RN Plans for Distribution of SJ5 Special-Purpose Bandwidth
June 2006

SWERN: given our current understanding of the delivery of special bandwidth from SJ5, we would expect to distribute *via* VLANs to any of our 10 PoPs. Additional transit bandwidth could be provisioned under our contracts with telcos if required, though SWERN would not expect to meet the cost of this. Delivery from PoP to client site would be considered on a case-by-case basis.

LenSE: not able to specific how we might distribute any SJ5 special bandwidth services, but obviously hope to procure the most appropriate means to do so with the procurement.

SWMAN: not in a position to respond to your question about Special Purpose Bandwidths within Wales. This will be built into the planning for the replacement for the WAG's LLNW. We cannot do much while we run with our existing SWMAN network except in Cardiff, the location of the RNEPs.

MidMAN: the four bullet points below give MidMAN's understanding of its discussion with UKERNA regarding SPBC deployment within a regional network. This was discussed circa January / February of this year.

MidMAN's UNDERSTANDING

General:

¨ UK Light will migrate into SuperJANET5.

Within MidMAN:

¨ Initially, UK Light will continue / migrate to SJ5 at the Birmingham RNEP. Nothing else will be enabled within MidMAN.
¨ When the need established at Warwick and agreed by UKERNA, then UKERNA / MidMAN will enable SPBC at the Warwick RNEP for Warwick use. Warwick will be responsible for onward transmission from the Warwick RNEP to the building / department in Warwick for which the SPBC is provided.
¨ When need established at an intermediate located HEI and agreed by UKERNA, then UKERNA and MidMAN will work together to get SPBC across (how this is achieved is an open question) the

relevant part of the regional network. The HEI will be responsible for onward transmission from the entry point for the regional fibre at the HEI to the building / department in the HEI for which SPBC is provided.

TECHNICAL DEPLOYMENT

¨ In the short tern, it is anticipated that any required SPBC across the internal regional network will be enabled via an MPLS tunnel
¨ In the longer term, who knows?

FaTMAN: the HE connections for FaTMAN are all based on open fibre. We therefore have two attractive options for distributing any special purpose bandwidth. Some routes have a spare pair of fibres which could be dedicated to this purpose. Otherwise would would use WDM to build the necessary capacity.

EaStMAN: The necessary equipment, technical requirements and funding arrangements required for transit of managed bandwidth services are not yet clear, for example, the forwarding/switching of 'colours' natively or by use of transponders, will change the detail on what will be done. However, EaStMAN will offer two modes of bandwidth distribution, depending on requirements and availability:

Since the city core of EaStMAN is fibre based, we have the option to deploy WDM or diplexers to provide point to point bandwidth from RNEP1 (the SJ5 point of managed bandwidth delivery) to the PoPs. In addition, it is in next year's plan is to increase the core ring and spoke bandwidth to 10Gbps in order to provide capacity for resilient distribution of managed bandwidth, whether it arrives via a bespoke connection (like UKlight or SJ5 colours) or via SJ5 itself.

We do envisage issues with remote sites which are not fibre based – such as the University of Stirling - at this time it shares two POS links with FE and UKERNA nominated organisations. It is not clear yet how to acquire the right kind of infrastructure to provide high and partitioned bandwidth to such sites remote from the core. Our attempts to acquire fibre or cost-effective Gbps bandwidth have so far been unsuccessful.

ClydeNET: We are looking at making use of some spare fibre links and also using CWDM for some projects.

AbMAN: Only two of the connections to AbMAN have not dark fibre available for SPB as these are currently connected by serial links due to their geographic location.