NHS-HE Connectivity Best Practice Working Group

Case Study: University of Manchester and CMFT

CMFT has been directly connected to the University of Manchester (UoM) since 1996. This case study discusses how UoM and CMFT cooperate to provide JANET access to University staff based on the CMFT site. The same link is used to provide controlled access to JANET for CMFT staff and to provide network access for in-patients at the CMFT Hospital School.

UoM – CMFT Connectivity Model

Central Manchester University Hospitals NHS Foundation Trust (CMFT) has been connected to the University of Manchester (UoM) by a private dark fibre since 1996. This is mainly used to allow UoM staff based in CMFT to access University facilities and JANET.

CMFT was allowed a JANET Sponsored licence from Sep-1996 to facilitate working between NHS and UoM staff. In recent years this has also been used to provide access to JANET for all CMFT staff in a highly controlled manner.

The recent changes to JANET Eligibility Policy that have come out of the Business and Community Engagement developments mean that the JANET access for CMFT staff is being reviewed. JANET sponsored licences are discontinued from 31-Jul-2012 so UoM is in discussions with CMFT and the other major teaching hospitals in Greater Manchester about alternative options for continuing their long standing cooperation.

UoM – CMFT Basic Connectivity

Figure-1: UoM – CMFT Basic Connectivity
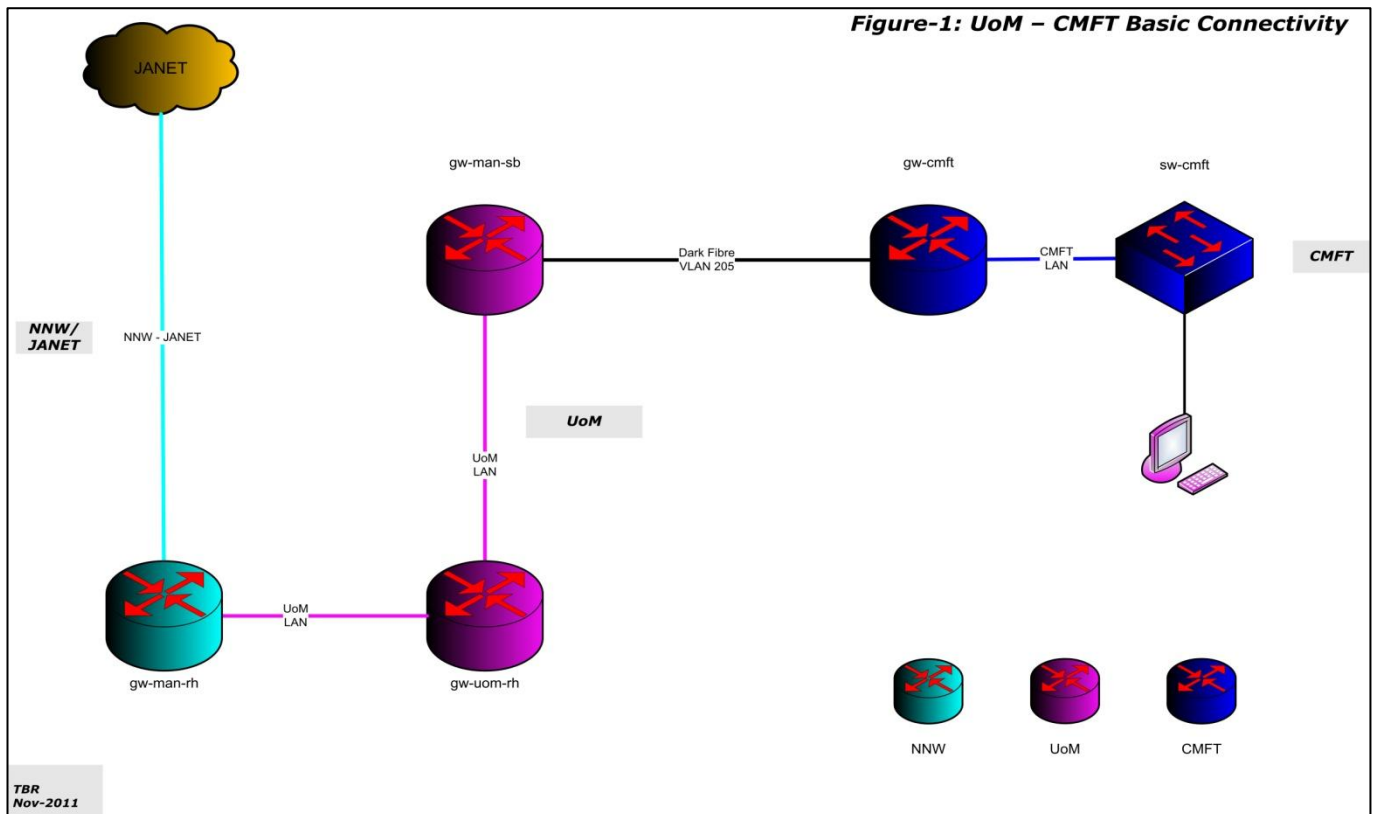
- All CMFT switches are under control of NHS staff - no University staff have any access.

