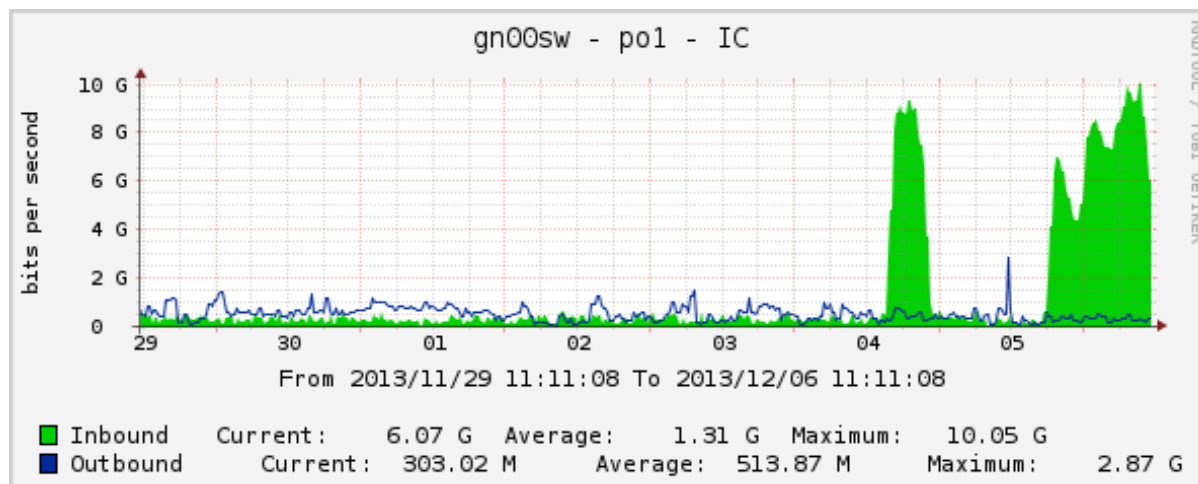


WAN testing

Duncan Rand

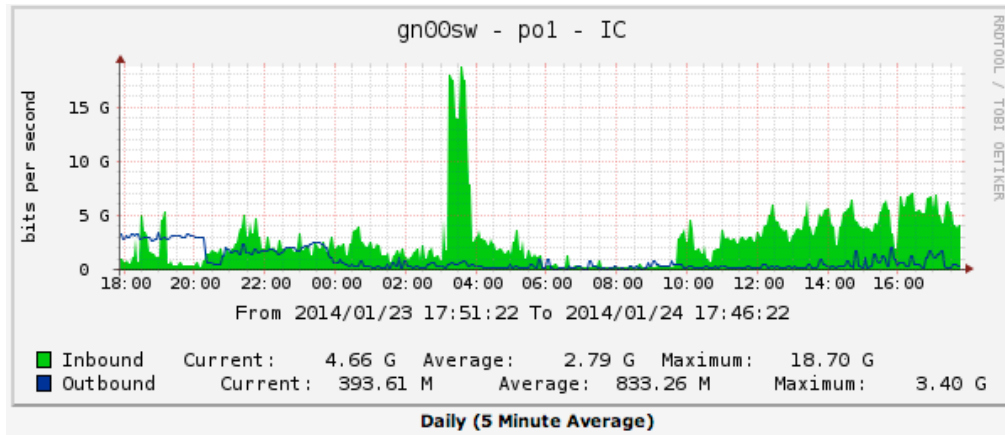
Why are we testing?

