

NOC Manager's Report – Kent MAN Ltd Board meeting 21/01/2004

Dates covered: 01/09/2003 to 31/12/2003

Summary

The most significant traffic affecting events of the last four months are virus problems at South Kent and Mid Kent Colleges and power failures during the Christmas break. A power supply fault at Tunbridge Wells caused 6.5 hours outage for the Salomons Centre. A Gigabit Ethernet interface in the MAN router at UoG failed on Wed 22/10/2003 at 09:02, which dropped the Kentish MAN connection to the SJ4 BAR¹. Investigation showed this to be a hardware fault. A member of NOC staff drove to site and swapped the SJ4 connection to the UoG interface by 12:00 – thus restoring connectivity for the whole MAN except UoG (thank you to UoG for their understanding), the hardware replacement was installed by 16:45.

Over the Christmas break two significant events caused the loss of several days of connection for a number of sites. On Christmas Day a power cut of quite a short duration at Kent University caused a problem with the air conditioning in the machine room that then led to a temperature cutout activating. The on-call NOC member of staff diagnosed the basic lack of power to the routers at University of Kent on Boxing Day but site power is beyond the NOC's control or authority. Later the same day a member of Kent University's computing staff contacted him. Kent University's computing staff resolved the problem on 27/12/2003. On Sunday 28/12/2003 Bluebell Hill lost power and the radio UPS² expired later that evening. On the Monday the on-call NOC member of staff discovered the problem during routine checks and then went to site. He found NTL and BT staff trying to restore power, after several hours they still had not restored power when our NOC member of staff discovered a circuit breaker that had tripped out – he restored power to the site.

A considerable amount of effort has gone into achieving a relatively simple IOS upgrade on all the MAN routers. Basically Telindus engineers have failed in one-way or another on three occasions. The NOC manager had a meeting with Stephen Revie (Telindus Account Manager), Amanda Lopez (Telindus Customer Care Manager) and John Skelton (Telindus Customer Services Director) who agreed that the process should have been handled better and that Telindus were reviewing their procedures. In future the NOC will alert Mr Revie when such work is required and Telindus will make an assessment to whether a 'mini' Project Manager needs to be appointed, though this is not within the contract that we have, thus the NOC will assess the costs and relative merits on a case by case basis. It should be noted that a previous IOS upgrade by Telindus of this nature about a year ago went smoothly, but in this case Telindus staff acted beyond the terms of the contract.

RAFT are making slow progress in installing the mod'ed rf-units³ as agreed with DMC-Stratex. The main reason for the delay is the DMC-Stratex failure to turn around the 26GHz units so that the one upgrade per week rate can be sustained. They have swapped 10 links so far, the three remaining are (all 26GHz):

Beacon Hill – UoG Medway (v) Beacon Hill – UoG Medway (h)
Stockers – Chartham Hatch

¹ SJ4 BAR – SuperJANET4 Backbone Access Router.

² ups – Uninterruptible Power Supply

³ rf-unit – Radio Frequency Unit, situated in the Out Door Unit (ODU) at the antenna.

RAFT are pressing DMC-Stratex. The NOC has some reservations given that a replaced rf-unit at Bluebell Hill failed within a week (9/9/2003 install, failed 15/9/2003), this event also cost Kent MAN Ltd ~£1000 for an emergency climb at Bluebell Hill (an NTL site). DMC-Stratex did not return the failed rf-unit for more than a month, which impacts on Kent MAN's spares holding. Further more DMC-Stratex had promised to 'loan' RAFT a pair of 26GHz rf-units to provide a higher level of spares holding – this has not been provided. RAFT have completed the software upgrades on all the Altium radios. The software upgrade did not bring any improvement to the BH-Fav-UKC link, which continued to show many errors until it had its rf-units replaced with the new mod version, since when there have been virtually no errors. Vodafone have changed their site access procedures and now require five working days notice – the MAN uses only one Vodafone site, Stockers (aka Charing Hill), which is not a single point of failure and so hopefully the change in access procedures will not be too serious. RAFT re-panned the antennas on the Beacon Hill to Bluebell Hill link, the rssi⁴ showed significant improvement, this was a hangover from the antenna move at Beacon Hill in July 2003.

