NIRAN Report

1. Overview

NIRAN has endeavoured to maintain high levels of service for the NIRAN community over the reporting period mid January 2009 to mid April 2009. Thirty three network incidents were reported during this four month period, of which thirteen were network related faults. The remainder comprised unscheduled site power outages and scheduled maintenance events.

Total Incidents for 4 months	Scheduled maintenance	Unscheduled local site outages	Network faults
33	11	9	13

2. NIRAN II

As its current agreement with NTL for the provision of the network expires in October 2009, NIRAN has been pursuing a re-procurement of the entire network of some 42 high-speed circuits, comprising:

- 24 HE + FE and research Connections
- 14 Sponsored Connections
- 2 interconnects - NI Schools network & CAFRE education network
- 2 backbone circuits

Following advice from JANET(UK), the process followed a Restricted Procedure of the EU Services Directive and included a pre-qualification questionnaire which shortlisted 5 companies to proceed to the second phase of the actual Tender process. The Invitation to Tender was circulated to the *shortlistees* on 16th February with the deadline for returns of 30th March. The tender evaluation process, carried out by specifically established technical and management procurement groups including a professional procurement advisor, has now completed and the NIRAN Board has just ratified the selection of the preferred Supplier. Letters are to be sent out to the bidders and the 10-day Alcatel "standstill" period is about to commence.

Consequently, it looks as though all NIRAN HE and FE campuses will each receive a uniform 1Gbits (1000Mbits) circuit, come November 2009. The backbone will also be upgraded to 1GBits (and possibly 2Gbits) in NIRAN II. All HE/FE circuits and the backbone will be delivered on DWDM technology.

This will be a major leap for NIRAN as the current HE/FE sites have a mixture of 34Mbits and 100Mbits and only one HE site currently has a 1Gbits circuit. The proposed agreement is for an initial 3-year term, with options to extend to another 4 years, by 2 * 2-year terms. This could potentially provide NIRAN with network services to 2016.

3. Network Support

Issues

During this reporting period the historical problems with the NIRAN SWC – Enniskillen circuit have started to recur. This is being escalated with NTL. NIRAN is disappointed that some sites fail to inform when performing internal maintenance that affects their NIRAN circuit. This has a detrimental effect on the JANET RNO performance tables.

JANET Entry Point Move

NIRAN, JANET(UK), Verizon and NTL have now reached an agreement (again) on relocation of the Glasgow RNEP. The JANET(UK) rack and associated equipment will be relocated to the new QUB Library and the CoreStream long-haul circuit amplification equipment will be relocated to NTL premises at the Shore Road, Belfast, as originally intended.

The delay in moving this circuit goes back to the original installation when an extra rack housing a piece of telecommunication equipment called CoreStream, was

installed in the QUB backup Data centre. This equipment was not originally intended to be housed on QUB premises and was accepted on a temporary basis. QUB does not have the facility to house this non-standard piece of equipment in its new Library Data Centre, hence the delay. Further delays regarding the cost of relocating the CoreStream between Verizon, JANET(UK), and NTL have now been resolved. Any cost will be borne by JANET(UK) and not NIRAN.

A site visit by a Ciena (the manufacturer of the RNEP equipment) took place on Thursday 19th February, and the proposed new date of Tuesday 19th May for the move, is currently being considered by JANET(UK). During this move, a loss of all Internet connectivity will be experienced by NIRAN connected customers for approximately 15 minutes between the hours of 0700 and 0830.

Full and proper resilience should be restored to the two NIRAN JANET entry points after the move is completed.

IPV6

After testing various Cisco IOS operating system codes, and consulting with NTL, a stable code has now been agreed upon which will ensure compatibility and interoperability with the existing network infrastructure and its various routing protocols. This appropriate IOS has been successfully installed on POP-2 at QUB, but issues of incompatible hardware on the other two PoP routers have arisen. The work to overcome these issues has been continuous this year, with almost every Tuesday morning "At Risk" period being used to advance the IPv6 project. Presently, we are in the process of removing incompatible router modules, upgrading memory in other modules, reconciling serial connections and installing new compatible modules before the IOS in the other 2 PoP's (Belfast PoP-1 and Derry PoP-3) can be upgraded. Further IPv6 progress and testing is scheduled for the coming months.

NIRAN failover test

NIRAN carried out a failover test on Tuesday 17th February; this test was specifically to test the failover after the IPv6 IOS was installed on the PoP-2 router. The failover was tested again, successfully, on Saturday 21st February during JANET(UK) and Verizon scheduled maintenance on the primary 2.5GB circuit.

