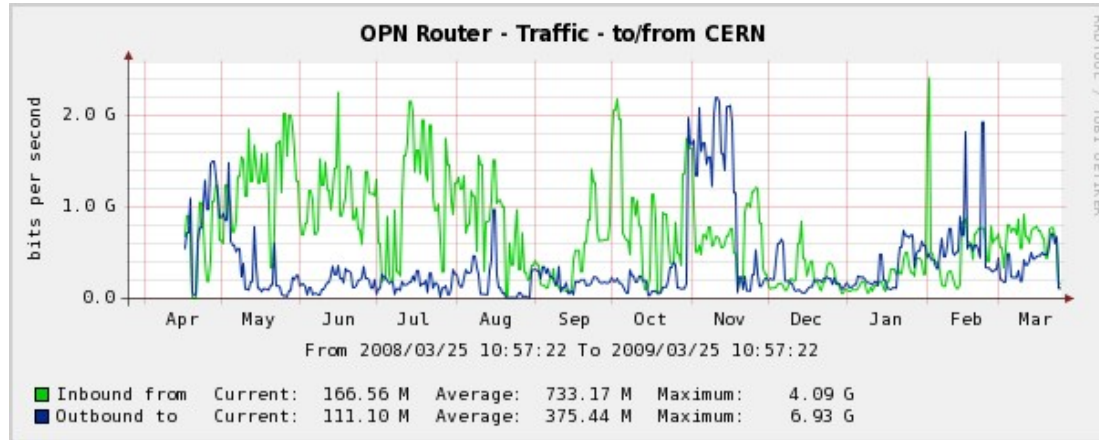


GridPP

UK Computing for Particle Physics

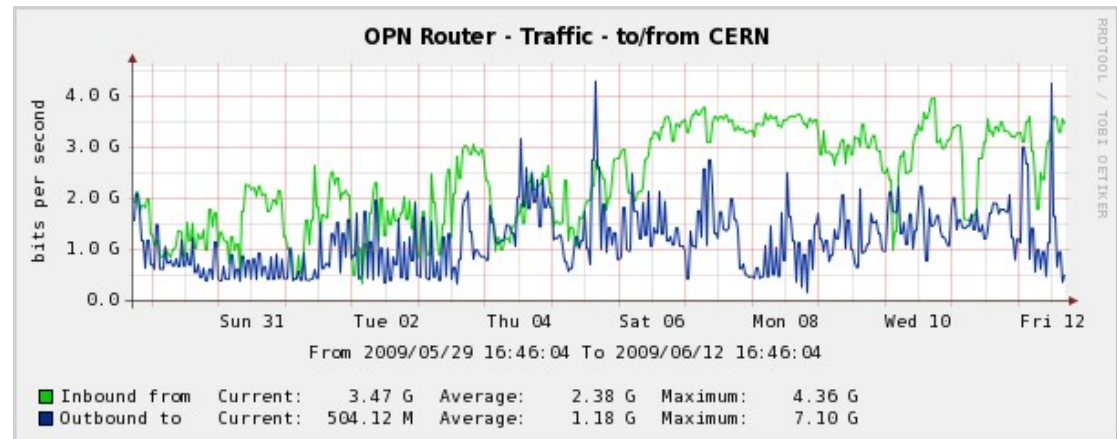
GridPP23 - Network

Pete Clarke + Robin Tasker, 9/Sep/09



Apr08 - Apr09

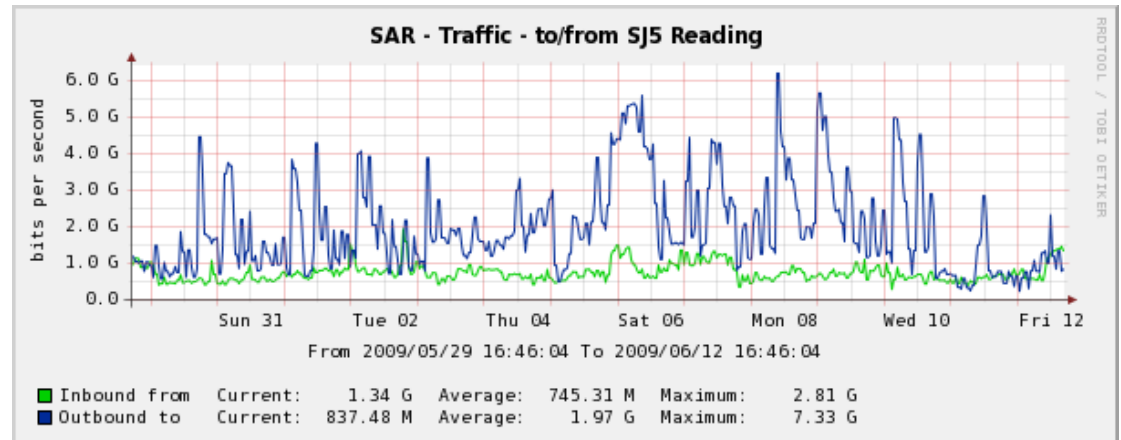
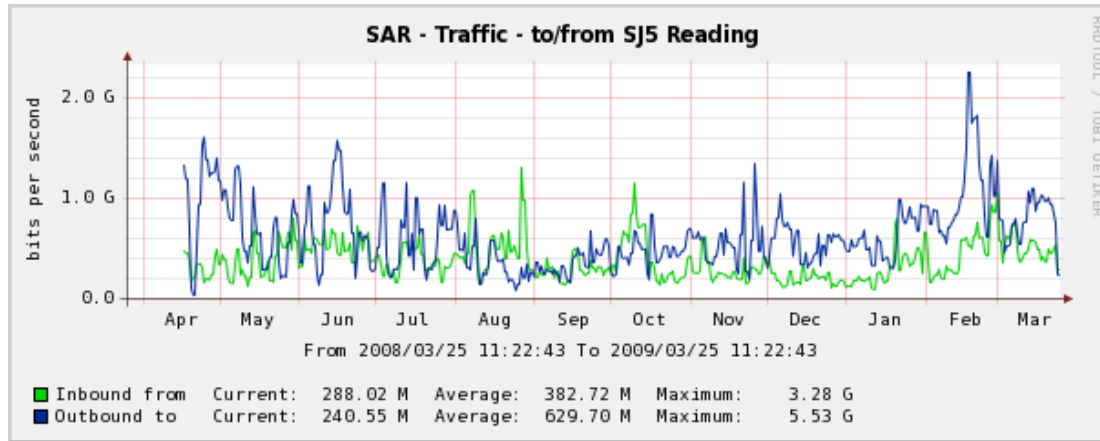
Step09







- Scale of OPN Traffic moved from ~ 2 Gbit/s to ~ 4 Gbit/s over last year
- *In 2009 through to the end of running in 2010 the experiment forecasts with respect to current data rates are:*
 - *ATLAS statement : T1 to CERN traffic will be similar to 08/09 with a modest increase expected. T1-T1 traffic is expected to rise more steeply due to plans for more frequent re-processing.*
 - *CMS statement: T1 to CERN traffic will be similar to 08/09 with a modest increase expected. T1-T1 traffic is expected to rise more steeply due to plans for more frequent re-processing. CMS plans assume a shared 10 Gbit/s OPN link.*
 - *LHCb statement : Current rates are modest. LHCb also expects an increase due to more frequent re-processing resulting in approximately 0.6 Gbit/s.*
- *In summary we see that data rates look like rising to take a large fraction of the 10 Gbit/s capacity by the end of 2010. The situation should be kept under close scrutiny. If the LHC OPN group recommend an increase from 10 Gbit/s the UK should be prepared to follow quickly.*

- UK is not ONLY country without a backup link on the OPN to CERN
- PMB has approved installation of 4 x 1 Gbit/s diversely routed backup



- Scale of Tier1  Tier2 Traffic moved from ~ 1 Gbit/s to ~ 3 Gbit/s over last year
- Statements For Tier1  Tier2
 - ATLAS statement : No major change expected in 09/10.
 - CMS statement: No major change expected in 09/10.
 - LHCb statement: No significant data rates forecast.
