the team in their technical development.

While delighted, it is no surprise to his colleagues that Ryan is being recognised nationally in these awards, both for his customer focus and his technical expertise.

“It was a great and thoroughly well-deserved accolade for Ryan to reach the finals of this prestigious competition. I, and all his colleagues are very proud of his achievement”

Mark Wright, Finance Director, Janet & Chief Financial Officer, Jisc

The BCS & Computing UK IT Industry Awards are a platform for the entire profession to celebrate best practice, innovation and excellence. The research and education sectors are well represented in the awards; finalists in other categories include the University of East London, University of Derby, Glyndŵr University London, University of Aberdeen, University of Bath, and University of Highlands.

A growing focus on Cyber Security

“Information security requires an organisation-wide approach, not just those charged with IT security”

There has been considerable media interest recently in cyber security, but as we know this has long been an area of activity for those charged with providing, protecting and supporting services in research and education. Cyber security is usually used to refer to process, structures or activities that help to defend from a cyber attack, via the Internet. In 2010 the UK Government rated cyber attacks as a 'Tier 1' threat and subsequently in November 2011 published the UK Cyber Security Strategy¹ with an increasing emphasis on protecting UK digital infrastructure. Should cyber security be the focus of the research and education activities in this area or is a more wide-ranging approach appropriate?



In November 2013 Universities UK hosted a Cyber Security conference. The morning sessions included a ministerial address by Rt Hon. David Willetts MP, Minister for Universities and Science, and a presentation by the Centre for the Protection of National Infrastructure (CPNI). The messages were clear: there is a growing risk of cyber attacks from both criminals and nation states and CPNI has been involved with investigating a growing number of incidents involving Universities. Whilst some of these attacks were sophisticated, many could have been prevented by simple precautions, such as not plugging unknown devices into laptops. This reinforces the argument for strengthened information security, rather than just 'cyber' security.

How can you be more prepared?

Information security requires an organisation-wide approach, not just those charged with IT security. One of the first steps in responding to a growing threat environment might be to try to establish the level of threat to which your organisation is exposed;

- how many incidents of information loss does your organisation deal with each week?
- how much of this is paper based as opposed to electronic?
- how good is your organisation's situational awareness?
- are senior managers informed promptly when an incident takes place?
- are you reactive or proactive?

This might be a useful starting point, but as was made clear at the conference, your situational awareness should also extend to physical security of infrastructure and, in some cases, the personal security of individuals. An example of the latter might be the advice provided to academics travelling to different countries.

Your next step might be to identify and characterise your most valuable information assets. For example, you may feel that the greatest risk to your organisation is in critical functional systems, such as HR and Finance. However, the greatest value may well be in commercial agreements, research results or intellectual property. In these areas, the publicity surrounding the public release of information could do equal or greater damage to the reputation of your organisation. Clearly a wider approach is required beyond cyber security, which sets information security as the primary focus. As many speakers stated at the conference, the buy-in of senior management and input at a governance level is required. Questions that need to

be considered include how information security and cyber security should appear on your organisation's risk register and whether the audit committee should regularly review the risk mitigation measures.

Taking steps to mitigate the risks identified will always need a balanced approach. Security and usability do not usually go hand in hand. However, a lack of usability can push users to take paper-based resources home or when travelling, which has the potential to put the organisation at greater risk. Therefore, where possible, a scenario-based approach, rooted in real world examples, could help educate users about the risks and also helps users understand how the controls and policies in place are protecting them. An open debate in this area can only be seen as healthy, albeit challenging.

The conference also touched on UK Government plans to establish a preferred security standard for business. It's likely to be based on ISO 27001 (Information Security Management) with some specific extensions. A revised version of the standard (ISO/IEC 27001:2013) is now available².

Janet's role

Given the increasing threat environment, we are working to establish a threat information service. We are in the initial stages of this work and will be seeking to enter pilot activity in 2014 (if your organisation is interested in participating in this work please see contact details below in the first instance). This service will seek to aggregate threat information from commercial and academic sources to help provide better situational awareness for Janet Connected organisations. This in turn could form part of an organisation's approach to cyber and information security.

The services, tools, processes and structures required to help address the cyber and information security threats clearly need a risk-based approach to protect information assets. At the same time you need to consider the operation of your systems, physical and personal security, while being rooted in the governance and management processes of your organisation.

1 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60961/uk-cyber-security-strategy-final.pdf

2 http://www.iso.org/iso/catalogue_detail?csnumber=54534

For more information, please contact Henry Hughes, Manager, Strategic Programmes on 01235 822265 or email henry.hughes@ja.net

The RSC's production of *Richard II*

streamed to schools



On 15 November 2013 we collaborated with the Royal Shakespeare Company's Education Department and Ravensbourne to enable the broadcast of the RSC's production of Shakespeare's *Richard II* to over 420 schools across the UK.

The production of *Richard II*, starring David Tennant, followed the very successful RSC *I, Cinna (The Poet)* production which was broadcast to over 200 UK schools in 2012, reaching 15,000 students.

Filmed by the RSC at the Royal Shakespeare Theatre, Stratford-upon-Avon on 13 November, the production was then streamed to registered schools two days later on Friday 15 November. Following the broadcast, a live interview with members of the creative team behind the production was held at Ravensbourne.

Konnie Huq hosted the event and interviews, which featured a live interactive Q&A session with David Tennant and the RSC's Artistic Director Gregory Doran.

The event provided Janet with an opportunity to demonstrate our streaming capabilities using Wowza-based streaming server infrastructure hosted on the Janet core. With screens in school classrooms viewing the performance in up to 720p HD, the event used over



1 TB of data over the three-hour period. Our streaming infrastructure already successfully enables 38 NaSTA Student Television Stations to offer a live streaming channel.

Students at Ravensbourne developed the web pages to host the stream, as well as the functionality that enabled them to submit questions to David and Gregory. They also managed the production of the live studio interview during which students were able to post questions. The IT team and faculty at Ravensbourne aim to use their Janet connection for more live broadcasts in the future.

For more information about our work with the RSC and Ravensbourne for the production of *Richard II*, please email Tim Boundy at tim.boundy@ja.net

You can learn more about the *I, Cinna (The Poet)* production by visiting: <https://www.ja.net/products-services/janet-futures/bringing-theatre-classroom-i-cinna>

Jisc welcomes new Chief Innovation Officer



Jisc is delighted to welcome Dr Phil Richards, former director of IT at Loughborough University, as its first Chief Innovation Officer.

Prior to his role at Loughborough University Phil undertook IT roles within other academic institutions, including head of ICT at Plymouth University and assistant director of information services at Aberystwyth University. More recently, Phil has become known for his novel approach to data centres: Loughborough's 'hybrid cloud' model has delivered millions of pounds and hundreds of tonnes of carbon savings. This hybrid approach to cloud has also won plaudits including the 2012 Times Education Leadership and Management Awards ICT initiative of the year.

“Jisc has set itself the very highest standards. The opportunity to help deliver that is inspiring, but also a significant responsibility”

Phil, who has a first class honours degree in physics and a doctorate in nuclear structure physics from the University of Oxford, was involved early in his career with e-learning: first as a courseware developer in physics at Cardiff University, next as an e-learning advisor working directly with academics at the University of Hull and finally as head of e-learning at King's College London. Whilst at Hull, he also obtained a Postgraduate Diploma in Higher Education Teaching, leading to Fellowship of the Higher Education Academy (FHEA).

Phil says of his new role: 'Jisc has set itself the very highest standards. The opportunity to help deliver that is inspiring, but also a significant responsibility.'

Phil started his appointment at the beginning of November 2013 and aims to build a wide consensus for a coherent portfolio of technology-related new development projects with 'world class' potential.

'IT is now the "engine room" underpinning pretty well everything that goes on in Universities', he says. An advocate of e-learning, Phil nevertheless sees human interaction as key to education provision. 'It is the product of tens of thousands of years of evolution, and clearly not easy to "reverse engineer" or simulate', he continues. 'Some of the best examples of e-learning I have seen are those that seek to optimise, rather than replace, the human element.'

Phil added, 'I share Jisc's passion for working together with learners, researchers, IT departments, libraries and academic leaders across the sectors to show the potential that digital technologies can have in transforming the learning and research experience. I'm looking forward to seeing what we can achieve for the future of innovation.'



