Transfer into CERN

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Aim

Collating data for use in this years data challenge

Data is “useful”

- GEANT4 simulated data
- can be used by physicist after reconstruction

MC production currently running at 52 LCG sites

Data used in challenge

Transferred from CERN to usable T1 centres

- Reconstructed
- Stripped and data redistributed to CERN and other T1 centres

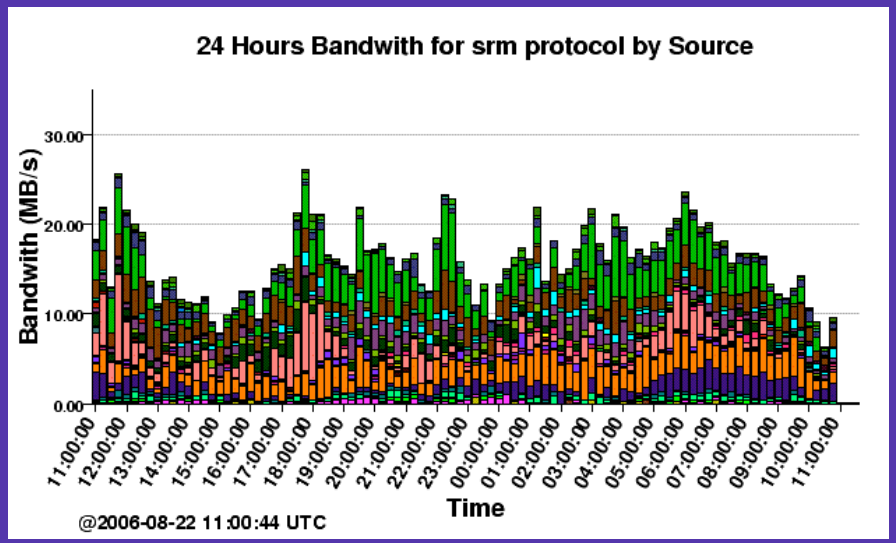
Scale

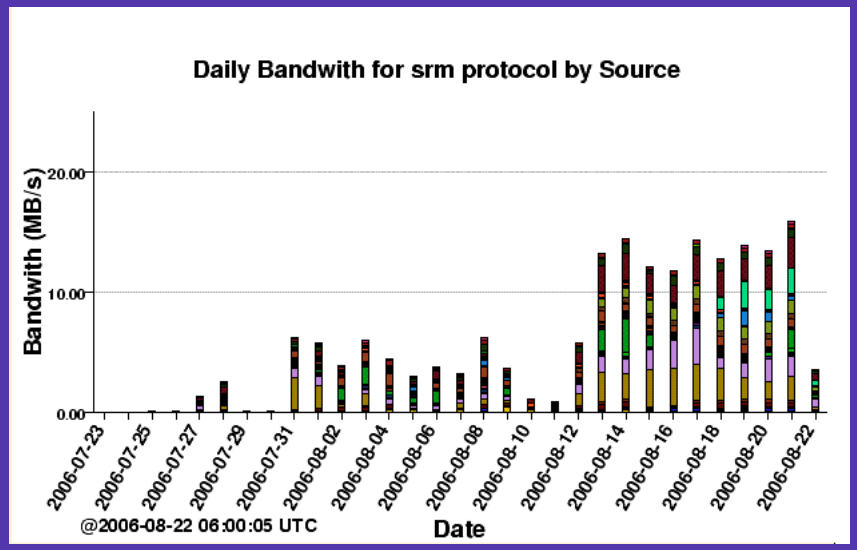
5-7k MC jobs per day; 2 o/p files per job

- 10-14k file per day

o/p file 0.1-0.2 GB in size

- Typical rate 10-15 MB/s per day
- Peaks at 30MB/s
- Rates similar to those being proposed in T2→CERN from some other VO's (larger than LHCb expected rate into CERN)





Tools

Using lcg utils from sites WN (lcg-cr)

Using SE srm.cern.ch

Symptoms

Transfers fail (even after 10 re-tries)

- Some of these traced with help of CASTOR2 people to faulty server machine

1000's of seconds to transfer 1 file

Response of system not uniform

- From same WN to same CERN SE file transfer factor of >10 in transfer speeds

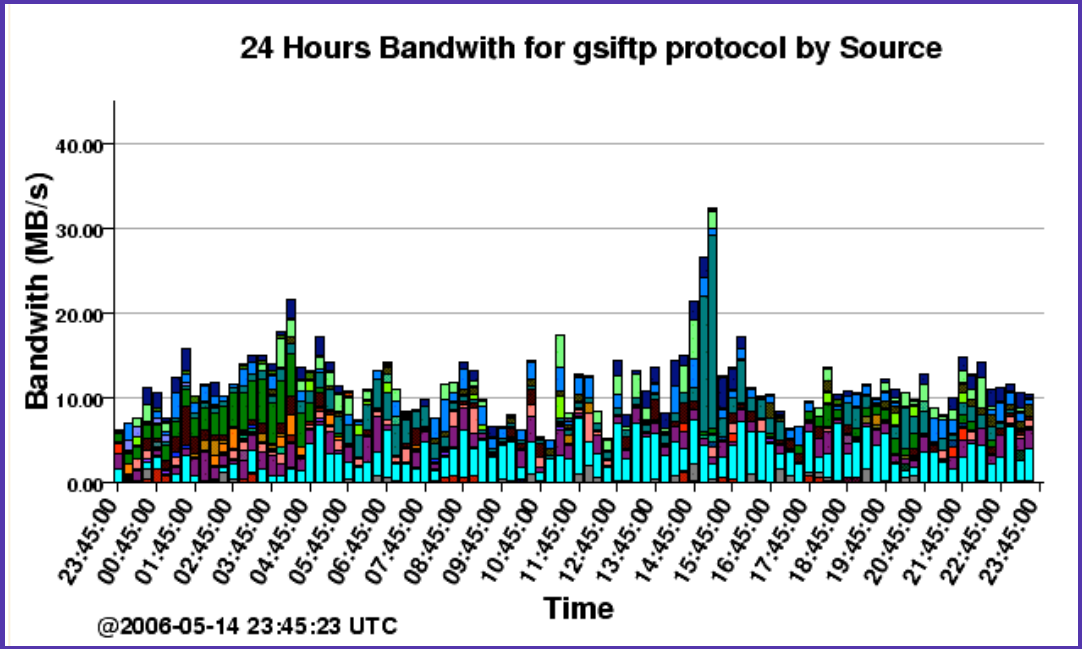
Scale in 2005/2006

Peaks of 6k MC jobs per day; 2 o/p files per job

- ~12k file per day

o/p file 175-250 MB in size

- Typical rate 10 MB/s per day
- Not too dissimilar from now



What's changed?

Use a different SE & protocol

- Also seen problem on castorgrid classic SE with a direct globus-url-copy

Migrated to CASTOR2 ??

Possible use of FTS to transfer MC data to CERN

Use lcg-cr to copy files from WN to a T1 SE

Use FTS to copy from T1 SE to CERN

Question mark on reliability of all T1 SE in this mode as well

- CNAF- CASTOR 2 unusable currently
- GridKa - switched data transfer to there; 10-20 minutes before transfer failures
- RAL, PIC & Lyon seem OK
- NIKHEF - untested (due to gsidcap issues) but in principal could be used

(Additional complication for data challenge as need to delete file from MSS T1 as file could be transferred back there. No trivial operation with SRM v1.1)