Belfast Netsight

The new JANET(UK) Netsight-2 system went live on Monday 2nd March 2008. It will take some time getting used to the new system, but it basically gives the same information as the previous one, plus a bit more yet to be developed. So far, the new Netsight seems to be an improvement on the old system, highlighting issues that the old system did not have the capabilities to spot or record. Further improvements that are planned include measurement of jitter and the ability to send email alerts based on pre-defined test conditions. For full details see:

Circuit Additions

Two new connections have been added to NIRAN since the last report; they are Armagh City and District Council and NERC – Geological Survey of Northern Ireland, both on 10Mbits circuits.

Chris Kelly
NIRAN

ClydeNET report

We are at the final stages of assembling our ITT tender package for re-procurement of our metro dark fibre infrastructure and securing JANET (UK) approval. We are using SJ5 exploitation funding for this.

We have finally been hit with a rates bill and have lodged an appeal on the basis that we are a charity.

With the approval of JANET (UK), we have ordered the kit to support a 10Gbps connection to the JANET backbone from both RNEPs.

Despite making definate progress, we have still not finalised the contract with our chosen supplier for OOH cover.

We are still assisting colleges with the relocation of their ClydeNET/JANET link due to new build projects and can see this stretching out for some time yet.

Linda McCormick
ClydeNET

SWERN

Administration

RNO Audit (procurement) took place 11 March. No significant events or problems to report. We requested that a local Telco. be considered in any future J(UK) framework agreement.

SWERN Documentation and procedures:

We have updated our Incident Handling procedures to encompass Major Incident reporting to Janet ODO (prompted by last JDT meeting). Also Provided J(UK) with updated Complaints Procedure re. escalation route.

Circuits

The Met Office in Exeter is again connecting to SWERN. We used to host them before they migrated over to a national BT managed contract. An order for a 1Gbps circuit to our Exeter University PoP has just been placed.

Networkshop

Half decent attendance at Networkshop this year - three of us from SWERN managed to get there.

Requests for comments from Rolly:

> 1. If an RNO is provisioning Lightpaths internally which

Not applicable to us at present - we have a single 100Mbps lightpath which is JUK funded.

> 2. Where an RNO outsources the OOH cover to a third party

At present mainly remote SNMP monitoring only. However its even simpler than this in reality. Although SWERN has a number of monitoring tools we have found Janet Netsight to be sufficient for our contractor (Logicalis) to monitor our network in the out of hours periods.

We have also set up a looking glass service - <http://alice.swern.net.uk/> (similar to alice.ja.net) which we originally introduced for our own use but its proven useful for Logicalis to do some basic diagnosis on our equipment. Most, if not all, of the diagnostics Logicalis have to do following a Netsight red light can be done from the looking glass scripts and it means we don't have to worry about account management.

> 3. JANET(UK) is writing up a report about the FE upgrade project

From an operational/Engineering perspective we just have to be careful with the co-ordination of the many MRS sites which require input from the Telco, the site, SWERN and the MRS guys. The lack of any out of band access to the routers on the sites is a slight worry.

Other than that it was fine - no specific comments or concerns.

Neil Francis
SWERN

CANLMAN Report April 09:

Access circuits at Barrow 6th Form and Furness Colleges upgraded to 100Mb/s.

Orders placed for upgraded circuits for Lancaster & Morecambe College and Beaumont College.

Delivery date for BT work at Kendal PoP received: 26/6/09

Workington PoP not viable at present, backup plan for direct circuit from Carlisle to Energus at Lillyhall implemented & ordered.

JANET Lightpath upgrade completed successfully despite new router not being available for the cut-over: Temporary router installed for two weeks then swapped.

CANLMAN will be participating in the Carrier Ethernet project.

Cheers

Craig MacDonald
CANLMAN

FaTMAN

The H2O resilient connection from Dundee to St Andrews has been completed and is operational. It provides a single pair of fibres over which we currently run a 1Gb link. The link successfully took the production load during a scheduled maintenance period on our existing Thus fibres. As a result we have updated our Risk Register.

FaTMAN participated in the recent Scottish MANs Co-ordinating Group meetings which explored ways to collaborate or combine Regional Networking in Scotland.

Our contract with Thus for dark fibre is due to expire and we are planning to use our option to extend it for three years.

Mike Whitehead
FaTMAN

Net North West Report

JPA

No change in the number of connected sites. NNW supports JANET funded connections to 101 organisations and 8 JANET Light Path connections.