Public Access

Following discussions with the community, it became clear that we needed to find a way to enable Janet customers to offer public access to the Internet via Janet.

As a private network Janet is exempt from some legislation affecting networks that allow public access. This relates particularly to the retention of data about use of the network and reporting to regulators on resilience and security. It also covers how in the future we will need to deal in prescribed ways with any misuse of the network by our users and their equipment.

To support our customers in providing public access to the Internet, we carried out market research within the community to identify and quantify the interest. This research identified environments such as those below where a Janet-enabled solution was high on the list of requirements:

- B&B accommodation
- Conferences & events
- Public facilities e.g. museums, libraries, theatres, sports venues etc
- Open access Internet terminals
- Commercial interaction e.g. coffee shops, bars, restaurants, shops etc

In looking at possible solutions, we are seeking to provide tested and proven systems for public access to the Internet. Any solutions must also be provided in a manner that our customers are able to use easily, and that supports Janet's working practices and our commitment to delivering high quality services.

Potential solutions and the regulatory & operational considerations

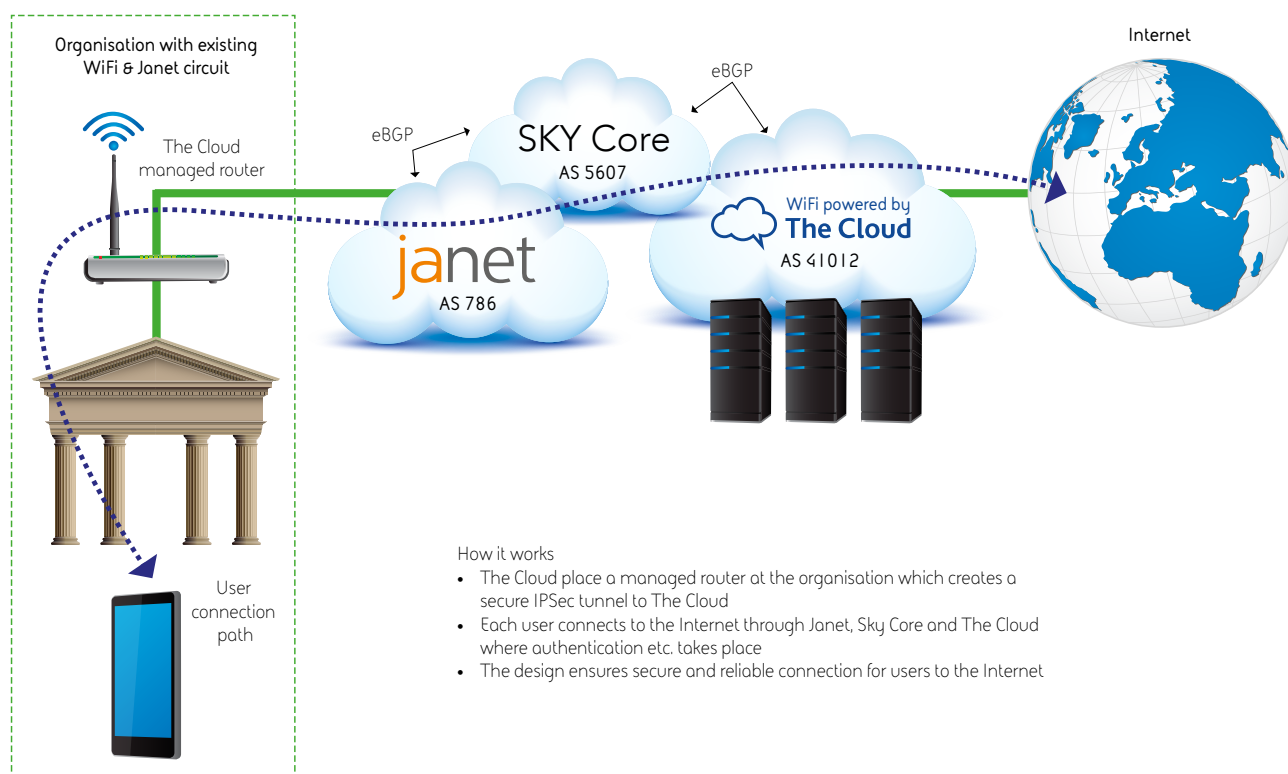
Andrew Cormack, Janet's Chief Security Advisor, identified five key areas that must be met to ensure the regulatory requirements. These five areas entail:

- ensuring that the point-to-point tunnel is established from the Janet customer's premises to an Internet Service Provider (for example a commercial ISP) with whom the customer has an agreement
- ensuring the tunnel is encrypted between its endpoints, so that no traffic from members of the public is carried on the Janet network in plain text form
- ensuring that users of the service are authenticated, either by the Janet customer or its partner Internet Service Provider
- ensuring that traffic from members of the public, when routed to the public Internet, is identified as originating from the partner Internet Service Provider, not from either Janet or the customer
- ensuring the customer and Internet Service Provider are responsible for compliance with any relevant laws and policies applying to public Internet access, for example on logging and filtering

The Technical Guide on Network Access for Guests and Visitors has now been updated to cover tunnelling public traffic: <https://community.ja.net/library/janet-policies/network-access-guests-technical-guide>.

Implementation

To achieve this goal of supporting our customers' need for public access to the Internet over the Janet network, we have partnered with The Cloud (a subsidiary of BSKyB), the



UK's leading public WiFi provider. The agreement with The Cloud allows Janet Connected organisations to deliver public access to anyone who wishes to get online, and who is not authenticated by any other means (e.g. corporate systems or eduroam). This solution will use the existing Janet infrastructure to pass this traffic, but in a way that meets the operational and regulatory requirements incumbent on customer sites and Janet as above.

The identified solution is outlined in the diagram above.

This is not an exclusive arrangement, and other commercial partners have been involved in discussions, but to date, only The Cloud are partnered with Janet to allow public access provision in this approved manner. Existing users of similar commercial services may need to check they adhere to the same regulatory conditions to ensure compliance.

How does this benefit Janet customers?

Under this arrangement Janet is able to offer a public access solution which is economically sustainable. At the same time, Janet customers can trust that due diligence on the technical and regulatory requirements is complete and robust. Our customers can also use existing internal and Janet infrastructure in order to allow:

- the flexibility to scale bandwidth requirements up or down, in line with their needs. For example when there is an influx of visitors for open days or conferences

- a simple configuration and network management through a single management device configured and supported by The Cloud
- the reassurance of Janet availability/reliability - no ISDN, ADSL or commercial fixed link provision
- to have wired as well as wireless provision enabled

In choosing The Cloud as an approved Janet partner, we have also removed the need for our customers to engage in a time consuming and resource intense procurement and tender process.

By adopting this solution, significant cost savings are possible: there are no circuit costs, no tender or procurement overhead, there is reduced management overhead and reduced ongoing support overhead.

To find out more about any aspect of the public access elements, please check out the Janet Community space at: <https://community.ja.net/groups/janet-public-access> or contact Paul Wakefield, Customer Engagement Manager, on 01235 822239, 07976 593656 or email paul.wakefield@ja.net

Full details in regard the specific service provision, such as implementation, timescales and costs can be gained directly from The Cloud. Please contact Dan Miles, Sales Manager on 07557 846967 or email daniel.miles@bskyb.com

Supporting biomedical research as a Janet Connected partner

Eduserv is a not-for-profit IT provider. Originally a spin-out from the University of Bath, Eduserv deliver a wide range of IT services to public sector organisations.

In 2011, Eduserv became a Janet Connected partner, offering the research and education community access to a state-of-the-art ISO 27001 certified datacentre through the Janet Cloud and Data Centre Framework.

Solutions to match your data needs

One of the biggest challenges facing research institutions is how to cope with the growth in data storage and compute requirements. Eduserv has almost 15 years of experience delivering a wide range of IT services and as a Janet Connected partner with 10Gbps connectivity, has a suite of cloud services that are specially designed to meet the needs of research and education.

Collaboration through partnership

The University of Leicester and the Leicester Cardiovascular Biomedical Research Unit, through the Jisc-funded BRISKit project, have used the Eduserv cloud services to host anonymised versions of patient sensitive data in order that they can be queried by researchers. BRISKit has a long-term plan to run a national shared service, brokered through the Janet Cloud and Data Centre Framework. This will be used to deploy biomedical research data applications that support the management and integration of tissue samples with clinical data and electronic patient records.