- Expecting significant use of the network in Run 2
- ATLAS: pre-placed data, dynamic data placement (pd2p) and FAX
- CMS: pre-placed data and AAA
- Remote reading of data has potential to increase use of WAN on top of existing data transfers
- For example worker nodes at Imperial reading data reading from EOS at CERN over the WAN

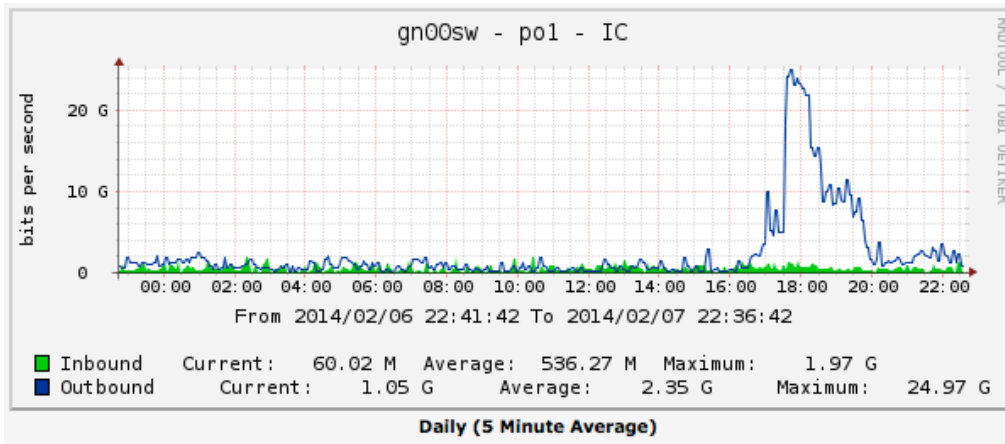


Imperial College WAN

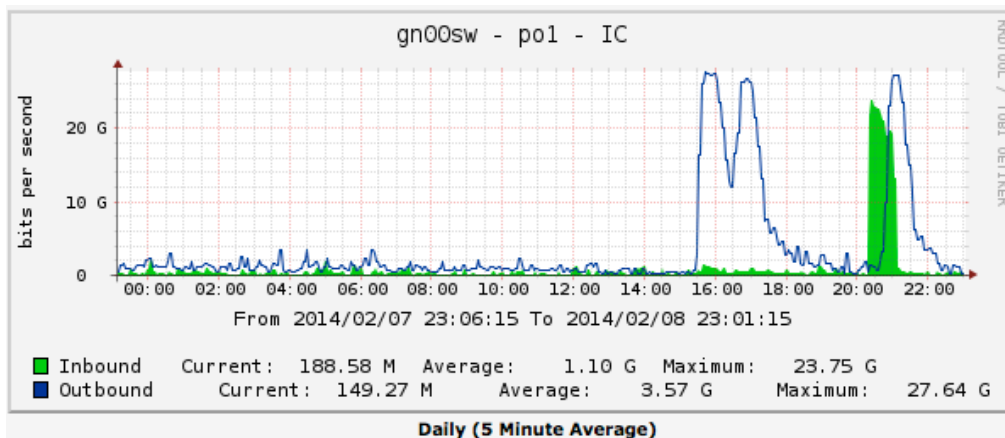
- Wanted to demonstrate we can use our 2 x 20 Gbps
- Thought we had most of one 20 Gbps link and College had the rest
- Unable to fill it – max 18.7Gbps
- We checked Janet looking glass: <http://lg.ja.net/>
- Turns out one of our links was completely unused
- After discussions with IC network team we are now using both links...