We are still in the process of regularising our position with the VOA re dark fibre rates. JANET(UK) have agreed i) that we can retain part of our RPAN surplus to cover rates we know are due from previous RPAN years and ii) to increase the JPA BAP to cover future rate bills as and when these are finalised.

NNW has put in place formal agreements with our members who provide support services to NNW. This has meant that FEC is becoming a reality. We are now setting up formal hosting agreements for all our PoP sites. The power costs associated with hosting NNW equipment is a live item for discussion with sites.

NNW had its second audit from PKF before Christmas. I believe this was the last one in round two, five years after NNW were first in round one. We have commented on the draft report but are still awaiting the final version.

Our procurement audit with JANET(UK) is set for early May.

Branding

JANET(UK) agreed our branding proposal - based on the one used by NorMAN. We now need to bring this fully into use.

LSC Funded Upgrades

The project to increase the bandwidth to FE Colleges to 100 Mbps is effectively complete. Of the 62 FE Colleges funded by JANET all but 10 are now connected at 100 Mbps (or faster - one college is connected at 1 Gbps because of the distance). The costs for these 10 were requoted by the suppliers and the latest costs passed to the Colleges in the hope that NNW and JANET could persuade them to order the upgrades. Three of the colleges have rejected the upgrades and seven have not replied. The funding model is such that these mainly rural colleges have to pay more then their urban colleges.

FE Mergers

More FE colleges are merging to form large, geographically dispersed organisations. NNW is working with several of the colleges to explain options for their JANET links and to provide the most cost effective inter sites links.

SURFnet 2007

Our project to replace the existing SURFnet, not the Netherlands NREN but the Staffordshire University Regional Federation network, based on ATM/SDH delivered over microwave with a fibre/Ethernet based network is complete.

The final link from Shrewsbury to Stafford was delivered in Feb 2009, over 8 months since we ordered the link.

SuperJANET5 Exploitation Funding

We placed orders for the dark fibre required to complete the replacement of all our core links and dual links to NNW members with fibre at the end of 2008. This will allow all our core links to run at 10 Gbps and to allow all members to take advantage of JANET Lightpaths and to run at 10 Gbps as and when this becomes a requirement. Most of this has been delivered and is coming into service. We expect to be running a 10 Gbps core before the end of June 2009.

We also have dark fibre as the basis of an e-Science network operating between Manchester, Liverpool, Daresbury and Jodrell Bank. This uses Transmode kit to provide 10 Gbps and 1 Gbps links.

As reported previously, we held a successful workshop with BTiNet to discuss MPLS. We are looking at this as one possible way of providing a 'structuring layer' for the JANET Lightpath Service, i.e. a way of breaking a 10 Gbps wavelength into multiple 1 Gbps circuits. An alternative approach using 'Carrier Class' Ethernet as a replacement for SDH is unlikely to go ahead. We expect to go to procurement for optical equipment to light the core fibre and the e-Research network fibre before the summer.

Our JLPS links have all been transferred onto NNW owned kit supporting the Ethernet based solution adopted by JANET(UK).

Carrier Ethernet

NNW will be taking part in the JANET Carrier Ethernet project.

RNEP - JANET Links

We are in discussions with JANET(UK) about upgrading our RNEP - JANET links from 10 Gbps to 2 * 10 Gbps. JANET(UK) are still of the opinion that these links should be SDH based so we will be implementing a second 10 Gbps POS solution in each of the RNEP Cisco 6500s.

Tim Robinson
NNW

AbMAN

This continues to be a quiet time in networking terms with everything just working and providing the service. AbMAN has used the bulk sponsorship arrangement with JANET(UK) as it had 5 such sites; however due to mergers and changes of status this has reduced so making individual sponsorship more cost effective but this will have to be with nominated sites. AbMAN's current fibre contract terminates in July 2011 and so we are initiating the procurement procedures now to give ample time for any new supplier to install cables; one issue is the funding of such if a major installation is required as it seems the cycle of funding for such has become uncertain.

John Linn
AbMAN

Kent MAN Report

JANET(UK) recently requested that Kent MAN upgrade the RNEP's at Canterbury and Chatham to 10Gbps. The new parts are on order.

The Kentish MAN core network is scheduled for re-procurement in early 2010. JANET(UK) were approached and indicated that significant funding would not be available in the JANET(UK) 2009/10 financial year. As a result, we are now planning an upgrade to "Kentish MAN 2.1" in early 2010, followed by a more substantial upgrade to "Kentish MAN III" in early 2011. The Kentish MAN 2.1 network will be very similar to the current network, but with upgrades from 2.5 to 10 Gbps Wavestream circuits in the core. The Kentish MAN III core network will, where funding permits, be based on dark fibre, and with dual PoPs in the major population centres to provide resilience for connected sites at reasonable cost.