“We’ve worked with Eduserv since the project started. We find their cloud infrastructure linked to our academic network to be reliable, flexible and value for money. It provides a good underpinning for the services we are developing”

Dr Jonathan Tedds, BRISKit Project Lead,
Senior Research Fellow, Department of
Health Sciences, University of Leicester

For more information on the BRISKit project, please visit www.briskit.le.ac.uk

If you are reviewing and planning for future data needs and would like more information about Eduserv services, please contact Matt Johnson, Technical Client Director - Research Institutions by email at matt.johnson@eduserv.org.uk

eduserv
IT for public good



**University of
Leicester**



Janet's Transnational Education Strategy



Transnational Education (TNE) is an area of significant and growing interest to the UK education sector. The range and number of TNE activities, such as remote campuses or joint degree programmes, continues to grow rapidly. This is most visible within Higher Education, but there is also activity within the Further Education and Schools sectors, and we expect continued growth in the coming years.

In response to the growing demand from the community, we are taking steps to improve the support we offer for your developing TNE activities. Through our TNE strategy we seek to address your requirement for cost-effective, appropriate and reliable connectivity services overseas, integrated with our UK-based operations and Janet's other services, to support TNE delivery on a global basis.

We are initiating a programme of activities that aims to enhance our product and service portfolio by extending our delivery reach to TNE locations. Starting immediately, we are establishing pilot activities that address known customer requirements. In addition to meeting some specific needs within the community, this will help us to understand the level of TNE-related demand and identify the most appropriate ways for us to respond.

“by the end of 2015, we will have a clear and attractive TNE proposition”

These pilot activities include a Janet connection to Educity, Malaysia (which hosts the Universities of Southampton and Newcastle and, from 2015, Reading) and an agreement with the Chinese Higher Education Network, CERNET, which will enable you to obtain connectivity services on preferential terms in China.

Our approach will be guided by research into the community's plans and aspirations for TNE, and it is our intention that, by the end of 2015, we will have a clear and attractive TNE proposition across all of our product and service portfolio. This may not include equivalence between domestic and non-domestic in terms of delivery – although clearly we will strive to achieve that – but will, at a minimum, set clear expectations to help you plan your future TNE activities.

“A primary focus of our pilot project in Malaysia is to provide cost-effective connectivity that enables overseas campuses to be connected to their home institutions in the UK”



Enhancing Janet's support for

TNE

With Transnational Education (TNE) activities evolving at a rapid pace, the level of support required by the Janet community is becoming increasingly demanding.

As a result of the recent review of our TNE strategy, we are running two pilot initiatives with the aim of enhancing our TNE offering. The first pilot will run in Malaysia to extend our reach to TNE locations where the local national education network is presently unable to meet our connectivity requirements. The second pilot will run in China where the Chinese Education and Research Network (CERNET) provides good network connectivity for TNE

needs. However, some collaboration is needed to improve the service.

As we respond and support the TNE needs of UK institutions, we are all too aware that one size doesn't fit all – each country and institution has its own characteristics and requirements.

Developing our offering to customers in EduCity, Malaysia

EduCity in Malaysia is a key area under the Malaysian Government's economic transformation programme. EduCity is the first of its kind in Asia and will comprise higher education universities and institutions. Newcastle University opened a medical school there in 2011, the University of

Southampton opened their campus in 2012, and now the University of Reading is developing theirs, due to be fully operational in 2015.

A primary focus of our pilot project in Malaysia is to provide cost-effective connectivity that enables overseas campuses to be connected to their home institutions in the UK. As the Project Manager, Baoyu Wang understands the potential problems on the horizon. 'There are many, interesting challenges but the biggest factor is cost, as telecoms and Internet service prices are far higher than they are in the UK.' Aggregating their bandwidth requirements for a larger pipe provision would be much more cost-effective.



To improve this situation, we are working with CERNET to establish a strategic alliance to enable TNE-involved institutions on CERNET to have access to international research network infrastructure, such as Orientplus, without incurring additional charges. Hopefully, most TNE-involved institutions on CERNET will take up the offer for improving the connectivity between universities in the UK and China. We will promote CERNET services to the Janet community, and make customers aware of the issue. Ultimately, we hope the network requirements can be explicitly stated in the TNE partnership agreement.

'Many institutions on CERNET do not have sufficient CERNET access bandwidth to support the TNE activity they have committed to. We hope that the agreement between Janet and CERNET will encourage institutions to upgrade their access bandwidth', Baoyu says.

By promoting the use of research and education networks worldwide to achieve collaboration, we can improve our support for TNE activities in China.

Next steps

Following the pilots, we expect to deploy these approaches in other countries using strategic alliances where the local research and education network is strong and capable of supporting TNE activities, or Janet-provided connectivity if not.

For more information on our TNE strategy or the pilot projects that we are running in China and Malaysia, please email Baoyu Wang at baoyu.wang@ja.net

Initially we will look to establish a contract with a service provider to enable a 1 Gbit Internet connection to be shared by campuses. Southampton and Newcastle's campuses will start using this facility as soon as the service is installed in early 2014 and by mid-2015, Reading should be ready to share the connection. This will offer more network access capacity to the established campuses than they have currently and provide better resilience at a very reasonable shared cost.

Collaboration is the key

As the number of students increase, institutions are aware of the need to upgrade their existing Internet bandwidth and see our solution as very good value. We will buy the service from Telecom Malaysia delivered to EduCity. The institutions will assist with service delivery within EduCity by organising the fibres to connect the campuses together, and managing the service delivery to the individual campuses. Each University's contribution is vital to achieve the common goal. It's a truly collaborative solution.

Increased activity in China

The situation in China is very different to Malaysia and has called for a very different approach. China has now become the most popular UK TNE host country in terms of TNE student numbers. Most of the TNE partners are Chinese Universities who are connected to CERNET. Whilst CERNET provides excellent network services to member institutions and has very good connectivity to research and education networks worldwide, the Universities are using local Internet Service Providers (ISPs) to access websites or services outside of CERNET.

A lot of this comes down to cost. 'The main challenge is that many TNE partners choose to route their IP traffic to the UK through their ISP's connection', Baoyu explains. In the UK, institutions use Janet as their sole ISP - we route UK University traffic to TNE partner institutions on CERNET via the fast and reliable research and education networks, e.g. GEANT and Orientplus. Technically, asymmetric routing of traffic causes major connectivity problems.



INTERVIEW:



New IT Director brings
a breath of
fresh air
to Leeds Metropolitan
University

Basem El-Haddodeh
Director of Information, Media and
Technologies, Leeds Metropolitan University

“Leeds Met is renowned for the student experience and delivering world-class services to the end user”

Basem, congratulations on your recent appointment at Leeds Met. Tell us about this new role and some of your key objectives.

I joined three months ago, as Director of IMTS. One of my main objectives is to develop the University's IT strategy, so it's fit for the 21st century. I'll be looking at the whole organisation of IMTS and leading the department's 105 members of staff to continue the delivery of service excellence to students.

Leeds Met is renowned for the student experience and delivering world-class services to the end user. I want to ensure IT continues to support that.

What was it about this role that appealed to you? Was it difficult to leave Goldsmiths?

I was attracted to the challenges of Leeds Met as a bigger organisation. And it also meant that I go back to my favourite city.

I'd been at Goldsmiths for almost seven years. When I joined, the department was small and not very well respected. There was little investment in IT and no IT strategy. Within six weeks it had already become more customer focused, and I developed the University's first IT strategy within the first four months, which was very well received. Over two years the department went from an area that wasn't highly thought of, to being nominated for 'The Times Higher Education Award', in the Best ICT Department category.

It was tough to leave as there were many exciting projects I'd started – and I usually want to see them through to the end!

As you say, with over 27,000 students, 2,800 staff and two campuses, Leeds Met is a big institution. Its mission statement also promises a commitment to student success, innovation and increasing its global reach. What do you see as the main challenge with an organisation of this size and type?

Funding is the biggest issue for any institution but all understand the value of IT as an enabler of prosperity, the student experience and delivery. Leeds Met is no different to any other – we need to have the latest technology, as students will all have gadgets that we can't compete with. We need to be leaders in the quality of what we deliver, to meet user demands and manage expectations. We need to evolve – it will be an on going process.

