ATLAS Resource Planning

NAF User Committee Meeting — 9th February 2011

Marcello Barisonzi - University of Wuppertal
Wolfgang Ehrenfeld - DESY

Content

Resource needs for 2011

All numbers are for data taking in 2011. All requested storage resources are on top of the existing ones:
AODs:

- all data and MC AODs
- dCache: 1100 TB (data: 826 TB/MC: 277TB)
- including factor of 2.5/1.4 (2x data, 1x MC + space for transition period)

Official D3PDs:

- all official D3PDs
- 5 groups, on average 10% efficiency
- including factor of 2 (two versions)
- dCache: 265 TB

Resource needs for 2011 - User

Within the ATLAS contribution to the DESY Grid Centre Task Force we prepared two analysis use cases to derive some numbers.

Inclusive W cross section:
156 Mev data, 10 times more MC with 1 kB/ev
$\rightarrow$ 5 TB per User
peek processing speed: 50 users, 25% active, 4 hours
$\rightarrow$ 6 GB/s

$t\bar{t}$ cross section:
232 Mev data, 661 Mev MC with 36/60 kB/ev
$\rightarrow$ 144 TB common data
single user copy: 5 TB
peek processing speed: 50 users, 25% active, 1 hour
$\rightarrow$ 17 GB/s

Resource needs for 2011 - User

Local user data:

- 5TB per user
- 50 user each
- total 250 TB in either dCache or Lustre
  125 TB Lustre (2:1 btween HH and ZN)
  125 TB dCache (LOCALGROUPDISK) (2:1 between HH and ZN)
- read speed of 10-20 GB/s needed

Additional Resource needs for 2011

- dCache split for AODs: 1:1 between Hamburg and Zeuthen
- dCache split for D3PDs: needs to be defined
- dCache split for LOCALGROUPDISK/User: 2:1 Hamburg and Zeuthen

It is not clear at the moment, if part of the pledges can be used for AODs or D3PDs. It could be 50% of the pledged DATADISK resources and maybe 50% of the pledged GROUPDISK resources.

dCache:
750 TB (AOD) + 135 TB (ntuple) + 125 TB (user) = 1010 TB
Lustre:
125 TB

Resource needs for 2012

It looks like the LHC will run in 2012. This requires at least the same amount of resources as of 2011.

Summary

- first resource planning for 2011 is presented