

AbMAN Report

The core of AbMAN has now been stable for some months. We have been using the test netsight-2 and will be among the first to migrate to the real one shortly. We are seriously considering Stealthwatch for traffic profiling in the RN and sites via Netflow. Other issues are that we have received a valuation for fibre rating and at the moment AbMAN Ltd is not being given any discount; also we are considering the migration from RPAN to JPA and the impact on our procedures and Operating Agent contracts.

John Linn

NWMAN report to UKMMG.
April 2008

Logicalis have completed the first stage of backbone improvements and are turning their attention to migrating HE and FE institutions to direct connections to PSBA routers and installing CPE routers as the demarcation point between PSBA and a customer's network.

For the five sites previously connected to LLN via BT circuits provided by Logicalis, all they need is the CPE router. Where sites are connected by a rented circuit direct from BT or via C&W, new circuits are being installed. The two sites connected by private fibre will remain on fibre, but the MAN end will be moved to the adjacent PSBA core router and an agreement drawn up between Bangor University and Logicalis for the use of the fibre. Finally, Bangor University and NEWI, which are co-located with PSBA backbone routers, will not receive Logicalis CPE, but will retain the NWMAN backbone router as their edge router.

Three sites will be receiving service via LLU circuits from the local telephone exchange. Logicalis are partnering with Udata to unbundle exchanges and install LLU equipment. This technology was initially viewed with suspicion, but after some investigation has been accepted as a viable way of connecting remote sites.

Logicalis were planning to install CPE and migrate most sites during April. However, at the time of writing they have had limited success and it is likely that this will spread into May with the final LLU site unlikely to be connected until early September. The second phase of PSBA backbone upgrades is under way and most links will be upgraded to 2.5Gbps WaveStream in September.

Planning for a new management structure for Wales is progressing and it is still NWMAN's intention that our RPAN contract will terminate at the end of September.

David Stedham. NWMAN.

SWERN – April '08

Upgrade of the RNEP connections to 10 Gbps

Having completed the upgrade of our two RNEP routers to support 10Gbps POS interfaces and also the bandwidth of our two cross Bristol circuits, we are now ready to receive 10Gbps from JANET(UK) at our two Bristol RNEP sites. Verizon have also upgraded their equipment at Clifton so we are ready to proceed there, however we are advised that additional work is required before Verizon will be able to deliver 10Gbps to Frenchay.

Support for IPv6 Multicast on Cisco 7600/6500 range routers

Following a meeting with Cisco at Networkshop, we have requested them to let us have a clear indication (preferably a date) when we may expect a release of software for their 7600 and 6500 range routers, that will include support for IPv6 multicast.

JPA

We have signed an agreement with Logicalis to cover out-of-hours network support, and have also reissued updated PoP contracts, reflecting the JPA requirements, to all our PoP sites. We are currently awaiting confirmation that the changes made to the terms are acceptable to all sites.

Backup Circuits

A growing number of connected institutions have or are in the process of installing backup circuits to the adjacent SWERN PoP in their locality. Up to now automated failover to these, in the event of an outage on their primary circuit, has been implemented as a bespoke arrangement between the site and SWERN. However we have now agreed a general connection methodology (which may nevertheless require a degree of variation to suit different types of site equipment and LAN topology) and, will in the forthcoming period, use this to connect a number of sites.

Swindon PoP

University of Bath have advised us that they are closing their Oakfield Campus at the end of July '08. We have therefore had to make alternative provision for the two college sites in Swindon. In this connection we have recently placed an order with Thus for a circuit with a 100Mb/s tail to each college, aggregated over their National Ethernet infrastructure, and presented on single 100Mb/s tail at Clifton Bristol.

Equipment Disposal

We are in the process of disposing of a considerable amount equipment, which has accumulated over the last few years but is now either out-of-date and/or no longer in use.