What do you hope to achieve in your first 12-18 months at Leeds Met?

I'm currently working on the draft framework for a new IT strategy, which will help enable the delivery of the University Strategic Plan by 2015. This will evolve as technology develops, and we will take advantage of these developments wherever possible.



Known for challenging the status quo, Basem El-Haddadeh was the driving force behind innovative IT changes during his seven years at Goldsmiths, University of London. On the back of his recent move to Leeds Metropolitan, as Director of Information, Media and Technologies (IMTS), we spoke to Basem about his plans, and the challenges he'll face in his new role.

“The biggest impact has been consumerisation of IT, and how we have to develop our services for online, cloud, etc.”

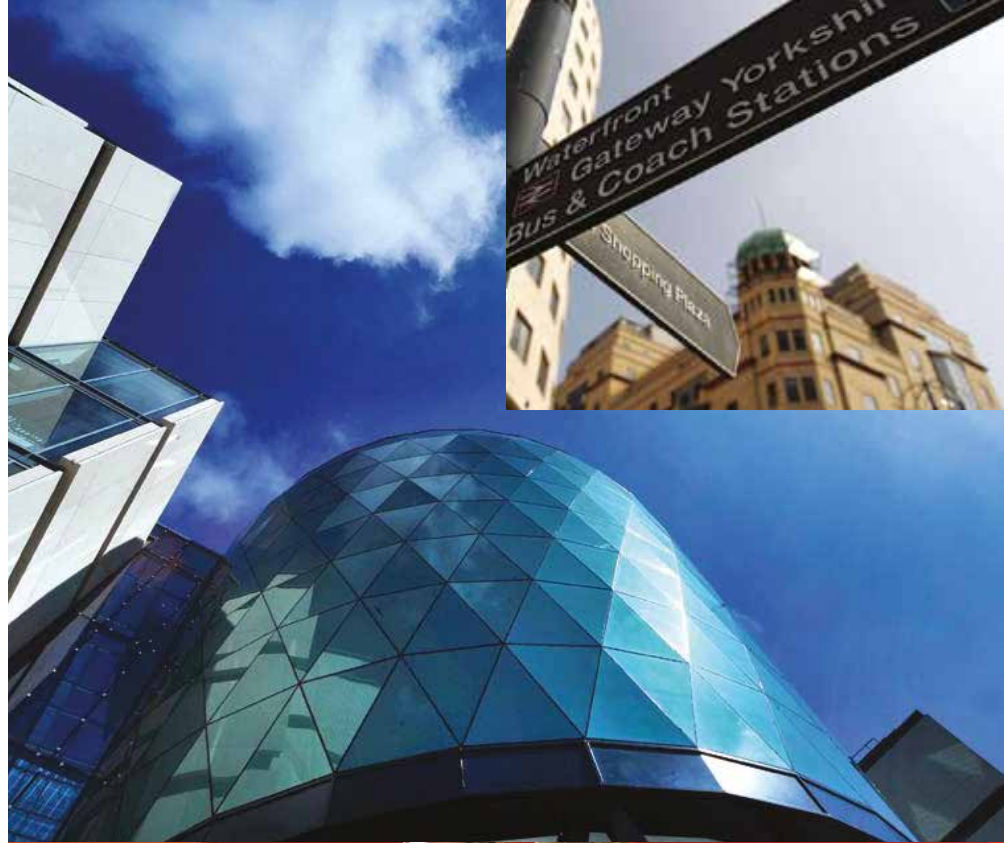
What do you think has been the biggest innovation to have an impact on the sector in the last five years?

The biggest impact has been consumerisation of IT, and how we have to develop our services for online, cloud, etc. This has massively changed the way Universities have to think about service delivery. Remote access is now the norm. We have to be able to service a 'mobile' customer/user base.

There are innovative plans for shared services in the region – YHMAN SVDC for example. How do you see these developments supporting you?

We're going to pilot the cloud storage services of YHMAN, to see if it can deliver the quality we're looking for. I think regional collaboration is a good thing. We should be working together, and many leaders of institutions in the region are now keen on this. I've made contact with my counterpart at Leeds University about shared services, as it seems foolish not to. It's time for institutions to let go of in-house services and join together.

This sounds like an interesting development. Are there particular areas of IT or the IT function where this approach will work best? What benefits can you see from institutions sharing services?



Backend services such as data centres, storage and corporate systems are ideal candidates for shared services. Once senior officers of our Universities as well as IT leaders accept that shared services does not mean loss of control or drop in quality, only then would we be able to make it a reality.

The challenge for IT leaders is selling the idea to their own teams where some might see it as a threat to their job security. I personally believe that the scarce human resources that we have in IT should welcome these initiatives, as it will free us to concentrate on continually improving the delivery of our services. We never have time to do this and always complain about the lack of time/resources.

“The challenge for IT leaders is selling the idea to their own teams where some might see it as a threat to their job security.”

What challenges and opportunities do you think the sector will face over the next five years?

Students are now able to bring their own devices with them, and the challenge is how we can service this.



“I’m looking for Janet to support me by continuing its fantastic work in network services development, which makes sure it stays at the forefront of networking”

How will Jisc and Janet support your work, and what support do you look for to enable you to achieve your goals?

I expect Jisc and Janet to take the lead, particularly in the role of negotiating on behalf of the sector. I see Janet taking on the lead role for other systems, such as finance, HR, etc. and delivering these services in a shared environment. Jisc has always led the community in terms of innovation for its ideas on shared services, for major systems that all institutions need and use.

I’m looking for Janet to support me by continuing its fantastic work in network services development, which makes sure it stays at the forefront of networking. If Janet takes the lead on developing shared services, ensuring they are deliverable and sustainable, I know institutions will use them.

Janet6 is now fully implemented across the UK – what do you see being the key benefits of this for Leeds Met?

The biggest thing for us will be the bandwidth capabilities, although we will be looking at making use of other Janet services to upgrade to Janet6, particularly when we start using cloud services.

Five years is a long time in IT! Institutions need to work together, non-competitively. I believe the role of IT will become far more service orientated and developments like online learning will also have a big impact – it already has in America. The current buzz word is the “Connected Learner” which replaces e-learning and distance learning as it combines both as well as the social aspects of the student learning journey. How we support and deliver this is going to be key.

How do you see the IT Director role developing in response to these challenges? What skills will be needed?

The role of IT Director has to evolve towards that of a ‘leader’, rather than director – visioning and bringing

services together. IT Directors will really need to understand the whole business of their institution, not just IT. They will need to be able to bridge the two and speak both languages.

“IT Directors will really need to understand the whole business of their institution, not just IT”

NETWORKSHOP

AT UNIVERSITY OF LEEDS

42

1-3 APRIL 2014

As the UK's premier networking event it is reassuring to see that your support for Networkshop continues to grow.

This Networkshop event has seen a year-on-year rise in the numbers of delegates even with ever-increasing work schedules and demands on staff.

Networkshop41 at Keele University was successful with a lot of positive interest in the technical LOLA showcase in the opening plenary and we are building an equally exciting programme for Networkshop42.

The Keele University student helpers were also very key in making Networkshop41 the success it was by embracing the whole event. They even joined in with all the Twitter feed and invented the hash tag 'Orangeshirts', a name for the Leeds team to live up to! One of our Orangeshirt team enjoyed the experience so much, they immediately sought some work experience at Janet. Read Jodie's story opposite.

“Networkshop is primarily a network event where you get a mix of technical people and high end suppliers along with Janet and University management - so it's a good chance to talk to people at all levels”

John White, IT Director, Keele University, host of Networkshop41





Watch the short video featuring exhibitors, delegates, speakers and Orangeshirts from Networkshop41 to find out why you should be at Networkshop42 – just visit <https://networkshop.ja.net/>

Following feedback from delegates who attended Networkshop41 we also have some interesting changes for 2014 – an exciting year for us as Janet is 30 years old during Networkshop42!

