CCRC08 from T2 Perspective

Michel Jouvin
GRIF/LAL, Orsay
jouvin@lal.in2p3.fr
http://grif.fr

June 12, 2008
CCRC08 Post-Mortem, CERN

- Overall impression
- Data transfers
- Job Execution
- Communication
- Tools
- Conclusions

- French T2s (including ALICE's T2s)
- CMS T2s : presentation from Ken Bloom
- Canada's T2s by T2 coordinator (Brian Caron)
  - Atlas only
- TCD (Dublin) through NL T1 contact for Atlas
- DESY by Atlas and CMS coordinators
- GridKa T2s for CMS (T. Kress)

- "Fairly good", useful… little to report !
- Good communication with VOs
- Well prepared by VOs
  - T2-centric activities better identified
- From CMS : large engagement across all T2s, not only the larger ones
  - The largest the site, the easiest to be successful…
- Minor issue : difficult to identify CCRC08 activities among VO (production) activity

- Generally ran well for sites which already participated to phase 1

  - For new sites, initial configuration tuning may have took some times and lead to some problems at the beginning

  - Some tuning of FTS channels not used before

    - e.g. STAR for CMS non-regional transfers

- All T2s achieved rates far beyond nominal rates

  - CMS reported very good success with their non regional transfers

- Several breaking records...

  - CCIN2P3->Tokyo (Atlas) : 500 MB/s sustained

  - CCIN2P3->GRIF (ATLAS+CMS) : 300 MB/s sustained

  - CCIN2P3 dCache survived in both cases

  - 10 Gb/s external link in both cases

- Detailed report available
  - https://twiki.cern.ch/twiki/pub/CMS/CCRC08-DataTransfers/CCRC-Phase2-T1-T2-transfer-tests.ppt
- Very good success in exercising the whole mesh
  - Probably the most complicated mesh among LHC VOs
  - 193 links in total : 178 exercised (90%)
  - Very few of them failed target
- Most T2s achieved peak rate significantly higher than nominal rate
  - Nominal rate is pretty low as it is an average
  - Traffic to T2s is bursty
- Test and success include T2->T1

- **No major problem : positive feedback from experiments about job execution at T2s**
  - Includes analysis jobs for CMS
- **Main issue : how to interpret absence of jobs or short life jobs**
  - Problem worst with pilot jobs as a short life job may be normal
    - No payload to execute on the site... whatever the reason : nothing in queue, a core service problem (e.g. LFC) preventing real job to be scheduled...
  - VO activities and plans as described centrally not enough
    - In particular when load changing abruptly, e.g. end of Atlas MC
  - When wanting to be proactive, spend a significant time t assess that everything is normal
- **Load perceived as lower than expected**
  - No Atlas jobs during 2 weeks (in France at least)

- VO channels generally too much verbose (CMS, ALICE)
  - Based on high volume mailing list
  - Many things of interest for just one site
- Differences between countries
  - Germany : not much communication from Atlas
  - France : excellent communication with data transfer coordinator
- Remained difficult for sites to identify CCRC08 job load in VO load
  - Is it important ?
- Direct contact with VOs helps significantly
  - Not easy to scale : a VO member can play the role in the country
  - Activity summaries by Atlas and CMS very appreciated : how to sustain this kind of information in the long term ?

- Daily meetings : no comment, not sure many T2s tried to attend
  - I personally insisted with French T2s they try…
- Daily/weekly summaries : no comment… probably means they were appreciated
  - I forwarded them to French list of T2s and got positive feedback
- Elog : there was an agreement it was not targeted at T2s
  - Some people reading RSS feeds
- Lack of alarms related to data transfer problems
- VO monitoring pages : clarification required on what should be checked by site
  - Not more than one page per VO…
  - CMS SAM portal is a good example, a multi-VO portal would be better…

- CCRC08 phase 2 has been a very positive and useful experience for T2s
  - Feeling shared by sites and experiments
  - Difficult to get complaints…!!!
- Data transfers are now working pretty well and smoothly, without heroic efforts
  - Main issue is lack of alarm in case of problems
- Monitoring jobs is now the hardest
  - Difficult to identify if the load/behavior observed is normal or not
  - Need access to an up-to-date information about the load to expect : may be a log book with major changes
- Sites cannot subscribe to all VO lists and look at all VO monitoring pages
  - 1 page / VO is suitable in the short term
  - Build knowledge base/FAQ that can be queried ?