Andy Mason

Report from LMN to UKMANS January 2008

Progress on LMN3 Procurement

LMN continues to install LMN3 with around 85% of new circuits (1Gbps and 100Mbps primary with resilience connections) now delivered to our HEs.

LMN is currently procuring the Operation, Management and Maintenance contract. We have produced a framework agreement with JANET(UK) which other RNOs and broadband consortia can call-off if they choose. The framework includes the following options:

1. Network Maintenance only
2. Management and operation only
3. Both 1. and 2.

The framework has been produced to meet all the requirements of the new JPA.

LMN will conduct a mini-competition amongst the chosen suppliers for option 3.

LMN is still considering the approach we will use to the recently announced FE upgrade programme to 100Mbps, with installation costs funded by the LSC. LMN hopes to offer resilience connections to our FEs at low cost.

Business Development Activities

1. Timetable of events

| | | | |
|----------------------|-------------|--------------|-------------|
| Wednesday | 30th | April | 2008 |
| Web 2.0 Technologies | | | |

2. Service Adoption

2.1 Offsite Back up with InTechnology

23 institutions now use these services many of which have now been consolidated producing less total institutions, but more services. The turnover for these services exceeds £1.5 million/annum.

2.2 E-mail Filtering with Message labs

21 institutions use this service. The turnover for these service exceeded £1 million/annum.

3. New Services

3.1 Transit of JANET to halls of residence managed service

LMN has now closed a deal with keycom/Catalyst Ltd to deliver managed student internet services to halls of residence. The first circuit is on order for the Harrow Halls of residence for University of Westminster.

3.2 Inuk IP TV

LMN is still finalizing contracts with Inuk who already deliver IP TV over JANET. Again we are close to a deal but at this stage this remains commercial in confidence.

3.3 Disposal of IT equipment to meet WEEE directive

LMN secured highly discounted service for secure and green disposal of IT equipment with eol IT services that:

- Complies with WEEE directive legislation-Provides fully integrated managed 27x4 service
- Offers savings of around 20% for LMN members via the unique LMN business model
- Eliminates concerns surrounding data security by using state of the art software (Blancco) to ensure complete eradication of data.

3.4

ISP

Connectivity

LMN has chosen Verizon to provide JANET-independent internet services.

LMN will offer 35% discount on ISP connectivity for the LMN community institutions internet cafés and recreational areas.

3.5 Cisco Certified Training

LMN is offering our member up to 80% discount on the following Cisco training to our members:

ICND1

ICND2

BSCI

BGP

We are using the world wide company Fast Lane.

Pete White

LeNSE

The new LeNSE2 core/HEI network continues to operate exceptionally well without incident. The only incidents are occasional BT circuit breaks to FEI sites, which (of course) tend to take longer to fix; however overall, the number of BT circuit related incidents has fallen since last year.

JANET(UK) has requested LeNSE to perform at least 21 FE college 100Mbps upgrades this summer. A number of FE sites are already connected at 100Mbps and we're waiting for several others to decide.

LeNSE signed the JPA in January. Our main uncertainty is trying to gauge the extra staff resources that may be necessary to support the JDT requirements of the new contract.

We have no other issues at this stage to report.

Mike Byrne

Net North West Report

LSC Funded Upgrades

The costs for upgrading all our FE Colleges to 100 Mbps have been passed to the FE Colleges by JANET(UK). In the case of NNW this will involve new physical circuits to 39 colleges and bandwidth upgrades to another 3. Of the 62 FE Colleges connected by NNW 19 are already at 100 Mbps.

So far 21 colleges have requested upgrades and JANET(UK) are yet to hear from the other 21.

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 almost complete. Orders for 16 new 100 Mbps and 1 Gbps links were placed with a target date of service by the start of the 2007/8 academic year. Due to the usual Telco issues - wayleave, capacity, distance etc, none of these were delivered on time.