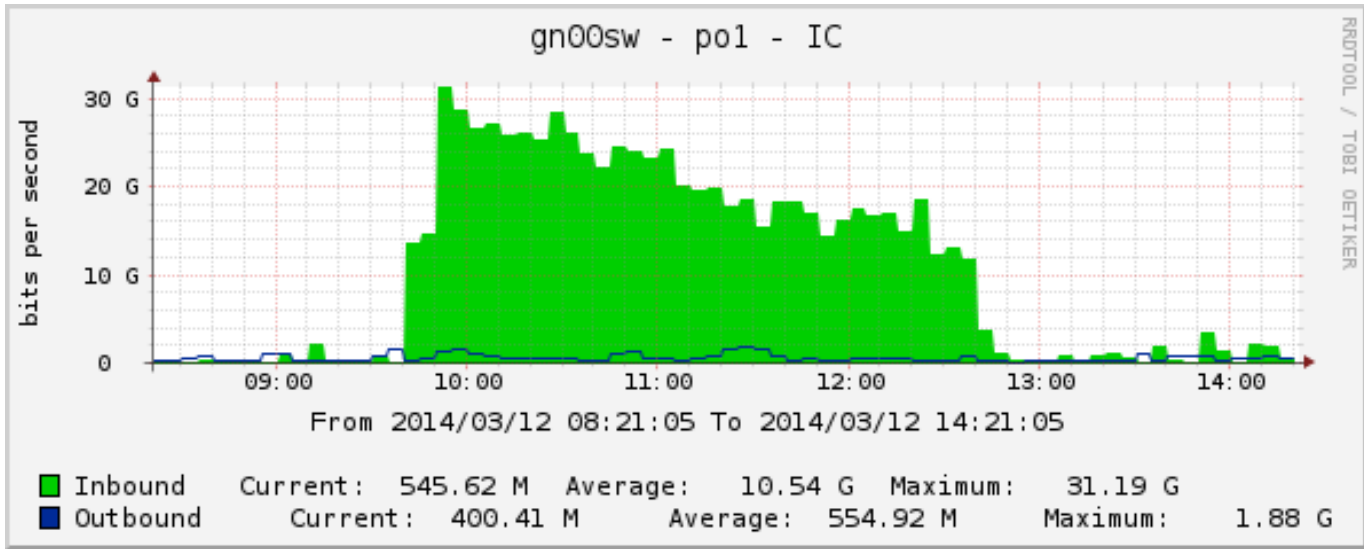
Before: 18.7 Gbps



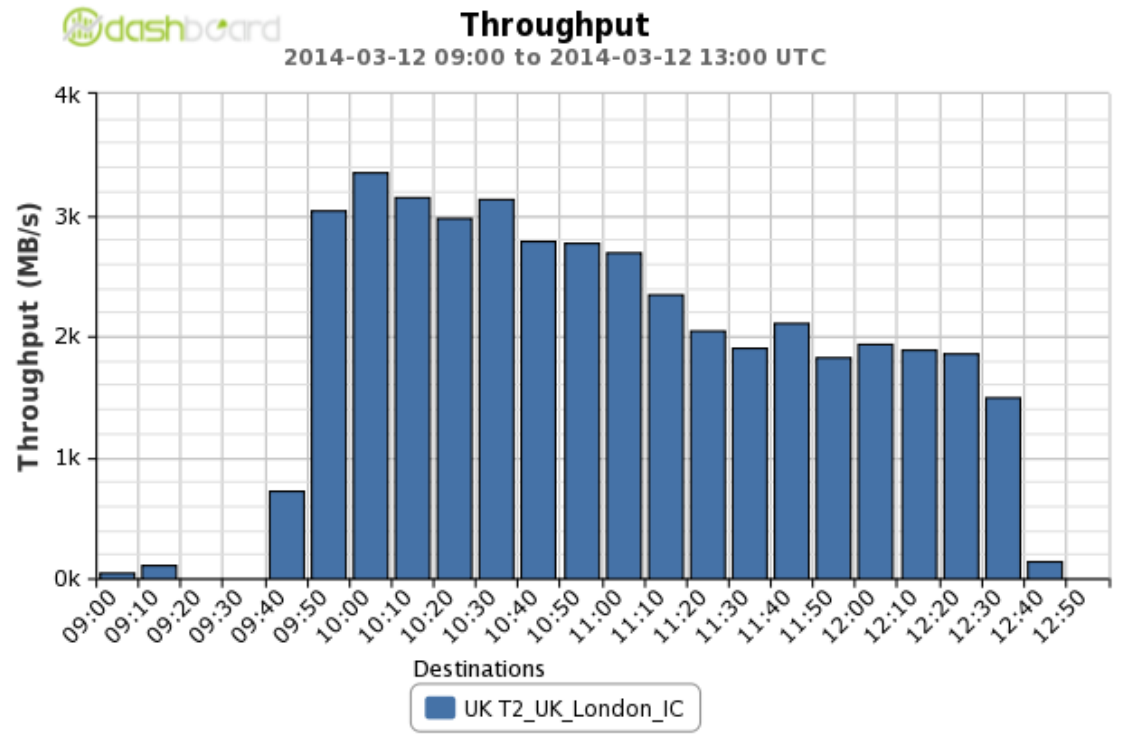
Immediately after:
25.97 Gbps



Day later: 27.64
Gbps



Month later