Following BT's problems with installing ISDN lines at CCCUC the out-of-band routers have been installed into CCCUC, UKC, UoG, Beacon Hill, Bluebell Hill and IC-Wye. All the 'b ends' are planned to have their out-of-band by Easter, BT permitting. BT's initial survey for the SHDS LES155b circuit from UoG-M to Bluebell Hill failed to reveal a number of key problems with their fibres into UoG-M that caused several delays. Thank you to UoG for the assistance and co-operation. The NOC commissioned this circuit on Tue 11/11/2003.

Completed Scheduled Work

- Implement Out-of-band at Kentish MAN core sites.
- IOS upgrade, CERT alert related.
- Implement "ip verify unicast reverse-path".
- Implement route to null for RFC1918 destination addresses.
- Install new Altium s/w.
- Install modded rf-units – partial.
- Commission LES 155B circuit.
- Complete route to null for RFC1918 destination addresses.
- Complete "ip verify unicast reverse-path".
- Dedicated UPS installed at IC-Wye.

Future

- Implement Out-of-band at Kentish MAN edge sites.
- Complete install modded rf-units.

⁴ rssi – Received Signal Strength Indicated.

Availability

Availability for the period is within contract. September had many days of reduced reliability for some connected sites while they dealt with various virus infections (these data could be discounted but the NOC has chosen not to). The power supply at Tunbridge Wells also failed. October's main event was the Gigabit Ethernet interface failure at uog-m; its effect is mostly not seen in the statistics due to the perspective of the measuring from cccuc-c – 'chatham-bar' is a more 'true' reflection and if this figure 99.35% was used for all sites the month's availability would still be greater than 99%. Nothing of note in November. December was fine except for the power failures at Bluebell Hill and University of Kent over the Christmas closure.

(Sites below 99.0% availability are highlighted)

Month start:	Sep-03		Oct-03		Nov-03		Dec-03	
Mean overall:	99.72		99.88		99.96		98.05	
Mean edge devices:	99.63		99.89		99.95		97.53	
Site:	Scheduled		Scheduled		Scheduled		Scheduled	
	Outage ¹	Availability ²	Outage	Availability	Outage	Availability	Outage	Availability
chatham-bar	318	99.90	16	99.35	12	99.97	0	100.00
bluebell-hill	315	99.95	16	100.00	5	99.97	72	96.75
beacon-hill	315	99.95	16	99.88	5	99.95	0	99.99
ukc-cant	315	100.00	16	100.00	5	99.99	0	100.00
cccuc-c-atm	315	100.00	16	100.00	5	99.99	0	100.00
ic-wye-atm	315	100.00	16	100.00	5	99.98	0	100.00
cant-coll	319	100.00	16	99.99	5	99.98	3859	94.11
cccuc-c-b	0	100.00	0	100.00	5	100.00	0	100.00
cccuc-s-b	315	98.68	18	99.95	5	99.93	72	96.70
cccuc-t-b	506	99.96	51	100.00	382	100.00	0	100.00
hilderstone	319	100.00	16	100.00	5	99.99	326	94.57
ic-wye-b	326	100.00	16	100.00	5	99.98	0	100.00
kiad-c-b	315	99.97	1599	100.00	5	99.96	0	99.82
kiad-o-b	544	99.77	101	100.00	5	99.93	72	96.73
kiad-r-b	4100	100.00	16	99.76	5	99.87	0	99.93
mkc-m-b	315	98.50	18	99.94	25	99.88	76	96.70
south-kent-2	2332	98.82	16	100.00	5	99.98	2	94.60
thamet-coll	319	100.00	16	100.00	5	99.99	2	94.60
ukc-c-b	319	99.97	18	100.00	5	99.99	2113	99.30
ukc-m-b	335	99.74	18	99.75	25	99.88	76	96.71
ukc-s-b	315	98.72	16	99.95	5	99.93	72	96.70
uog-m-b	318	99.88	61	98.87	12	99.95	0	99.96

Notes:

1. Availability figures discount scheduled maintenance and other outages allowed by the RPAN contract.
2. Availability is measured from cccuc-c.
3. Figures highlighted by grey shading indicate those below the RPAN contract.