Thus/BT have now delivered all the circuits that BT were prepared to provide and all the new links are in operation. We have had issues with BT reporting that links with physical distances of less than 30 km were outside the range (70 km) of their products! The latest of these had BT making the on fibre distance 117 km for a link with a radial distance of 30 km and a road distance of 42 km.

JPA

NNW signed the JPA on 22-Jan-2008.

SuperJANET5 Exploitation

All eleven new Cisco 6500s being deployed across the region are operational and members have introduced BGP between their networks and NNW to take advantage of the dual links all the HEIs have to NNW.

Planned and live 'tests' of our resilience, caused by Verizon losing the RNEP-1 link to planned maintenance by their Telco, showed that the IP resilience happened as planned but that there were capacity issues between RNEP-1 and RNEP-2. A dark fibre link between RNEP-1 and RNEP-2 has been procured and is operating as a grey-light 10 Gbps Ethernet link. The link is some 79 km on the fibre but has worked without dropping any packets using ZR Xenpaks.

We are shortly to test the same ZR Xenpaks on our Manchester - Liverpool dark fibre. The distance is some 100 km but the measured dB losses are very similar to those on the Manchester - Preston link so we are hopeful that this may also work at 10 Gbps.

We are in the process of procuring the final dark fibre links required to move all our core network to (multiple) 10 Gbps. As those of you who were at Networkshop will have heard the major issue is the convoluted routes taken by telcos so that for example the on-fibre distance from Liverpool to Preston is 126 km, when the road distance is only 47 km. Discussions are also underway about upgrading our Merseyside Ring and G-MING in Manchester to 10 Gbps.

Netsight is showing peaks on our link to JANET of around 4 Gbps so it may not be too long before we need to consider 2 * 10 Gbps from each RNEP.

We are holding a workshop with BTiNet next month 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

e-Research Network

Plans to deploy dark fibre to allow an e-Science network to operate between Manchester, Liverpool, Daresbury and Jodrell Bank are progressing well. All the necessary dark fibre has been obtained.

A single 10 Gbps link between Manchester and Daresbury is operational. It proved much more complex to bring 10 Gbps wavelengths into service compared to 1 Gbps. We had extensive discussions with our supplier, Transmode, about power levels, amplification, attenuation etc.

A 10 Gbps link between Manchester and Jodrell Bank will become operational this week.

Discussions with the NW Grid to build a 10 Gbps network (they already have 1 Gbps between their nodes in Liverpool, Manchester Daresbury and Lancaster) have started.

The procurement document for the optical equipment to drive the network at (multiple) 10 Gbps is expected to be issued shortly.

Tim Robinson

NIRAN Report

SuperJANET5 Links Outages

The Warrington NIRAN-JANET circuit failed (again after 15th January outage) on 24th January 2008 due to a damaged cable in the Irish Sea, this was not repaired until the 9th February 2008. NIRAN suffered no loss of connectivity as the backup circuit to Glasgow automatically took over. The NMA would like to express its concern at the length of time it took Verizon to repair the Warrington circuit, this left NIRAN in a vulnerable position during the 16 days it took to repair the damaged cable.

The NMA would like to express its concern again, that after the Warrington circuit was restored on the 9th February, after an outage of 16 days, the circuit to Glasgow failed on 10th March. This secondary NIRAN SJ5 circuit was restored as of 14th April, which currently leaves NIRAN, again in a vulnerable position. The problem with the Glasgow circuit was a damaged cable in the Irish Sea, similar to the Warrington outage in January/February. NIRAN will be seeking a third resilient route in NIRAN-2.

SuperJANET5

The NMA has started negotiations with JANET(UK) to coordinate the move of one of the NIRAN Entry Points (EP), from the QUB Administration contingency computer lab, to the QUB New Library. However this project has been put on hold until the Glasgow circuit has been restored and both SJ5 circuits are stable. This move will give NIRAN a more resilient service once completed, but NIRAN is now minded to wait until late June or early July to move the circuit.