- All UoM switches are under control of University staff - no NHS staff have any access

- It is felt that the level of security offered by the use of VLANs is adequate. This is discussed by Cisco in their Application Note "Virtual LAN Security Best Practices" (http://www.cisco.com/warp/public/cc/pd/si/casi/ca6000/prodlit/vlnwp_wp.pdf)

UoM Staff in CMFT

In CMFT

- The switch port is associated with the 'University VLAN' by NHS IT staff. A device is always on either the University or NHS network. Two PCs side by side on the same switch may be on either network.

On the UoM router

- The University VLAN is associated by UoM with a limited number of UoM IP numbers.

- DHCP requests from devices on the University VLAN are sent to UoM for resolution - devices therefore have UoM IP numbers

Figure-2: UoM Staff in CMFT Connectivity
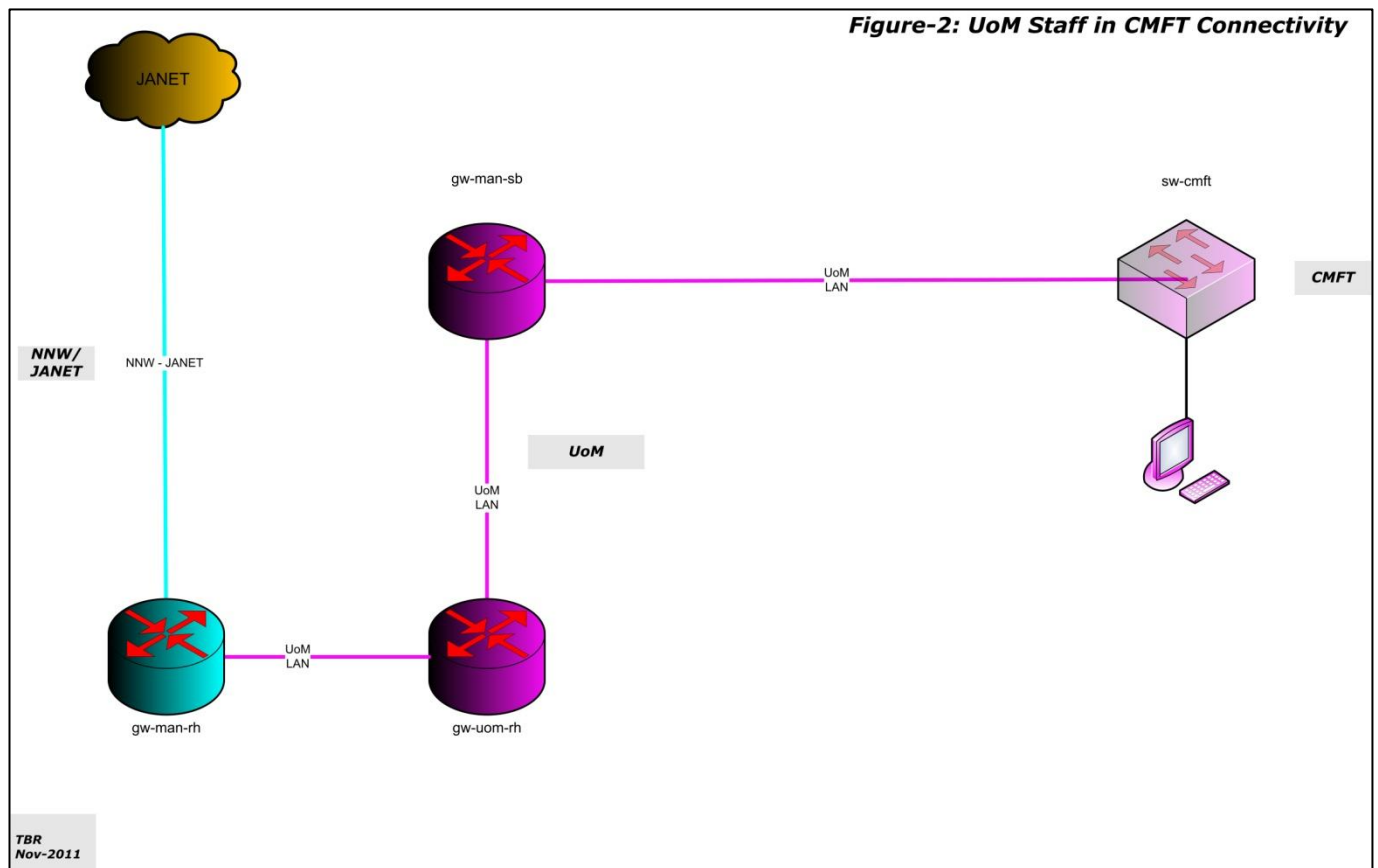
NHS Staff Access to JANET

On the CMFT router

- The University VLAN is associated by CMFT with a limited number of UoM IP numbers.