New for Networkshop42

- a brand new training course - Effective Identification and Management of Security Incidents, run by our very own CSIRT containing lots of hands-on practical sessions
- pre-Workshop event: DNSSEC Demystified
- welcome session for newcomers, trialled at Networkshop41, has been added to the programme, allowing newcomers to get the best from the event
- live streaming of all three plenary sessions
- adjusting the timetable to allow more time for you to attend the Birds of a Feather (BoF) sessions without missing out on other activities

We also have an exciting programme this year. Some of our headline speakers include:

- Dr Chris Lintott, presenter of BBC's *Sky at Night* will be talking about Citizen Science – Zooniverse
- Martin McKeay plans to discuss Security Debt
- Bernadette John will be covering Digital Professionalism

Jodie Pryce Student Helper (Orangeshirt) at Networkshop41

My first encounter with Janet was when I applied to work as a student helper at Networkshop41 during the Easter Break. The 'Orangeshirts' seemed to become a Twitter sensation. All the Janet employees were so lovely and I decided to get in touch to see if I would be able to do some work experience with the company.

Janet came back to suggest a two-week stint of work experience during the summer holidays. I was very nervous as my first day approached but everyone made me feel very welcome.

I spent my first week with the Janet Marketing team. I shadowed the team on various marketing activities and was responsible for getting an advert on their

website designed. It was great to liaise with the designer and provide him with ideas and copy for the advert. I also did some research and data inputting.

I spent my second week with the Janet Corporate Infrastructure Services Team. I got the chance to log different problems and work in a really positive, but busy atmosphere helping different teams across the company and learning more about what the different teams do.

I got a really valuable insight into the wide variety of tasks that Marketing and CIS can cover during my two weeks at Janet. I can't thank everyone enough for making it such a positive experience.

Jodie is pictured in the centre



“This is your chance to tell the conference about your neat tricks, clever designs, or obscure projects that might be helpful to everyone”

Other topics included in the programme:

- Protecting valuable research data
- Resilience overview
- Janet Telephony Purchasing Service
- Supporting Transnational Education

There will be the usual BoF sessions, focusing this time on topics such as security and eduroam. In addition, this year the Lightning Talks will be truly lightning with speakers decided at the event. This is your chance to tell the conference about your neat tricks, clever designs, or obscure projects that might be helpful to everyone. It needn't be hard work to provide a ten-minute lightning talk – you don't even have to prepare slides (although they are welcome).

Send your ideas ahead of time to networkshop@ja.net or speak to an

'Orangeshirt' at the event. Remember: these talks are at 9am on Thursday 3 April 2014.

This year the exhibition will be in the Sports Hall at The Edge and it is already fully booked so please do go and visit the suppliers – they are keen to meet you and discuss your requirements. In 2014, Janet will also be having a stand in the exhibition, located to the right of the entrance, where you can meet your Customer Engagement Managers and learn more about the full range of Janet services.

The delegate lounge is located in the exhibition area, giving you easy access to PCs, printers and the exhibition.

Delegate bookings are now open so book today to enjoy the benefits of the Early Bird discount which ends on 31 January 2014.

Early Bird discount available until 31 January 2014

Janet turns 30 at Networkshop42

Janet needs you!

As we prepare for Networkshop42 and our 30th birthday, we want to celebrate the history of Janet and the achievements you have been able to make as a result of the Janet network and technologies.

If you have any footage, memorabilia or even just fond memories of working with Janet over the years, we'd love to hear from you. Please contact us on 01235 822372 or email marketing@ja.net.

You can book via the website at <https://networkshop.ja.net>

Follow us on Twitter @uknetworkshop #nws42

We look forward to seeing you at Networkshop42!



Upgrading our wireless infrastructure

In 2013, Jisc Collections and Janet partnered with LAN3 Limited to upgrade and harmonise the wireless infrastructure used in our offices at six sites. The existing 802.11g access points and single central controller infrastructure was launched back in 2007 and was struggling to meet the growing requirements of the organisation.

Employees, often carrying at least two devices, were exceeding the intended capacity of the old infrastructure. Frequent reports of limited bandwidth demonstrated that the user experience was poor, particularly for users of VoIP and video.

We thought we'd share our experience of refreshing a wireless infrastructure, and whilst it may not be at the scale that larger Janet Connected organisations have to tackle, the approach is generic.





“With the new wireless infrastructure, we wanted to take maximum advantage of the wide band of spectrum offered by 5GHz-capable access points.”

Planning a new wireless infrastructure

When planning a new wireless infrastructure, it's important to know the correct number of access points to deploy. Too few will result in gaps in coverage, whereas placing access points too close together can result in interference, not to mention raising costs unnecessarily. To calculate the number of access points needed, each of the offices were surveyed. From the survey, the optimal density and position of each access point was calculated.

A lot of factors affect how densely access points need to be deployed – there is no fixed distance between access points that will work in all cases – interior walls and fixtures will reflect, and even block signals.

With the new wireless infrastructure, we wanted to take maximum advantage of the wide band of spectrum offered by 5GHz-capable access points. Compared to the standard 2.4GHz range, 5GHz has six times¹ the number of overlap-free channels, reducing the chance of interference to almost nothing. This results in users of the network receiving higher data rates, and lower amounts of packet loss.

To ensure that users can still seamlessly roam across the network as they move around their building, the access point density needed to be increased, as the 5GHz band does not propagate as far in most cases. While this increases the number of access points needed, almost all access points available today will have 5GHz radios, meaning that we were able to provide a substantially better experience for users at a slight increase in cost.

New hardware wasn't the only major change that was made – we also took the opportunity to review and consolidate the number of SSIDs (service set identifiers) used by the wireless infrastructure. Each SSID in use has some overhead, lowering the performance of the network by requiring additional 'beacon frames' to be transmitted. By taking advantage of the dynamic VLAN assignment feature provided by the

access points, both guest and staff access is now provided under a single primary SSID: eduroam, with a single secondary SSID for guests with no eduroam credentials.

Improving the user experience

Migrating to an eduroam-only wireless infrastructure has other advantages as well - being based on WPA2-Enterprise, user privacy has been enhanced as each device is assigned its own set of keys to encrypt data. This prevents other users of the wireless spying on traffic, as is possible on networks using simple pre-shared keys. Making the network eduroam-only also ensures that users always have their wireless devices correctly configured. This lowers the burden placed on our support team, as users are now far less likely to encounter problems getting connected at remote sites.

The wireless configuration itself is simpler and more understandable too – instead of trying to integrate with multiple sources of authentication and maintaining multiple pre-shared keys, the new access points only have to communicate with the RADIUS server.

Migrating all users to a new SSID can seem daunting but, in practice, the transition went very smoothly. The RADIUS servers were upgraded and reconfigured before the access points were installed, allowing them to be tested for several weeks using the old access points. On the day of the transition, a small number of users did have problems getting connected, but by proactively monitoring the log files and identifying issues before disabling the old infrastructure, and prioritising users with wireless problems, the impact on end users was minimised.

For sites considering transition to a single SSID, there are a number of resources available to assist end users configure their devices. The eduroam CAT² can generate installable configuration profiles for Windows, OS X, iPhone, Android and Linux. SU I X targets Windows, providing similar capabilities to the CAT as well as problem detection and troubleshooting. There is also a wide array of advice and documentation available on the Janet community site around all areas of wireless deployment.

	Old	New
Deployment Model	Centralised	Decentralised
Sites	3	7
SSID's	7	2
Access Points	16	60
Radios per AP	1x1 2.4GHz 802.11b/g 1x1 5GHz 802.11a	2x2 802.11b/g/n 2x2 802.11a/n
Target RSSI	Not Specified	-62dBm
Maximum Bandwidth per User	54Mb/s	300Mb/s

¹ There are actually even more channels than that, but not all are legally usable in Europe

² <https://cot.eduroam.org/>



As one of two formal representative bodies for Higher Education (HE) in the UK, GuildHE has taken on a new role as an owner of Jisc and Janet. We spoke to CEO, Andy Westwood, to get his views on how the future looks for UK Colleges and Universities, and how Jisc and Janet will support the needs of these institutions going forward.



Five
minutes
with

Andy Westwood

Distinction and Diversity
in Higher Education



“In many of our institutions, where the specialism isn't ICT, they really do depend on the expertise and guidance of Jisc and Janet”

Andy, what kind of work does GuildHE undertake for HE in the UK?

GuildHE is a membership body, just like Universities UK and the Association of Colleges. However, we represent smaller Universities and Colleges that specialise in specific areas, like teacher training, the creative industries and agriculture.

