Input from ATLAS

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How do we stage data from TAPE ?

- The staging of data is done via Rucio that delegates to FTS
- We used to stage to the tape buffer, but :
  - Some storages don't respect the pin lifetime
  - Some sites have a shared buffer for read and write → No control on the space available on the buffer
- Because of this we now stage + transfer to a (DATA)DISK endpoint for the last 2 years
  - Expected to stay like this in the future
- The staging for Panda is currently either done manually (for reprocessing campaign) or on demand by panda
  - The first one is not sustainable on the long term
  - The latter one is chaotic since Panda only stages the files needed for the jobs that are going to start soon
  - The data carrousel will address these issues (see Xin's talk)

How will we use TAPE in the future ?

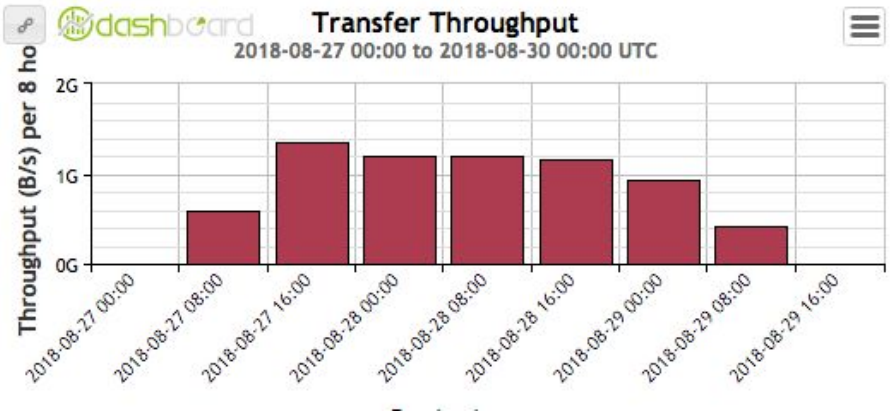
- We want to use more TAPE. That's why we started to have a look at Tape Carousel
  - Can hopefully goes into production in a not so distant future
- We might need to have a finer granularity for tape families.
  - Now we care mainly about RAW
  - In the future might need to have tape families for AODs, HITS…
- We need to adapt to new Technologies, e.g. :
  - CTA which will replace Castor at CERN
  - Successor of Castor at RAL
- We need to ensure that the TAPE system will be able to handle the volume of data produced especially during Run4

Non SRM staging

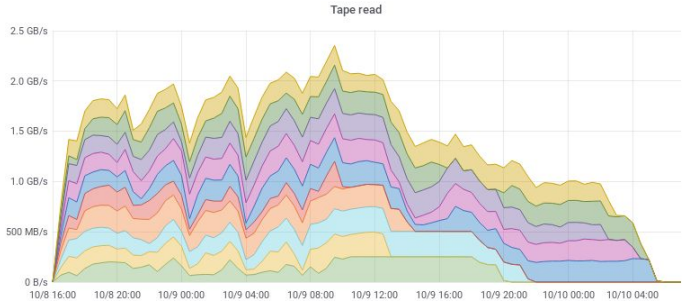
- The only functionality of SRM still not completely covered by others protocols is tape support. Functionalities needed :
  - Possibility to send a staging request to the underlying Tape system
  - Query for the status of a file (Nearline, Online)
- Since FTS/gfal is used, one needs to ensure that they are able to properly use it
- Good news is that we already have a prototype for SRMless Tape endpoint : CTA
- Tests done on a CTA endpoint with help from J. Leduc
  - The endpoint only provided xrootd
  - Staging and stageout tests performed
- Need to check with the storage providers (dCache, StoRM) that we can do the same

CTA tests

- The first tests are encouraging and worked almost out of the box



Disk to CTA



CTA to Disk

Longer term

- On the longer term, TAPE might just become a class of storage in the landscape of QoS storage