- JANET traffic from CMFT is NATed by CMFT to specific UoM IP numbers. These IP numbers are routed by UoM to the Regional Network Operator, Net North West (NNW), and then on to JANET

Figure-3: NHS Staff JANET Connectivity
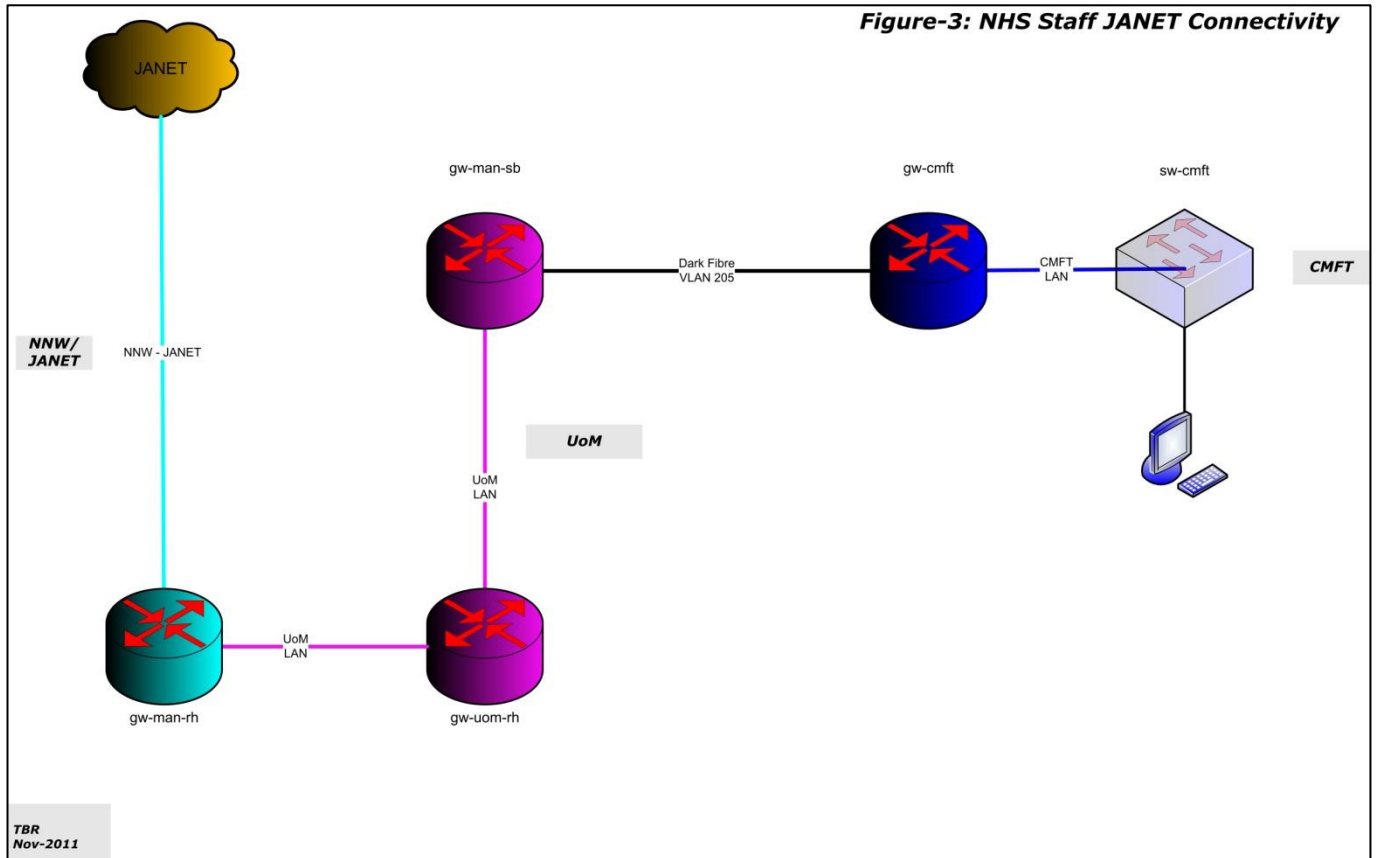
CMFT restricts the type of traffic that they will send to JANET

- Restrictions include

    - High bandwidth apps -e.g. YouTube

    - Inappropriate traffic

CMFT concerns are

- Reputation

- Protecting access to JANET by keeping bandwidth down

UoM imposes no restrictions on University VLAN traffic - only JANET AUP rules apply.

CMFT Hospital School Connectivity

There is a Manchester LEA Hospital School based in CMFT.

Manchester LEA is connected to JANET through NNW as part of the North West Learning Grid. This allowed a connectivity model to be put in place whereby the school connects to the Manchester LEA servers over the CMFT network and NNW.

The school uses its own (internal) IP numbers. These are NATed to UoM IP numbers and transmitted transparently across the CMFT network to the Manchester Education network that is directly connected to NNW. This is the same approach as taken for UoM staff based in CMFT.

Internet traffic to and from the school comes via the Manchester Education schools cache so that the necessary content controls may be put in place.

Extension to UoM – CMFT Connectivity Model

Several possible extensions to the current model have been considered

•   Provision of an NHS VLAN on the UoM campus network

•   A UoM N3 connection

> •   An NHS VLAN associates UoM devices with N3 and sends the traffic to N3 instead of JANET

> •   Security is enforced by the requirement for each port to be configured by UoM technical staff to the correct VLAN

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