31.19 Gbps

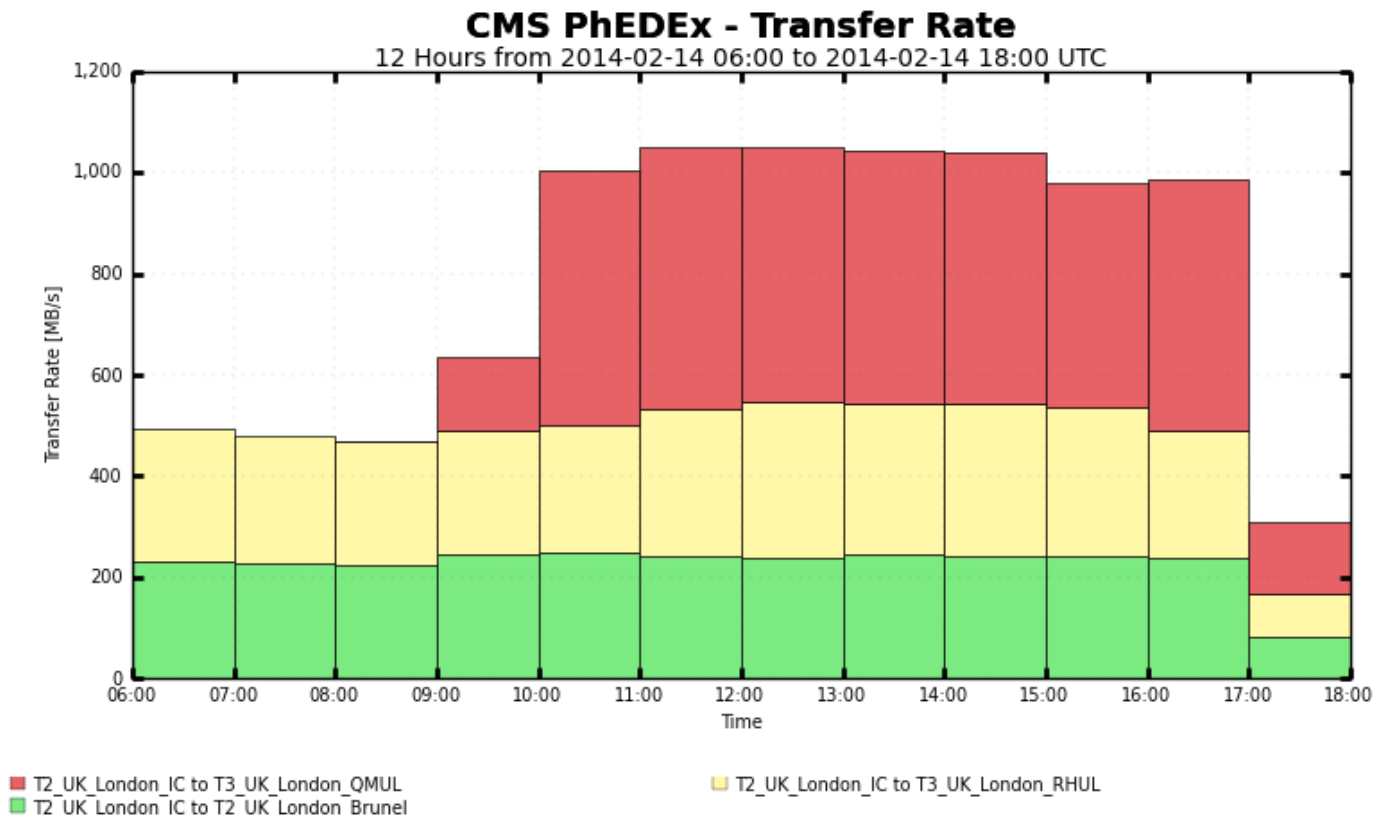


FTS dashboard
3359 MB/s

Network testing within London

- CMS loadtest copying from IC to QMUL, RHUL and Brunel

