Request of CPU, Disk Space and a test stand for SRM

9th Sept. 2008

MC Date Write Rate to Tape

Peak Rate

Duration	Average (GB/Day)	Peak (GB/Day)
1st Dec.'06 – 6th Jan '07	1257	3393
25th May '07 – 30th June 'o7	1110	3018
1st April '08 – 25th Aug '08	1130	3175

Off Peak Rate

Duration	Average (GB/Day)	Peak (GB/Day)
7th Jan '07 – 24th May '07	390	2182
1st July '07 – 1st Dec '07	500	2096
1st Dec. '07 – 14th Jan. 08	820	2203
15th Jan. 08 – 31st March 08	420	2378

- Max. peak rate of writing data on tape corresponds to 3393 GB/day.
- 3393 GB/day corresponds to 141 GB/hr or 39 MB/sec.

Estimate of CPU & Disk Space

- For 2000 jobs, trying to write to disk at once, we need to have a buffer of ~20 machines capable of handling this load.
  - Each machine should be able to queue 100 requests and write to disk at 50 MB/sec or 20 sec for 1 GB file.
    - Each machine needs 2 TB of disk (based on peak rate of 3393 GB/day * 4 days buffer * 3 days safety margin = 40.7 TB 0r 2 TB for 20 machines).
    - Simple worker nodes 4 disks raid together would work.

Summary

- Write speed of fcdfdata321 & fcdfdata322 is around 30 MB/sec.
- Lots of gridftp servers and servers for writing to tape.
- Need more machines to handle writing to disk as a buffer.
- Mix of disk space to network /cpu speed needs to be changed.
- Need more machines that can write more quickly when they have data to dump to tape.

SRM Test Stand for SAM SRM Interface

- Some sort of headnodes in front of 2 or more gridftp servers.
- SRM version should be 2.
- We need around 4 TB of space based on the peak rate of 3.4 TB/day. It can be volatile or durable.
- Need the functionality of space management token on SRM in future.