Now that GuildHE is an owner of Jisc and Janet, how does this impact on or change the work you do?

It doesn't really change a great deal. Together with Universities UK we are used to 'owning' a number of sector organisations and agencies - including those concerned with data, quality, employment and leadership. The ownership and management structure is therefore not new. Obviously, Jisc and Janet are both really important to us - but again that isn't something that has changed.

UK education is often in the headlines and has encountered its fair share of challenges. Can you give us your insights into the current health of HE in the UK?

HE only occasionally makes the headlines in the UK. A time when this was particularly evident was when the £9,000 fee regime was introduced, but I suspect that the next few years - including the 2015 general election - will give it less of a profile. Despite these changes and others that affect research income, capital spending and student recruitment, HE remains in pretty good health. The demand for Higher Education still exceeds the places available and although last year many institutions struggled with recruitment, this year we've witnessed a real comeback, almost to the level seen prior to the fees changing. There are still problems - part-time and postgraduate numbers are still a pretty big concern.

What do you view as the main challenges for HE over the next few years?

Institutions will have to cope with changing demand, in terms of numbers and types of study, but also higher

demands and expectations from students, businesses and so on. A lot has been said about how the reforms have marketised the sector and introduced more competition. One of the biggest challenges is now for Universities and Colleges to understand what their USP is - what it is that makes them distinctive from others - whether through particular courses, expertise or the student experience. This is a bigger strategic task than it has been in the past - it's far more complex and far easier to get wrong. The consequences will be much more significant than they have been before.

The sector's needs are ever changing - how do Jisc and Janet continue to support you?

The sector really depends on Jisc and Janet for a number of reasons - not only for the services, network access and processes but, just as importantly, Universities and Colleges will look to them for their advice. In many of our institutions, where the specialism isn't ICT, they really do depend on the expertise and guidance of Jisc and Janet.

What kinds of services and support are your members looking for Jisc and Janet to provide?

Institutions don't know where technology will go next. Jisc not only makes things possible, but also tells them what's possible. It's about guidance and understanding what could be achieved through the development of technology. With innovations in technology, the role that Janet plays is hugely important, particularly for our creative institutions, which rely on digital media and demand high bandwidths.

What part will Janet play in helping your members increase their competitive advantage?

I see Janet continuing as a tool to support the UK's Universities and Colleges. I believe technology could help the UK improve its competitive advantage globally, but could just as easily threaten it. The future will really depend on how much we know and how much we're prepared to challenge and, ultimately change.

“The demand for Higher Education still exceeds the places available”

Lync to my Webex Hangout



You can imagine the scenario: you try to arrange a meeting between members of a project group. The meeting needs to include a mix of HD Videoconferencing suites, Skype, Visimeet and Adobe Connect. No matter which technology you select, the inevitable workaround is that one or all of your busy project team will have to abandon the comfort-zone client they are used to, possibly have to call IT support and then justify why they need another type of VC client.

A quick count (and this isn't a representative poll as video is my job) of the number of videoconference software clients I have installed on my laptop, gets me to nine. They are: Visimeet, Skype, Cisco Video Jabber (and Movil!), Vidyo Desktop, Lifesize, Cisco ConferenceMe, Polycom PVX, Facetime, and I have secret plug-ins for various browser-based clients like Google Hangouts.

Not only is this messy, it's confusing and not very encouraging for users. How is your average user supposed to know which of these programs are lonely standalone islands or friendly outgoing types that play well with others? Imagine if your desk phone could only make calls to phones that were made by the same manufacturer.



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Team Manager
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After almost 40 years of commercial videoconferencing services it seems as if the drivers for development in this market are still influenced by the need to increase market share. The incentive for the manufacturers to enable easy inter-working between clients is not strong enough.

The ideal solution of course would be if all the clients used standards-based video codecs;

one universal dialling scheme and everyone could pick and use their favourite software to call anyone they wanted.

The existing Janet Videoconference Service has been running for more than 15 years and has been valiantly fighting for standards and interoperability from day one. Right now a member of the Janet Community, at no extra cost, can have one VC call that includes users on ISDN, hardware room systems, desktop clients and Visimeet (the next-gen Access Grid). In fact interoperation with more, and very popular clients, is one of the major objectives of the existing and future Videoconference Service, and we have been examining every potential avenue to achieve this. Let me describe the shifting sands in which we attempt to find answers.

Since Microsoft bought Skype, with its 299 million users, in May 2011 for \$8.5bn speculation has been rife as to how Microsoft would use the tool. With Microsoft Lync as the VC client of choice for larger organisations, how does Skype fit in? Well, we still don't really know. There have been minor developments but no clear positioning.

Three years ago Skype started to offer licensed access to their Skype Developer Kit (SDK), API, enabling new-found levels of feature interoperability for developers. New names, BlueJeans and VidTel hit the US market and offered the long-desired interoperation between Skype and the Standard based (H.323) videoconferencing world - finally a solution to enable us to answer all those requests. Janet began an investigation into the feasibility of integrating the very impressive services from BlueJeans or Vidtel and their competitors into the Janet Videoconference Service. Just at the point of the decision to start integration, Microsoft announced a change in the Skype Developer Kit and their API. Skype would not be offering any new SDK licences from July 2013. The interop services from BlueJeans and Vidtel look likely to be terminated, less than three years after they were launched with such excitement.

“The ideal solution of course would be if all the clients used standards-based video codecs”

All is not lost though. A new technology promising to throw everything up in the air again is WebRTC, an open source technology movement using new video and audio functionality available via HTML5. It will enable full HD video codec functionality to be delivered via a web browser, importantly without the need for a client download. Expect to see every company website providing video calls to their call centre straight from the insurance/flight-booking/bill-payment webpage that you are struggling with. WebRTC to H.323 bridging software is also available open source, enabling Video Service providers to connect you into their standards-based VC world from your browser.

With WebRTC being embedded into web pages, is it any wonder that these changes are now being implemented by Microsoft to Skype SDK, positioning Skype to provide a similar service for other online companies?

To add to this movement towards better browser-run services, Google have recently announced a deal with the new VC tech innovator company, Vidyo, for them to provide a WebRTC equivalent service, at the very least to drive Google Hangouts and probably more.

This development, alongside the predicted growth of WebRTC services and VC windows popping up everywhere, may be enough to make VC more mainstream. For users of the Janet Videoconferencing Service there is the added dream that one day you will be able to cheaply link your browser to your wise investment in standards-based and room VC Systems.

Of course, give it six months and the landscape will have changed again...

Avoiding Personal Data Losses



Andrew Cormack
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Learning from your own mistakes is good; learning from someone else's is even better. For data protection the Information Commissioner's summaries of breach notifications¹ and advisory visits² are an excellent source of ideas. Any unintended disclosure or loss of personal data can harm individuals, damage an organisation's trust and reputation³, and cost up to £500,000 in fines. You only have to look at the fine of over £300,000 that Brighton and Sussex Hospitals NHS Trust received to realise that reducing the risk must be a good idea.

Malicious blaggers, hackers and thieves may make headlines but the most common causes of breaches, including many serious ones, involve simple human error. In a way that's encouraging: to reduce breaches we only need to help well-intentioned people avoid mistakes. Technology often features in large breaches because technology amplifies the effect of mistakes: accidentally emailing 500 people is much easier than sending out 500 letters. Well-designed technology can, and should, make mistakes less likely or reduce their consequences by making it easier for humans to do the right thing.

More than half of the ICO's reports involve sending either the wrong information, or the right information to the wrong person. In many cases technology could have protected against these mistakes. It's notoriously easy to misdirect an email, often assisted by an email program's auto-complete function. Encrypting a file of personal data before attaching it to an email should prevent an unintended recipient reading it. Don't send the passphrase by email, though: phone the intended recipient, check that your email arrived, and only

then tell them the passphrase. This may seem like obvious advice, but a trade union managed to make this mistake earlier this year. You don't need an encrypted email system: many programs can encrypt documents or archives when they create them, but you must check which programs do this and always choose a suitably strong passphrase.

Printing personal data needs care: paper can easily be picked up in the wrong bundle of printout. Print-on-demand systems can help. Send your document to the print queue, walk to the printer, check the output tray is empty, request the print job, collect your papers, and ensure the output tray is empty again before you walk away.