- RHUL only getting ~300MBps from 500 MBps link

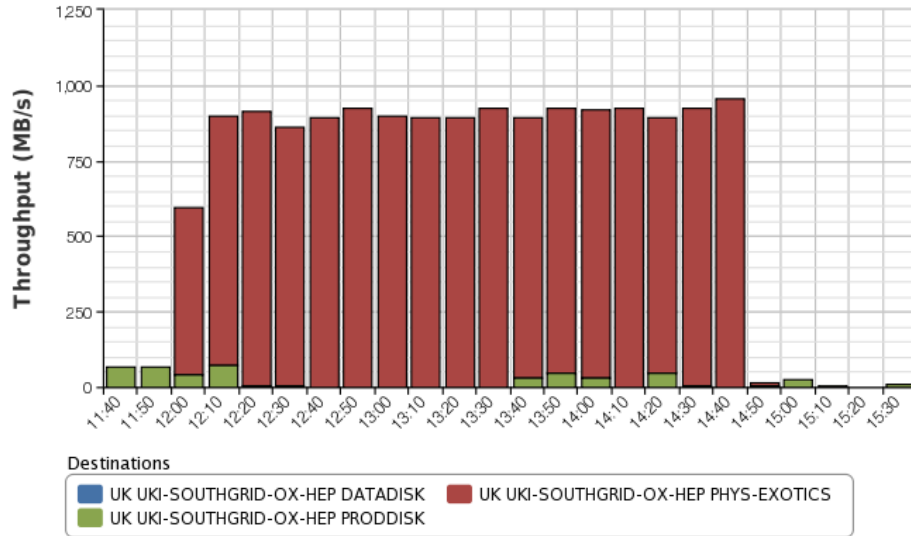


Maximum: 1,052 MB/s, Minimum: 308.62 MB/s, Average: 795.79 MB/s, Current: 308.62 MB/s



