**Allocation ‘Cut-down’ Process for Quantum**

* **Cut-down Background**
  + Cut-down is the process of taking our generated Allocation .NET Extract Source data files for Quantum and limiting this relational data to a subset of specified Products and Locations.
  + The Cut-down process is facilitated through a series of UNIX shell files (.sh). These scripts were provided to FL by Quantum.
  + Currently, there is one FL server configured to execute Cut-downs, this server is **MLWALD81**, and is an AIX machine.
  + It is important that the Cut-down scripts be executed under the ‘quantum’ user identity. (As these scripts (as well as batch) use the ‘.’ notation and assume this will resolve to ‘/sftw/quantum/Scripts’) So you will either want to be logged in as ‘quantum’ or you will want to ‘su’ to this user’s identity.
* **Cut-down Scripts Install and Execution Directory**
  + /sftw/quantum/Scripts
    - Install location of the Cut-down scripts
    - Contains ‘cutdown\_job.sh’ which is ultimately the entry point for these Cut-down scripts, as well as many other necessary dependent scripts
    - The Cut-down is executed from this directory
* **Cut-down Environment Directories**
  + Currently this server is the ‘repository’ for the generated Cut-down data files.
  + The Cut-down scripts (.sh) files are somewhat parameterized, most importantly the ‘cutdown\_job.sh’ file (which is the entry point for Cut-down) is parameterized and needs paths specified for ‘list’, ‘source’, ‘work’ and ‘target’ directories.
  + In an effort to stay organized and reduce the need to modify a script on every run of Cut-down, the decision was made to maintain a separate Cut-down directory structure for each Environment being Cut-down (UAT-NA, TRAIN-NA, etc…)
    - Maintaining individual Cut-down directories for each environment allows us to have a ‘repository’ of generated Cut-down files for each environment (as they will not get overwritten by runs of same day different environment), as well as keeping separate drop locations for data files, work files, and eases the amount of setup tasks that would be necessary for subsequent runs of different environments.

* **Expected Cut-down Environment Directory Structure**
  + /sftw/quantum/cutdown-[ENVIRONMENT NAME]
    - /sftw/quantum/cutdown-[ENVIRONMENT NAME]/list
      * This directory is used to define the subset of products and locations to be included in the Cut-down outputted data
      * The following files need to exist here. (containing a separate ID on each line)
        + LOCATION.lst
        + PRODUCT.lst
    - /sftw/quantum/cutdown-[ENVIRONMENT NAME]/source
      * /sftw/quantum/cutdown-[ENVIRONMENT NAME]/[DATE]
        + In this sub-directory named like ‘20140401’ to represent the date of the source files data contained within, we will have all of the expected source file data to be cut-down.

Currently, this is a ‘QFiles.zip’ file containing all of the source data in ‘.DAT’ text file form.

The intention in the future would be to have this change to ‘.gz’ files. (to match our Extract output, which batch expects in this format)