Spreadsheets are a concern given their increasing use for Freedom of Information responses. There have already been several breaches where personal data has been left in hidden fields. There's no quick technical fix for this problem but any spreadsheet should be checked for hidden rows/columns, pivot tables and document information before sending it to someone else.⁴



The second most common cause of personal data breaches is loss or theft of paper files or laptops. Again, technology can reduce the impact. Modern laptops can encrypt disks so, unless they guess the password, a thief or finder can't read the content even by installing the disk in another computer. It's been expected for years that laptops containing personal data should be encrypted;⁵ modern encryption is so transparent to the user that there seems little reason why it shouldn't be the norm for all laptops, both organisation-owned and personal (see the BYOD article in Janet News 22). Smartphones now store enough data to represent a significant risk if they are lost: these may not offer strong encryption but strong passwords and remote wiping are available and expected for those holding significant quantities of personal data.

Finally, an obvious way to reduce the risk of breaches is to reduce the quantity of personal data you hold. It may be tempting to keep everything 'just in case' but this is risky and may be unlawful. People change so personal information will go out of date. Without regular checks of

accuracy personal data will steadily decrease in value and increase in risk. Decide which sets of information you need to keep, and for how long, then use technology to remind you when to either check its accuracy or delete it.

Appropriate technology can help individuals protect personal data. But it's still individuals whose actions (or inactions) pose the biggest risk to an organisation and ultimately determine whether a mistake results in a data breach. Keeping personal information safe requires good equipment, good instructions for using it, good practice being adopted and demonstrated by all, and an understanding by everyone in an organisation of the risks involved. Perhaps the most important thing is that individuals recognise when they are about to do something that could put personal data at risk, stop, and check whether there's a better way to do it. If you want to protect your reputation and avoid ICO fines, make the whole organisation responsible for data protection.

To read more, visit: <https://community.ja.net/blogs/regulatory-developments>

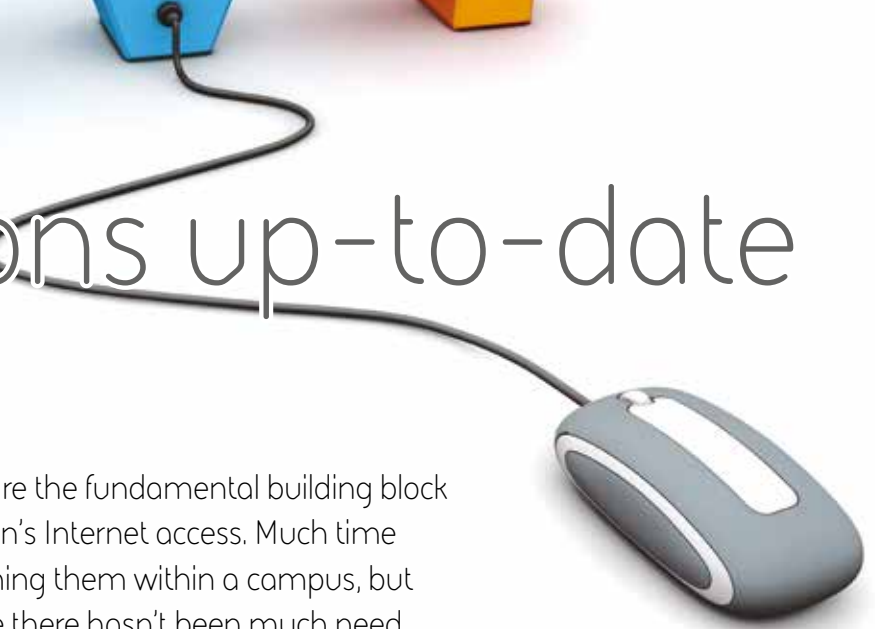
- 1 <http://www.ico.org.uk/news/blog/2013/the-cost-of-carelessness-how-data-informs-the-action-we-take>
- 2 http://www.ico.org.uk/for_organisations/data_protection/working_with_the_ico/advisory_visits
- 3 # does the head of your organisation want to have to publish an undertaking beginning "I, the VC..."
- 4 <http://www.ico.org.uk/news/blog/2013/the-risk-of-revealing-too-much>
- 5 <http://www.ico.org.uk/news/blog/2013/why-encryption-is-important-to-data-security>



Keeping

IPv4

registrations up-to-date



Robert Evans
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IP addresses are the fundamental building block of an institution's Internet access. Much time is spent assigning them within a campus, but for a long time there hasn't been much need to pay attention to what happens externally. If you received IP addresses in the early days of the Internet, this may be about to change.

For the past couple of decades, we have assigned IP addresses to Janet Connected customers based on allocations we received from Europe's 'Regional Internet Registry' (RIR), the RIPE NCC. The RIPE NCC is one of five RIRs worldwide that co-ordinates the distribution of IP addresses (both IPv4 and IPv6) and BGP autonomous system numbers (ASNs) on behalf of the Internet Assigned Numbers Authority (IANA).

However, many of you have been on the Internet since before the RIRs existed and received IP addresses directly. In current terminology, these resources are known as 'legacy resources' and those who use them 'legacy resource holders'.

In addition to distributing resources, one of the key roles of the RIRs is to maintain an accurate registry of resources in use, and for some time there has not been a formal connection, either directly or indirectly,

between the legacy resource holders and the RIPE NCC. At a time when IPv4 resources are under pressure, use of legacy resources is under scrutiny. It is important to ensure that legacy resources are properly registered, and a framework to allow that could also enable the use of new services, such as resource certification which requires a contractual chain to the holder of a resource.

The RIPE NCC operates under community-derived policies, and

there has not been a policy for how the RIPE NCC handles legacy resources. One is now being proposed that puts in place a framework for the continuous registration of legacy resources.

The options for Janet customers that hold legacy resources are likely to be:

1. If you are an existing RIPE NCC member

If you are an existing member of the RIPE NCC, you will be able to register your legacy resources under your 'local Internet registry' (LIR). This does not mean bringing the resources into your registry, and with it the associated requirements for documenting assignments. It just means using your LIR to register the resources to introduce a contractual relationship with the RIPE NCC.

2. Become a RIPE NCC Member

This will involve paying an annual fee to the RIPE NCC to become a member (currently €2,000 to establish initial membership and €1,800 per year), and registering legacy resources under your own membership, as with option 1.

3. Use a 'sponsoring' LIR

This may be the most attractive alternative for most of Janet's customers. Instead of becoming a RIPE NCC member, you sign a contract with a sponsoring LIR (e.g. Janet) who will then handle contractual dealings with the RIPE NCC. As an LIR, Janet already has a suitable contract under which the resources can be registered. You still retain all the rights to hold and use the resources. Janet just ensures that a contractual relationship exists with the resource holder.

4. Engage directly with the RIPE NCC

The details on this are still formative, but it may be possible to have a direct relationship with the RIPE NCC without becoming a member of the NCC. The costs for this are likely to be less than the costs of becoming a RIPE NCC member, but again you will have to deal directly with the RIPE NCC.

Should none of the above options be possible, for whatever reason, there are two more suggested ways forward. The first is for the RIPE NCC to continue to provide registry services

as if a contract had been signed, but only until the reason for not following one of the previous options has been resolved. The final option is to do nothing. In this case, the RIPE NCC will continue to provide existing registry services, but may not provide any new services, for example resource certification, for those resources.

If you have any concerns or queries about your 'legacy resource', please contact the Janet Service Desk on 0300 300 2212 or email service@ja.net

The current version of the policy proposal can be found at: <http://www.ripe.net/ripe/policies/proposals/2012-07>

Discussion happens in the RIPE NCC Services working group: <http://www.ripe.net/ripe/groups/wg/services>

“At a time when IPv4 resources are under pressure, use of legacy resources is under scrutiny”



So how come application developers continue to make the same mistakes over and over again? The pressure to release new features early and often, and the lack of any incentive to build security throughout the development process means that we fail to learn from the past. Let's take a look at some information, tools and techniques we can use to make sure that we avoid some of the most basic errors.

The Open Web Application Security Project (OWASP) has put a considerable amount of effort into producing free resources and tools to improve the development and testing of secure web applications. Perhaps the best known of these is the OWASP Top 10 Project. The project provides a regularly updated view on the most critical web application vulnerabilities.