- RAL connection to TVN can be upgraded easily (technically)
- RAL networking have put in place a “Technical Design Authority” to oversee planning

- Survey of Tier2 experiences taken from web postings
- Concerns are typically within sites
- No real gripes about Tier2 ✍ JANET
- If you have ≥ 2.5 Gbit/s to JANET you are fine
- If you have ≥ 1 Gbit/s to JANET dedicated to you, then you are probably fine
- But.. It is clear that all sites with shared 1 Gbit/s connections to JANET should be planning with their network services: what will you do if LHC traffic starts taking $> 50\%$ of the link regularly ?

- The LHC OPN connection from RAL to CERN has been reliable and adequate for all traffic to date. There have been no major outages on our link in 08/09
- Rates during tests have reached approximately 5 Gbit/s. The experiments forecast a modest increase in Tier-1 to Tier-0 and a larger increase in Tier-1 to Tier-1 traffic in 09/10 . We expect to 10 Gbit/s link to be adequate in terms of capacity until the end of 2010.
- The OPN rate should be kept under close scrutiny in 2010 and if the rest of LCG moves to greater capacity for 2010+ we should be prepared to follow quickly.
- The experiments and GridPP are concerned at the Tier-1 to Tier-0 resilience.
- In respect of Tier-1 to Tier-2 traffic no major change is expected in 09/10 and specifically there is no case today for considering any dedicated links from Tier-1 to any Tier-2 site.
- A compendium of Tier-2 site comments on networking as seen locally is included. The only emergent issue is that sites limited to a 1 Gbit/s connection to their WAN (particularly if shared with the rest of campus traffic) should review their situation and draw up a plan for what would happen if their rates start to push towards this limit.

DISCUSS