* + - * + Create a new subdirectory of each date of source data to be ran through cut-down and place source files within accordingly
    - /sftw/quantum/cutdown-[ENVIRONMENT NAME]/work
      * This directory just needs to exist, the Cut-down scripts themselves, utilize this directory to create dated sub-directories in and to ‘work’ out of
    - /sftw/quantum/cutdown-[ENVIRONMENT NAME]/target
      * This directory just needs to exist, the Cut-down scripts will create a dated sub-directory containing the following two sub-directories
        + zip – The Cut-down outputted files in .gz format
        + dat – The Cut-down outputted files in .dat format
* **Create a New Cut-down Environment**
  + Create a new directory with the environment name in the ‘/sftw/quantum/’ directory in the format ‘cutdown-[ENVIRONMENT NAME]/’. (i.e. /sftw/quantum/cutdown-uat-na)
    - Create the necessary Cut-down sub-directories:
      * list (i.e. /sftw/quantum/cutdown-uat-na/list)
      * source (i.e. /sftw/quantum/cutdown-uat-na/source)
      * work (i.e. /sftw/quantum/cutdown-uat-na/work)
      * target (i.e. /sftw/quantum/cutdown-uat-na/target)
  + Make a copy of the ‘/sftw/quantum/Scripts/cutdown\_job.sh’ file and have it be ‘/sftw/quantum/Scripts/cutdown\_job\_[ENVIRONMENT NAME].sh’
    - cp –pr /sftw/quantum/Scripts/cutdown\_job.sh /sftw/quantum/Scripts/cutdown\_job\_uat\_na.sh
  + Edit this newly created ‘cutdown\_job\_uat\_na.sh’ file to specify the appropriate parameter values (paths with your ENVIORNMENT\_NAME) to ‘cutdown\_job.sh’
    - vi /sftw/quantum/Scripts/cutdown\_job\_uat\_na.sh
      * ‘i’ to insert
      * ‘x’ to delete
      * ‘:q’ to quit w/out saving
      * ‘:x’ to quit w/ saving
  + Move your LOCATION.lst and PRODUCT.lst files to the ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/list’ directory (for locations and products to be included when cutting down source data for this environment)
* **Execute a Cut-down**
  + Login to MLWALD81
  + Ensure you are operating under the ‘quantum’ user’s identity
    - su quantum
    - whoami
  + Ensure that the environment you want to cut-down has its cut-down environment directory structure appropriately created (detailed above)
  + Ensure the PRODUCT.lst and LOCATION.lst files in the ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/list’ directory accurately represent the subset of products and locations you are trying to capture from the original source data files
  + Ensure the source data files you would like to be cut-down are sitting in the appropriate ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/[DATE]’ directory. (i.e. So if you are running for 3/12/2014 on UAT-NA, we should have ‘QFiles.zip’ existing in the ‘/sftw/quantum/cutdown-uat-na/20140312/’ directory
    - FTP via Filezilla
  + Clear any existing ‘bookmark’ files (breadcrumb trail log of directories of Cut-down, like batch)
    - cd /sftw/quantum/ProcessFile
    - rm –r \*
  + (If re-running a previously ran cutdown, I like to delete the expected output directory for the date in beneath the ‘target’ directory)
  + Ensure the date of this Cut-down execution is set appropriately
    - vi /sftw/quantum/Scripts/datelist
      * ‘i’ to insert
      * ‘x’ to delete
      * ‘:q’ to quit w/out saving
      * ‘:x’ to quit w/ saving
  + Kick off the Cut-down
    - cd /sftw/quantum/Scripts
    - nohup ./cutdown\_job\_[ENVIRONMENT NAME].sh &
* **Monitor Progress of Currently Executing Cut-down**
  + tail –f /sftw/quantum/Scripts/nohup.out
  + A log is also kept in the Scripts directory entitled ‘cutdown.log’, upon successful completion this log will be moved to the ‘/sftw/quantum/cutdown-[ENVIORNMENT NAME]/target/[DATE]’ directory
    - This log shows the line count for each Cut-down file
* **Confirm Cut-down Results**
  + Any ‘ERROR’ lines visible in the log (nohup.out or cutdown.log)?
    - Can ‘sed’ the file for ‘ERROR’…. (forget the syntax right now…)
  + A summary of Cut-down files and their corresponding line counts will be left visible on a successful run
    - NOTE: Check these line counts! ( I’ve missed an ERROR in the log before and only caught it by noticing an off line count….)
  + The resulting Cut-down data files will be written to the corresponding ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/target/[DATE]’ directory
    - Confirm you have your expected ‘.gz’ files in the ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/target/[DATE]/zip’ directory
* **Error Handling**
  + At ‘/sftw/quantum/ProcessFile’ you can note if there are any failed bookmarks
  + I really have no information as to how to troubleshoot this…we encountered a few errors in the beginning that were resolved by Quantum and haven’t seen them since
  + I’d note the errors and setup and contact Shekar from Quantum with the details
  + Possibly delete the failed bookmark, and run again…or even to force complete, rename the failed bookmark directory as ‘.completed’ and re-run
* **Using your Generated Cut-down Source Files**
  + Once the Cut-down is complete the generated files will be left at the ‘/sftw/quantum/cutdown-[ENVIRONMENT NAME]/target/[DATE]’ directory.
    - I use the generated ‘.gz’ files in the ‘zip’ sub-directory
      * I FTP these files to an AIX Allocation database server (i.e. MLWALD21)
        + I place them at ‘/sftw/quantum/preprocess/[DATE]’ on the remote AIX Allocation database server (as this is where Quantum’s ‘batch’ would expect the files)

At this point we are ready to prepare setup and run batch on this AIX Allocation database server…