# Review of the current status of implementation of TCP/IP procedures and applications at WIS centers

## Current status of implementation of the GTS circuits

Current status of GTS circuits connected with the RTH Exeter is shown in Table 1.

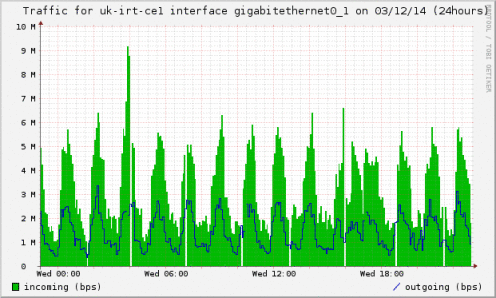
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Connection type** | **Backup** | **Centre** | **Protocol** | **Daily traffic (Tx/Rx)** |
| Internet |  | Brasilia | FTP | Under test |
|  | Dar es Salaam | FTP | Under test |
|  | Lusaka | FTP | 0.5MB |
| Megastream (100Mbps) |  | ECMWF | FTP | 3500MB / 20300MB |
| RMDCN:  Interroute MPLS  2 x 20Mbps  Platinum site |  | Brussels | FTP | 60MB / 30MB |
|  | Copenhagen | IP sockets | 105MB / 20MB |
|  | De Bilt | IP sockets | 225MB / 470MB |
|  | Dublin | FTP | 170MB / 460MB |
|  | Lisbon | FTP | 40MB / 42MB |
|  | Madrid | IP sockets & FTP | 26MB / 8MB |
| Internet | Melbourne | IP sockets & FTP | 950MB / 295MB |
| Internet | Montreal | FTP | 6500MB / 2MB |
|  | Moscow | FTP | 9100MB / 25MB |
|  | New Delhi | FTP | 572MB / 72MB |
| Internet | Offenbach | FTP | 1248MB / 10500MB |
|  | Oslo | IP sockets | 98MB / 3MB |
| Internet | Pretoria | IP sockets & FTP | 690MB / 2MB |
|  | Reykjavik | FTP | 121MB / 8MB |
| Internet | Rome | FTP | 30MB / 8MB |
|  | Tokyo | IP sockets | 1050MB / 250MB |
| Internet | Toulouse | FTP | 9300MB / 1390MB |
| Internet | Washington | IP sockets & FTP | 6000MB / 12000MB |

Table 1. Implementation status of GTS circuits connected to RTH Exeter

## Current utilisation of RMDCN circuit at Exeter

The Met Office migrated to RMDCN-NG 100Mb flex bearer provided by Interoute in Jan 2014. It is currently sized at 20Mbps.

Typical daily use, 13th March 2014:



## Internet Access

The main Internet access was upgraded in May 2013 to 1Gbps bandwidth as the costs are comparable to the previous 100Mb circuit. Currently peaking about 300Mbps and the bandwidth can be upgraded at short notice if required.

## JANET – UK Academic Network

The MO currently has a 1Gbps link to JANET, the UK academic network for research purposes only. This is currently being upgraded to provide a 10Gbps connection to the new JANET 40Gb network. The full details of how the Met Office will utilize this link are being evaluated, but it may be used to provide some element of Internet access for the Met Office.

## WIS

### Status of GISC Exeter

* Operational since June 2012.
* Offering backup of user subscriptions in co-operation with Météo-France
* GISC Cache, containing global data set
* 24hr cache ingests 330MB of data daily
* Data Discovery, Access and Retrieval service over the internet
  + Metadata catalog search facility and web interface for metadata management
  + Catalogue contains 155,000 metadata records with daily synchronization with Météo-France, DWD, JMA, BOM, KMA and ECMWF.
* Global Information System Centre (GISC)
* 9 Data Collection and Production Centres (DCPC)
  + Global Climate Observing System Lead Centre for Antarctica (BAS)
  + Global Producing Centre - Long Range Forecasts
  + Marine Observations Centre
  + Regional Specialised Met Centre – Atmospheric Transport Modelling
  + Regional Specialised Met Centre - Geographical
  + Regional Telecoms Hub (RTH)
  + Specialised Ocean/Wave Centre
  + Volcanic Ash Advisory Centre (VAAC)
  + World Area Forecast Centre (WAFC)

## Experiences with terrestrial Multicast and IPv6

Successfully took part in EUMETCAST multicast trial. This was not done over our NREN (National Research & Engineering network – JANET), as the changes required for multicast would have been disruptive to our operational link.

IPv6 – interest has increased in the UK, but our ISP is showing no signs of encouraging us to convert. We will be creating a strategy for how we deal with IPv6 – externally and internally – within the next FY. Migration to IPv6 externally is still some time away.

## Recommended Text

Met Office has a high availability Connection to RMDCN-NG. The 20Mbps bandwidth is sufficient for current traffic loads and can be easily upgraded as it is provided on a 100Mb flex circuit.

Internet access is also fully resilient and was upgraded in May 2013 to 1Gbps. It is adequate for current usage.

The Met Office’s link to JANET, the UK academic network, is being upgraded to 10Gb. Options are being investigated on how to best use this link can be utilised given certain restrictions on its use.

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