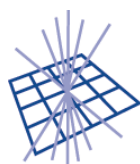

GridPP

Networking Discussion Session

26-March 2014



GridPP

UK Computing for Particle Physics

GridPP Project Management Board

LHC Network Forward Look 2014

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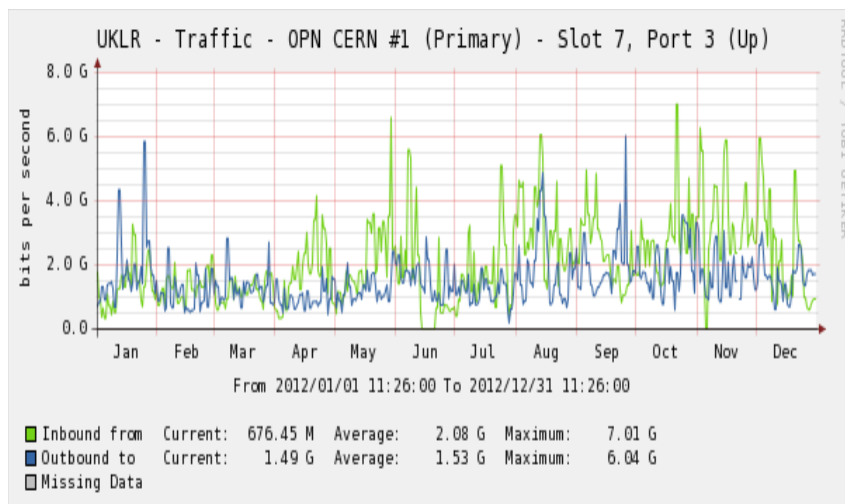
Version:

Document status: **Draft**

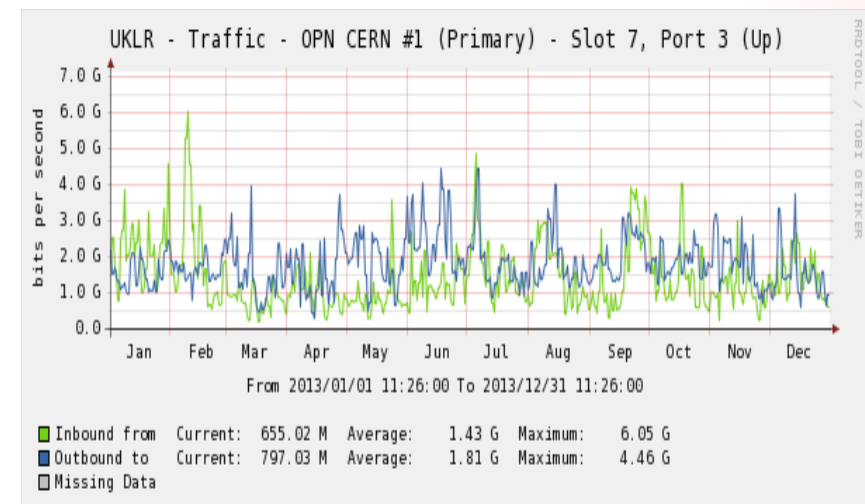
Author **P.Clarke, D.Colling, R.Jones,
A.Sansum, R.Tasker,**

□ LHC OPN

- OPN currently 2 x 10 Gbit/s (only 1 x 10 Gbit/s in use)
- (As far as we know) OPN will continue to be used for foreseeable future
- Traffic rates expected to rise to ~ 20 Gbit/s during GridPP5
- Use of second 10 Gbit/s or appropriate upgrade in discussion



