

Reports from Regional Networks for UKMMG Meeting of 17 January 2008

SWERN: Andy Mason

Regional backbone bandwidth increases

The majority of the SWERN backbone bandwidth increases are now complete, although we are still waiting a planned upgrade of two of our circuits to be delivered by the supplier. Apart from the loop through Somerset, which now operates at 200Mb/s, SWERN's backbone circuits now operate at 1 Gbps.

Upgrade of the RNEP connections to 10 Gbps

We are now ready to proceed with the upgrade of our RNEP routers and the upgrade of the connecting bandwidth to 10 Gbps, and are planning to do so during 1st quarter '08.

JPA

Extended Hours Cover

Ahead of making final recommendations to our Board, we are currently making detailed enquiries with suppliers who may be able to supply the required extended hours cover and with our PoP managers regarding access out of working hours.

FE Upgrades

We have provided JANET(UK) with costs of upgrading FE circuits to 100Mb/s

WNL: Chris Price

UKMMG members will be aware that following a lengthy procurement and evaluation, the contract for the delivery of an All-Wales Public Sector Network was awarded to Logicalis on 3rd September 2007. The exchange of contracts has meant that the Public Sector Broadband Aggregation (PSBA) project has now progressed to the next phase – that of implementation and rollout.

The new network will expand upon the existing resilient ring-design of the Lifelong Learning Network, with core bandwidth initially increasing to 2.5Gbps by August 2008. Traffic separation between the 3 initial stakeholder sectors (HE/FE, NHS and Local Government) will be provided via MPLS which is a CESG approved method of achieving the required segregation between sectors. This separability is an essential requirement in the event of the WAG becoming a service-user as they require the capability to send encrypted traffic marked as `restricted` (Impact level 3) over the same physical infrastructure as other users.

During October, the 8 existing core LLN routers which are Cisco 12000 series GSR platforms (and based in Higher Education institutions) were upgraded with new PRP-2 cards, additional memory and a version of IOS that provides additional functionality (such as IPv6, MPLS and QoS). These upgrades were carried out over three consecutive Tuesday morning At-Risk periods with less than 20-minutes downtime per core-router.

In consideration of the geography/demography of Wales, 21 of the 22 Unitary Authority civic centre offices will be used as Network Access Points (NAPs) to provide local network aggregation capabilities. Consequently Unitary Authorities have received new Cisco 7609 routing platforms which offer a high-port density, vastly improved backplane performance and appropriate redundant power supplies in comparison to the 7206 routers which previously provided Unitary Authorities with access to the LLN. Logicalis have now successfully deployed and cutover 19 of the 21 NAP routers during November, with only two Unitary Authority sites awaiting upgrades to their mains supply in order to accommodate the increased power requirements of the Cisco 7609's.

During the tail-end of November, thorough testing was carried out to ensure that Logicalis had met the first milestone deliverables laid out within the contract. These tests included completing upgrades to existing physical routing platforms, providing improved Out-of-Band access management and UPS monitoring, and the configuration of MPLS and QoS upon the network. All stakeholder sectors were party to the Milestone 1 testing procedures, with virtually all deliverables being met. There is still some work to be carried out on achieving multicast between separate MPLS Virtual Route Forwarder layers, and in-depth testing of QoS upon the live network and this will be carried out early in Q2 2008. It is important to note that the HE/FE sector will not sit within an MPLS layer (partly because of the known issues with multicast over MPLS), but will remain within a standard BGP-IP layer. Multicast was already provided as part of the LLN, and continues to function within the BGP layer with no discernible problems. Likewise, whilst a 'vanilla' six-class QoS configuration is enabled, all packets at present are treated equally, with no markup or prioritisation of data. An initial QoS policy is yet to be defined for all sectors, and this work will be carried out by a dedicated QoS working group, which will be a sub-group of the multi-sector Technical Design Authority group.

December saw confirmation of the initial order of access-links to connect the HE/FE sites previously served by the North and South Wales MANs onto the AWPSN. For several institutions this should not mean any change to their connectivity, but for others the topology of the network should make it possible to link many MAN sites into their nearest NAP, reducing the length (and cost) of circuits which previously ran back to the nearest core-PoP site. This exercise required significant benchmarking to ensure that data circuits between the core-PoPs to the NAPs did not become over-contended. Logicalis are also planning to make significant use of Local Loop Unbundling technologies to reduce costs of connectivity services and establish a wide footprint across Wales.

It is anticipated that February and March will see significant activity to project plan the migration of all MAN sites onto the AWPSN proper with the aim that all MAN routers and links will be decommissioned by the end of April 2008 (although to safeguard against delays in commissioning new BT circuits, our planning will need to allow for a period of dual-running).

The increased security requirements placed upon the network will also mean that hosting of the core-PoP and NAP routers will need review. Representatives from the HE institutions that host core-PoP routers have already met with Logicalis and the PSBA Project Team in the first of many meetings to ensure that core-PoP hosting facilities will meet the necessary access and security requirements for all sectors. All core-PoP and NAP sites will need to be visited by a CLAS (CESG Listed Adviser Scheme) approved auditor and it is expected that most sites will require modifications and improvements to server/comms facilities in order to achieve the defined standards.

On the Governance and Operational Management front, a number of inaugural meetings have already been held to discuss issues such as public IP addressing schemas (including IPv6), and sub-groups setup to look at QoS policies and capacity management, change advisory and management, and cross sector communications. However, there is still some way to go before the Strategy, Management and Operational Delivery structures are fully populated with representatives from all sectors.

LMN: Pete White

Progress on LMN3 Procurement

LMN continues to install LMN3 with around 35% 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 are past the PQQ stage and await responses to the issued ITT.

LMN is also 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 23rd January 2008	Annual General Meeting
Thursday 28th February 2008	LMN Services Event
To be announced	Issues surrounding VoIP, Green IT

2. Service Adoption

2.1 Offsite Back up with InTechnology

21 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

19 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.

NIRAN: Chris Kelly

Incidents: October – December 2007

The NMA has endeavoured to maintain the previous high levels of service for the NIRAN community over the reporting period October to December 2007. Eleven network incidents were reported during this three month period, of which none were network related faults. The remainder comprised unscheduled site power outages and scheduled maintenance/upgrade events.

Total Incidents for 3 months	Scheduled maintenance	Unscheduled local power outages	Network faults
11	6	5	0

The NMA has also been consolidating and taking stock after a number of significant developments and upgrades, in particular, the QUB New Library relocation project and a number of circuit upgrades to accommodate the FE mergers.

Management

NIRAN has been discussing with its Network Management Agent (Queens University Belfast) the issues and challenges that the new JPA contract raises. NIRAN and QUB are now confident that they can meet the new service levels that the JPA contract requires.

Developments*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. This move will give NIRAN a more resilient service.

Belfast Netsight

QUB has updated the Belfast Netsight system to reflect the recent circuit upgrades that have taken place. The NMA would also like to ask the community to check their site traffic on Netsight; unusual traffic patterns originating from some sites have been noted and this may be due to compromised machines on their network. The NMA is also in communication with JANET to move the Belfast Netsight system to the New Library Building; this may result in some downtime for Netsight.

NI Local Government

After much engagement with the NI local government sector, two local councils, North Down and Derry City Councils have opted to join JANET and NIRAN. North Down is now connected via a 10M circuit and the Derry City link is on order. This is an interesting development in NI as the Local Government sector was recently omitted from a recent NI-wide Civil Service network procurement. Talks are on-going between NIRAN and a larger "pilot-group" of NI Councils.