Transfer Throughput

2014-03-07 11:40 to 2014-03-07 15:40 UTC

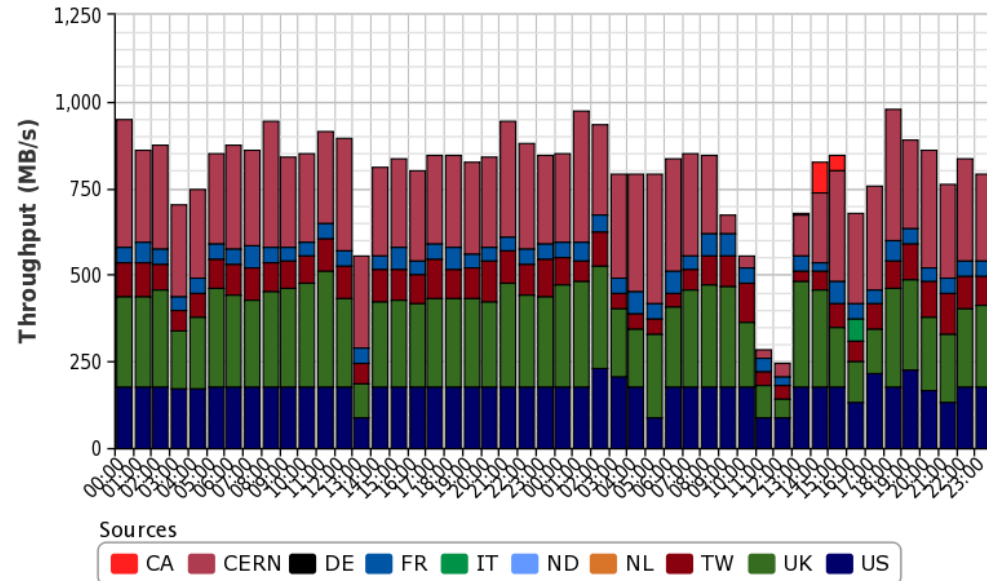


Oxford seem to manage ~900 MB/s comfortably



Transfer Throughput

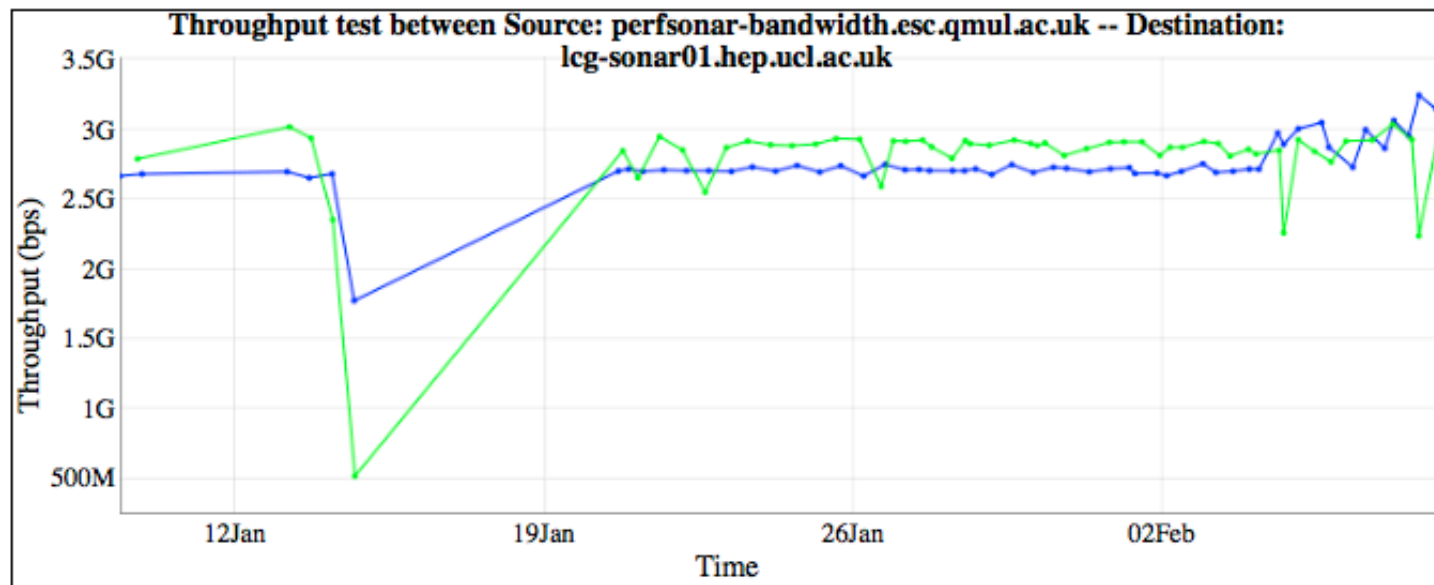
2014-02-09 00:00 to 2014-02-11 00:00 UTC



As do Manchester ...
Would advise sites to check they are indeed getting the throughput they would expect

Noticed a decent rate (~ 3Gbps) between QMUL and UCL
experimenting with UCL as a 'diskless Tier-3'

perfSONAR BWCTL Graph



Graph Key

- Src-Dst throughput
- Dst-Src throughput