Belfast Netsight

The NMA has updated the Belfast Netsight system to reflect recent circuit additions and enhancements that have been requested by NIRAN. The rollout of a new JANET (UK) Netsight-2 system is planned for the second quarter of 2008. The current plan is that all Netsight end users will be using the new system by end July 2008.

Circuit Additions

NIRAN has been talking to the NI Councils sector who are interested in connecting to JANET-Internet. North Down Borough Council was added to NIRAN in December 2007 and Alta-Systems was added in March 2008. Derry City Council is to be connected to NIRAN his week.

NIRAN Awareness Day

In advance of the imminent reprocurement of NIRAN, an Awareness event was arranged in Belfast. A wide number of eligible new connectees in the public sector were invited to the event. In total, forty five delegates attended the event. Thus far, three more NI Councils have requested to join NIRAN-JANET.

EMMAN Report

Circuit Enhancements

In December JANET(UK) agreed to a proposal to upgrade all the FE Colleges in the region to 100meg. Because of the topology of the EMMAN backbone this is cost neutral in terms of ongoing costs. All but five have now been installed. The project has also included the expansion of the three PoPs based within hospitals.

Commercial activities

The commercial pipe is now used by three of the Universities.

The planned project with EMBC/Synetrix has fallen through.

We are partly through a request from JANET(UK) to provide service to a commercial hall of residence in Nottingham. The administration has not gone through smoothly.

Outages

There has been issues with failures on the SJ5 link to RNEP2 due to malicious damage in the Milton Keynes area. We've also had issues with a 256k link to a specialist college that had previously been down for 8 days in May 2007.

JPA

EMMAN signed the JPA agreement in January.

Other Activities

Out of band access is being implemented in all the non-university sites.

Management software is being purchased to manage, monitor and notify. This is to increase functionality and to replace a number of diverse systems currently in place.

Handbooks have been produced for each end site and for each PoP.

The business risks of the company have been reviewed and the risk register is currently being updated.

A project to look at fibre diversity including fibres to the RNEPs has shown a number of possible issues.

Shared Service

EMMAN has been undertaking a feasibility study under the HEFCE initiative on the provision of a network anomaly service for the region. The study is just about to report and we'll be requesting further funds from HEFCE for a pilot service from 2008/9. All the Universities in the region have signalled their support to the project.

Management Audit

The PKF/JANET(UK) audit took place on 20 March.

Ian Griffiths
Executive Director of EMMAN

YHMAN Core/Backbone

YHMAN comprises four rings each linking two city PoPs to the two RNEPs:
RNEP1(Leeds) - Bradford - Huddersfield - RNEP2 (LeedsMet);
RNEP1 - Leeds - LeedsMet - RNEP2;
RNEP1 - Sheffield - SheffieldHallam - RNEP2;
RNEP1 - York - Hull - RNEP2.

Over the past period, YHMAN has added second physically separate PoPs to provide dual resilient city PoPs, resulting in the revised four ring topology:

RNEP1 - Bradford1 - Bradford2 - Huddersfield2 - Huddersfield1 - RNEP2;
RNEP1 - Leeds1 - Leeds2 - LeedsMet2 - LeedsMet1 - RNEP2;
RNEP1 - Sheffield1 - Sheffield2 - SheffieldHallam2 - SheffieldHallam1 - RNEP2;
RNEP1 - York1 - <York2 (pending new build, 2009) - Hull2 - Hull1 - RNEP2.

This has involved some dark-fibre moves and changes and the lease of new dark-fibre. We now have two suppliers of leased dark-fibre.

YHMAN is offering dual BGP connection to university campus networks and to FE were a second physically separate 'protected' access circuit is purchased.

YHMAN is now lights second wavelengths to provide additional production IP bandwidth, JANET Lightpath and peer-to-peer institution backup across the core/backbone.

FE

All FE have been offered upgrade to 100M Ethernet.