We are in discussion with Kent County Council about combining our core networks where funding and politics permit. The hope is that there will be tactical opportunities in the short term, and potentially a fully integrated core network in the longer term (probably a few years' time).
A workshop will take place on Monday 18th May.

We are kicking off a project to look at metro dark fibre in areas where we have a dense concentration of connected sites. The project will focus initially on Canterbury. Medway and Maidstone may follow if the Canterbury project is successful. We are also working with Kent County Council, Kent schools and other public service bodies on the metro dark fibre project.

The links from 2 minor PoPs at Broadstairs and Tunbridge Wells to the Kentish MAN core have recently been upgraded to 1Gbps. This backhaul upgrade completes the FE upgrade project.

Jon Aldington
KentMAN

Report from LMN

SJ5 Bandwidth Usage
Currently the SJ5 connection to LMN has been peaking at well over 6Gbps.
LMN has been asked by JANET(UK) to order interfaces to increase the SJ5 bandwidth to 20Gbps (2 by 10Gbps from the existing 1 by 10Gbps). This equipment is on order and LMN expects installation to occur during late May/Early June 2009.

JANETLightpath
LMN is still finalising the specification of the Cisco equipment we will be using to provide the JLP service. LMN has identified an initial specification for the equipment which will initially need to accommodate 3 by 10Gbps and 6 by 1Gbps and it is likely this may be a Cisco 4900M, although the software will not provide the full feature set required until an upgrade available during May 2009.
In order to enable JANETLightpath LMN has liaised with UCL who have kindly supplied a Cisco 6500 as a temporary solution for Imperial College and UCL who currently use the service.

Business Development Activities

1. Timetable of events

Thursday 30th of April 2009
LMN Managed back up: User Group forum

Thursday 7th May 2009 at RCOG from 2 p.m.
Wireless Technologies

Thursday 11th June 2009 at Chandos House, Royal Society of Medicine from 2 p.m.
LMN Directors forum followed by the LMN summer BBQ

2. New Services

2.1 ADSL SDSL 1:1 512Kbps to 10Mbps
LMN is currently now investigating Thus to offer LMN members both contended and uncontended ADSL/SDSL. We will be using JANET for internet dellivery over these connections. So far talk with other suppliers – NTL, Easynet and Verizon have not supplied a solution with a viable cost model.

2.2 ISP Connectivity
LMN has chosen Verizon to provide JANET-independent internet services.
LMN is offering a 35% discount on ISP connectivity for the LMN community institutions. We are now connecting University of Roehampton and London Southbank to this service.

Peter White
LMN

EMMAN Report

EMMAN has received funding from HEFCE for a Shared Service – Information Security Service. The service unit will operate from April 2009 with a full service to the 8 East Midlands Universities going live by August 2009.

The initial service elements are:

- Monitoring network activity
- Alerting management of unusual network activity
- Intelligence gathering and notification of issues and trends
- Incident remediation (including virus mop-up etc)
- Providing anonymous network security performance and benchmark information
- Training for information security staff
- Independent network security "health checks" to support audit requirements
- Analysing network activity
- Alerting management of potential security threats
- Forensic investigation support
- Information security and incident helpdesk
- Web reputation monitoring and reporting
- Security Implementation best practice advice and support consultancy
- Providing best practice advice in evaluation, selection, implementation and management of information security services

It is initially aimed to provide facilities to the eight Universities of the East Midlands. Once this has been successfully achieved the service will be offered to other East Midlands institutions (e.g. FE) and subsequently as a service either to other regions as a whole or to individual institutions.

The fibre diversity project which resulted in re-routing of fibre in both Nottingham and Leicester was completed in April.

Resilience tests took place on 10th March and 21st April. The test on the 21st April was in peak time.

All FE colleges within EMMAN were upgraded to 100meg last year. All other primary connections (specialist colleges, Adult & Community Learning, etc) were reviewed last year and a plan developed to upgrade all the sites to 10Meg. An outline bid for funding was sent to JANET(UK) in January. Subject to final approval from LSC, JANET(UK) have agreed to all the upgrades except two specialist colleges that operate at 256k.

EMMAN has upgraded its commercial pipe to 50mb and 6 of the 8 Universities now use it.

Security issues with Halls of Residence remains a problem.

Following the changes in the Companies Act that came into force in October 2008, EMMAN articles of association were revised in March 2009.

Ian Griffiths
EMMAN