

# Minutes of the ABP Computing Working Group meeting

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## General Information

- Following several reports of issues with the usage of HTCondor, the users were asked to record the encountered problems to be discussed in this ABP-CWG meeting to identify common messages to be possibly passed to IT.
- The most common issues are jobs failing to launch or start due kerberos token issues, or impossibility to access AFS.
- Fixes were put in place by IT, the situation looks better now but problems still appear from time to time.
- The users running SixTrack studies seemed to be the most affected. Their experience was collected by Alessio in a dedicated presentation.

## HTCondor Issues When Running SixTrack

- Slides are available [here](#).
- SixTrack is mainly used for Dynamic Aperture (DA) and collimation studies, which typically require  $10^3 - 10^4$  relatively short single-core jobs.
- DA studies are managed using SixDesk, a set of bash scripts used to setup the set of simulations and submit them in LSF, HTCondor or BOINC.
- Users are experiencing several IT related problems (some independent from HTCondor), namely:
  - Shortage of namespace in user spooldir on work.boinc volume on AFS; work.boinc volume hanging due to high I/O to disk – file editing, metadata, ...
  - lxplus-related: seg-faults when using sed (input file manipulation);
  - lxplus-related: expiration of Kerberos/AFS token;
  - HTCondor (see later).
- The most common issue encountered by the SixTrack users using HTCondor were mainly related to AFS/Kerberos tokens lost or no longer valid at a certain point of the simulation. This was discussed with IT. They put in place a workaround consisting in sending the Kerberos token along with the job request. The new software is in production since the 8 November. Some more time is needed to evaluate its effectiveness.
- Several users running collimation studies were affected by the checks on the required disk space becoming more stringent. It is inconvenient that no check is performed at submission time, then the job gets killed during execution.
- For some users the accounting group was not correctly taken into account.
- The main "Lessons Learnt" from this first period of production with HTCondor:

- Strings in the submission file should be defined with double quotes;
  - Always add  $\$(ClusterId)$  in .sub file when specifying .out/.err/.log, otherwise subsequent submission of the same job will overwrite the files. For the same reason Always add  $\$(ProcId)$  in .sub file when specifying .out/.err/.log
  - Some time it can be convenient to change the user’s scheduler from the default assigned by IT. A guide is provided in the ABP-CWG wiki for this purpose.
- Many of the problems encountered working with SixDesk and HTCCondor can be circumvented by performing remote submission from one’s local computer, hence bypassing lxplus. This feature is being implemented in SixDesk. In this case the simulation can be performed without needing a shared filesystem, with the user explicitly transferring the data at the end of the simulation. As IT does not really support this solution, it should be put in place only by skilled users and only when for running studies that are problematic with the standard setup.