Data Centre

YHMAN is investigating the establishment of a shared data centre service for the Region and beyond....

Ed Carter

FaTMAN

Our main preoccupation for FaTMAN continues to be various procurements along with the JPA, training our new FaTMAN Administrator and the JANET audit round.

Procurements:

1. H2O procurement for fibre cable to St Andrews and Abertay (not enough sewers so most of the route is by slot cut along roads). It is approx 1 year in the delivery but I hope for delivery soon because I have seen the slots with my own eyes (though not the sewers).
2. FE re-procurement. Thus won most circuits (continuation) but ntl:telewest offered dark fibre on our longest link which will enable improved routing configs. All connections FE continue to be at 100Mbps or above.
3. WDM procurement is in progress for the Kirkcaldy link (seems likely to be passive CWDM for 4 x 1Gbps)
4. WDM procurement will be required to deliver JANET Lightpath services to St Andrews (requires DWDM for n x 1Gbps and m x 10Gbps)

Mike Whitehead

WNL Report for UKMANs meeting 22nd April 2008

Sites on the North and South Wales MAN have finally begun the process of migrating over onto the PSBA proper. This stage of the project began on 9th April and will continue until the middle of September, although the majority of the migrations will be carried out in late April and throughout May. Most of the HE/FE sites that connect onto the PSBA core will continue to use BT short-haul data services (EES or WEES at 10 or 100Mbps) circuits, and BT have generally managed to deliver new circuits on time, although most ran to the day of the 60-working day lead time for handover!

The PSBA topology provides a CPE (Customer Premise Equipment) router at each site. This is the demarcation point of the PSBA, and allows Logicalis to provide a fully managed service to each institution/organisation. Two colleges have migrated over successfully to date; one went very smoothly whilst the second was aborted due to the Logicalis engineer experiencing significant hardware issues with the CPE router. Following on from this, Logicalis have incorporated 'lessons learnt' into the project planning of future cutovers, and we anticipate that such problems should not occur again.

Generally migrations scheduled for July, August and September will be for institutions receiving PSBA connectivity services using bonded SDSL lines back to their serving BT exchange. Logicalis are unbundling over 150 exchanges across the principality in order to provide a wider footprint for PSBA and are partnering with Updata for this stage of this process. Logicalis/Updata will be using Actelis equipment in the exchanges, and are confident of delivering at least 20Mbps to a small number of HE/FE institutions, although the majority of sites that will receive PSBA services from an unbundled exchange are the 660+ GP surgeries across Wales.

The seven HE institutions providing hosting for the core-PoP routers have been surveyed by Logicalis and the Welsh Assembly Government (WAG) security officers in order to assess the suitability of the hosting environments. Whilst we are yet to receive the formal reports of the security surveys, it is generally believed that only a small amount of work will be required within each server room to secure the PSBA routing and transmission platforms, and allow the necessary accreditation for GCSx traffic (to Impact Level 2).

On an operational basis, Logicalis are now beginning to handle calls, including network monitoring and reporting from their Welsh Service Desk based in their offices at Nantgarw (just North of Cardiff). However the SWMAN Managing Agent are continuing to perform all of the RPAN reporting duties, as new employees on the Logicalis service desk are still receiving training and we anticipate that the Managing Agent may need to continue reporting to JANET until the end of July.

The Welsh Assembly Government will sign a bespoke JANET Partner Agreement on behalf of the HE and FE sector, and whilst this has progressed it is our understanding that final sign-off has not yet been approved.

In terms of reliability of the network, and in consideration of the changes that Logicalis are making upon the PSBA core, the service has generally been very good. However, we are aware of a number of outages in February and March on the backup link between RNEP2 and Bristol which have now been resolved. As these problems are on equipment managed by JANET, detailed notes are not available, although it is believed that JANET have swapped out cards on the Cienna 4200 equipment at RNEP2, and also on the corresponding equipment at Bristol.

Chris Price
WNL