Convert an McFarm Job to run on D0MINO
08/02/02

In the event that a large number of job failures are being experienced under McFarm, it must be determined whether the problem lies with McFarm/Linux or with the D0 binary itself. These instructions will allow you to push a McFarm job up to d0mino to see if it still fails at the same place.

Assume job XXX has failed under McFarm and is now in an error queue on some node. (Do jobstat jobname to find out which node).

1. Determine from the farm.log file which binary is failing. If it is pythia or some other generator, there is no input file. Otherwise you must locate the primary input file. Examine the job.phase file to locate the phase and find the "input=" argument. If it starts with "../../" then the input file should already be in the job dir itself. It it says "/cacheNNN…" then you must copy the input file into the job dir at this point, AND you must then go into the proper subdir and change the "read" rcp file to point to "../../" as well:
   - For d0gstar, edit d0gstar/releasexxx/simpp/rcp/simReadEvent.rcp
   - For d0sim, edit d0sim/releasexxx/d0sim/rcp/D0SimReadEvent.rcp
   - For d0reco, edit d0reco/releasexxx/d0reco/rcp/D0recoReadEvent.rcp
   - For recoanalyze, edit recoanalyze/releasexxx/reco_analyze/rcp/D0recoReadEvent.rcp
2. If it is d0sim that you wish to retry, you will probably have a large amount of minbias data needed as well. The amount is so large that, effectively, you cannot move the job somewhere at all. If you do, you will also have to move all the minbias, and change the related rcp's. Good luck!
3. Once you have isolated the phase (binary) to be tried, you should remove job material for other phases to minimize the size of the tar file. Its OK to do this for a McFarm job in the error queue, since it will all be discarded if you later recycle the job. Of the following, keep only one, and do "rm –rf" on the others:
   - Pythia, or isajet, or herwig, etc
   - d0gstar
   - d0sim
   - d0reco
   - recoanalyze
4. Also remove any "large" files from the job dir EXCEPT the input file for your target binary.
5. Now locate the run script in the target binary, one of the following, and edit it to change the word "Remote" to "Standard" at the front:
   - pythia/releasexxx/gen.pythia (or isajet/releasexxx/gen.isajet)
   - d0gstar/releasexxx/run_d0gstar.sh
   - d0sim/releasexxx/run_d0sim.sh
   - d0reco/releasexxx/run_d0reco.sh
   - recoanalyze/re.easexxx/run_eco_analyze.sh
6. Now tar the job directory (but do not gzip it – d0mino's untar does not handle gzipped tar files) and ftp or scp it to a large scratch area on d0mino where you will untar it.
7. Compare the directories (especially the rcp sub directories) to ensure that d0mino's untar operation did not truncate any long file / path names. Compare to the job structure on your home machine from which you tarred. Rename files as necessary to restore their proper names.
8. Now set the current directory to wherever the run script is (e.g., d0gstar/releasexxx) and submit the job to the LSF batch queue (qsub run_d0gstar.sh). In each case, a "progress.*" file will be created listing events as they are completed. Any output file should be created in the job dir itself.