

Hall D DAQ Configuration Archiving

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The CODA DAQ configuration (aka “run type”) chosen for each run needs to be stored in the Conditions Database (ConDB) at the beginning of each run. CODA configurations consist of a directory hierarchy of RDF (Resource Description Framework) files describing the CODA components used in the run and the relationships between them. In principle the RDF files could specify much more than the DAQ configuration (e.g. trigger options), but for practical reasons we will specify such options using different mechanisms. In this way we will minimize the number of directory hierarchies needed and not mix DAQ and other types of configuration information.

Note that we do not expect to need a large number of DAQ configurations, probably one or two for production running (these configurations include all DAQ crates) plus a modest number of calibration and special-purpose configurations.

Hall D Strategy

Archiving a hierarchy of files differs from our other configuration requirements, which generally require storing a set of numbers or the contents of a single file. Here we will use the file versioning system SVN (Subversion), used for online and offline code management, to track and label the configurations.

The RDF files in each directory hierarchy containing a DAQ configuration will be placed under SVN control. When operators start a new run a script will check that all files are checked in and are up-to-date. If so the directory name and the SVN version number of the RDF file set will be stored in the ConDB. If the directory is not properly synched to the SVN repository the run will not be allowed to proceed.

In particular, we will store the file set information in the ConDB using data type “RunConfig” as a string containing the SVN URL of the file set, which includes the directory name and the SVN version number. An example RunConfig entry in the ConDB might look like:

<https://halldsvn.jlab.org/repos/online/RunConfigs/PROD@8765>

where the URL refers to version 8765 of the PROD file set contained in the parent directory `online/RunConfigs`.

Thus in this way we will always be able to retrieve the exact configuration used via the SVN URL even if the files get modified after the run. Note that, as described in the planning document concerning DAQ Software Code Management, only a select group will be allowed to modify run configuration files and check them in.

Manpower Estimates

The 12GeV schedule allocates 3 man-weeks for planning and 6 man-weeks for writing the DAQ configuration archive system. This seems adequate at this point. The schedule also includes 12 man-weeks for check-out of the full archiving system, which includes a number of other archive sub-systems, but this too appears adequate.

Note that this report completes the planning stage for Plan Archiving Run Info.