2012

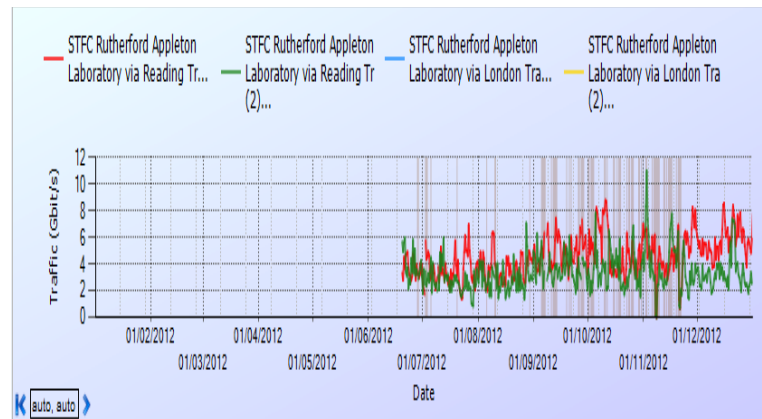


2013

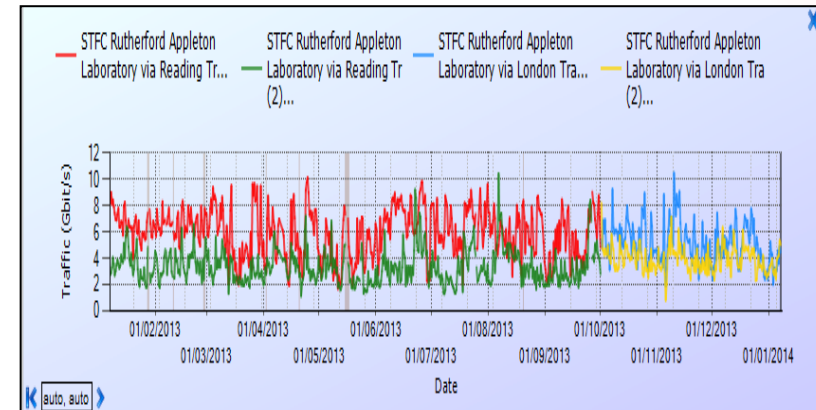


Janet-6 connection

- 2 x 40 Gbit/s diverse connection to Janet-6
- Will be connected with resilient 40 Gbit/s connection ~ now



2012



2013



❑ Connection survey

- ❑ 6 sites have > 10 Gbit/s dedicated to Tier-2
- ❑ 6 sites have 10 Gbit/s shared
- ❑ 2 sites have ≤ 5 Gbit/s dedicated
- ❑ 4 sites have ≤ 5 Gbit/s/ shared

❑ Projections

- ❑ ATLAS: Some Tier-2s (globally) expected to need 15-20 Gbit/s flows in next years
(or 40 Gbit/s ???)
- ❑ CMS ???
- ❑ LHCb : Unlikely to ever have large flows (compared to GPDs)

❑ Conclusions

- ❑ Sites with ≤ 5 Gbit/s/ shared are becoming like iPhone-1 owners
- ❑ 10 Gbit/s dedicated is definitely the comfortable connection
- ❑ Some sites *may** need more than this – speak to your friendly GPD Tsar

- ❑ LHCONE = private LHC Tier-2 network using layer 3 VPN
 - ❑ Used a lot in the US - very much pushed by US sites
 - ❑ Used by some EU sites – but I believe not because they need it in most cases (e.g. GRIF)

- ❑ GridPP position
 - ❑ There is no “clear and present danger” for Tier-2 networking in UK (apart from a few site connections)
 - ❑ If there were a problem, we would expect the sites to speak to Ja.net about upgrading the Janet6 peering.
 - ❑ We foresee no circumstance for which we need an LHCONE overlay in UK
 - ❑ If we did it would most likely have to come out of the relevant experiment hardware or staff funds

- ❑ Being prepared
 - ❑ Plan a technical test from ICSTM to Geant to understand implications.

-
- ❑ Following today's brief discussion
 - ❑ Encourage work which is going on.
 - ❑ All sites carry on doing what they are doing, and we encourage other sites to "get going"
 - ❑ Visit situation at GridPP33 with view to making a bit of an organised PR splash on this.
 - ❑ We are one of few communities for whom this is quite easy, we just have to want to put a bit of priority into it
 - ❑ Ja.net may well thank us

More Discussion