In 2013 that list was:

- A1 Injection
- A2 Broken Authentication and Session Management
- A3 Cross-Site Scripting (XSS)
- A4 Insecure Direct Object References
- A5 Security Misconfiguration
- A6 Sensitive Data Exposure
- A7 Missing Function Level Access Control
- A8 Cross-Site Request Forgery (CSRF)
- A9 Using Components with Known Vulnerabilities
- A10 Unvalidated Redirects and Forwards

Many of these vulnerabilities are still common despite being extremely well known. SQL Injection was first documented in the late '90s but is still probably the most common cause of data breaches in recent years. It has been a favoured tool of hacktivist groups such as Anonymous and Lulzsec, and companies such as HB Gary and Sony have learnt first-hand the damage that this problem can unleash. Incorrect session management is another frequent cause of incidents where users have been able to view others' account details.

Developers can greatly reduce the risks to their applications by using these ten issues as a guide. Ideally, armed with this knowledge, developers should integrate this information into their software development lifecycles. There should also be a greater emphasis on preventative training to enable developers to understand, recognize and avoid these issues as well as identify the tools to help catch mistakes when new versions go through testing and QA processes.

“Incorrect session management is another frequent cause of incidents where users have been able to view others' account details.”

Unfortunately most of us do not have such close control over the development of the software that we have to use on our production networks. Testing for common security vulnerabilities is still something that needs to be done with new applications before they are deployed and exposed to security threats.

This is where vulnerability assessment tools can be especially useful to an organisation's operations. By performing an automated security assessment of an application, security vulnerabilities can be detected without having to resort to more expensive and involved penetration testing services.

The Janet ESISS Automated Penetration Testing service includes a web-application testing component that has been specifically designed to test for the types of vulnerabilities identified in the OWASP Top 10.

Simply reviewing the logs from any web application exposed to the Internet should convince anyone that all applications are constantly targeted by attacks of varying sophistication - eventually one is going to be successful. Whilst the service will never help you eliminate all risks, reducing the exposure of your application to the most common threats means that most attackers will move onto an easier target.

For more information about the Automated Penetration Testing service, please email info@esiss.ac.uk

For more information about the OWASP Top 10, please email irt@csirt.ja.net or visit <https://www.owasp.org/>



Events Calendar

2014 March						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

2014 April						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Jisc Digital Festival 2014

11 – 12 March 2014

The ICC, Birmingham

The Jisc Digital Festival 2014 will bring together experts and providers working across the higher education, further education and skills sectors to showcase and celebrate the best in digital talent from around the UK.

This new annual event brought to you by Jisc is a place for people to meet, connect, learn and share ideas and discover how to harness the power, purpose and possibilities of digital.

For more information and to book your ticket, please visit www.jisc.ac.uk/digifest

Workshop42

1 – 3 April 2014

University of Leeds

The UK's premier research and education networking event, Workshop42 offers a unique opportunity to present and discuss technical and practical aspects of providing advanced network services and applications to the research and education community in the UK.

Experts from within the Janet community and further afield will be presenting on issues that affect you along with practical hands-on workshops and discussion groups.

Delegate bookings are now open so book today and enjoy the benefits of the Early Bird discount which ends on 31 January 2014.

For more information, please visit <https://workshop.ja.net/>

Early Bird discount available until 31 January 2014

Janet turns 30 at Workshop42

Janet needs you!

As we prepare for Workshop42 and our 30th birthday, we want to celebrate the history of Janet and the achievements our community has been able to make as a result of the Janet network and technologies.

If you have any footage, memorabilia or even just fond memories of working with Janet or of Janet events over the years, we'd love to hear from you. Please contact us on 01235 822372 or email marketing@ja.net.



Janet Training

Janet runs a portfolio of one-day courses specifically written for the Janet community and delivered by experts working in UK research and education. Our high-quality courses give you a chance to train with colleagues working in a similar environment.

The 2014 schedule can be found at: <https://www.ja.net/training/schedule-and-booking>

New live online learning courses

2014 sees the launch of many new online courses with additional topics and dates to be scheduled throughout the year. Each course is highly interactive giving you the chance to learn, practice skills in a safe environment, and apply this knowledge to your site. Online learning eradicates the costs involved in travel and can be completed in the comfort of your office.

Information Security Policies

This online course takes a broad view of risks to the accuracy, availability and confidentiality of information security, examines the origin of these risks in behaviours, processes, physical, technical and environmental factors, and considers how policies can be used to mitigate and manage the risks.

February 2014

- 7 February: Orientation – 30 minutes
- 10 February: Information Security Policies Part 1 – 2 hours
- Assignment: Examining risks you have and have not yet addressed – 30 mins (to be submitted 24 hours prior to session 3)
- 17 February: Information Security Policies Part 2 – 2 hours

All sessions start at 10.15am. You need to be available for all of the live sessions listed to progress through the course.

DEVELOPING YOUR WHOLE 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, workbooks and all the 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

Web: www.ja.net/training

 [@janettraining](https://twitter.com/janettraining)

“Until you have tried live online training sessions, you are more than likely going to be skeptical. However, once you have tried them, be prepared for your preconceptions to disappear”

Matt Cook, Head of Network Infrastructure & Telephony at Loughborough University and Janet Trainer.

Hands-On Security Testing

This online course covers the basics of Security Testing, from port scanning using the freely available nmap tool, through to vulnerability exploitation using the metasploit tool.

The course focuses primarily on infrastructure-based security testing and does not cover web-based application testing, making it suitable for those who are working in or responsible for an infrastructure area of business.

April 2014

- 9 April: Orientation – 30 minutes
- 11 April: Introduction – 2 hours
- 14 April: Port Scanning – 2 hours
- 17 April: Exploiting Vulnerabilities – 2 hours
- 25 April: Further Tools – 2 hours
- 29 April: Testing Scenarios – 2 hours

All sessions start at 9.45am. You will need to be available for all of the live sessions listed to progress through the course.

 **Learning & Performance Institute**
Accredited Learning Provider





CUSTOMER ENGAGEMENT TEAM PROFILE



Dave Meseck

I am the newest member of the Janet Customer Engagement team. I joined Janet in August 2013 as the Customer Engagement Manager for the North West.

I have extensive experience in customer service, from companies within the public and private sector. My background is technology-related in the mobile telecommunications engineering field.

The challenges for the North West are focused on integration of existing operations from Regional Network Organisations into the Janet portfolio. My role in this is to support the community by making myself

available to support customers within the community and be their voice within the Janet organisation.

I have lived in Lymm for 11 years with my wife. When I'm not working, I enjoy keeping myself in shape through juicing holidays twice a year in Turkey and I attempt to do one charity event every year. Beware, I will need sponsorship!

A FOND FAREWELL



Robert Prabucki

Our Customer Engagement Manager for Eastern and East Midlands, Rob Prabucki retired in December 2013 after working for Janet for over ten years.

A well-known face in the Eastern and East Midlands community, we pay tribute to the contribution that Rob has made to Janet.

Rob initially joined Janet as an FE Account Manager when the company was known as UKERNA. He was one of two Account Managers with responsibility for FE Colleges in England and this role evolved into introducing the Adult Learning Sector to Janet.

Anyone who has worked with Rob will know how infectious his character is. He is always willing to lend a helping hand and on the day of the London bombings in 2005, he

helped confused delegates at the Jisc RSC Conference find their way safely out of London, even offering people a bed for the night at his home in Lincoln.

Outside of work, Rob is a gifted artist and photographer. He is also a keen carpenter and would freely admit that he's addicted to DIY. He would often regale the Customer Engagement team with news of the latest installation at home.

We will miss Rob greatly and wish him all the best for his retirement.

Customer Engagement Team



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Customer Engagement Manager for Northern Ireland



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For the latest news from your CE Manager, search for your Regional Community Group at <https://community.ja.net>

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<https://www.ja.net>

janet

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JANET COMPETITION



A fox was found living at the top of The Shard during its construction. Can you tell us what the fox was called?

Send your answer to marketing@ja.net with the subject line 'JN23 competition' by Friday 14 February 2014 (and please include your postal address).

Please note: the winner will be chosen at random; we will only contact the winner; the answer will be posted on the Janet News Community Group on Friday 21 February 2014; Janet staff and members of the Jisc group may not enter.

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