Correlator Software Directory Structure

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This document describes the organization of the /correlator directory. This directory contains all the bits and pieces, both software and data files, needed to make the correlator run, and to postprocess the data. It serves both the MkIII and MkIV correlators. The structure differs in some details from what is currently in /correlator, on which current MkIII operations depend. The changes can be made in a short time, but they must be coordinated with changes on the HP1000 systems.

Most directories have environment variables associated with them. It is strongly recommended that software which needs to access one or more of these directories uses these environment variables via the system getenv() call. This allows easy modification of the physical directory structure as circumstances dictate, and more importantly facilitates test setups for debugging and specialized applications. To ease the use of these environment variables, all the important ones can be read in at the start of the program by calling the function "environment()", which is in the $UTIL library. This fills in a series of external character strings with the directory paths pointed to by the environment variables.

Default definitions of the environment variables will be made available in a shell script which can be executed as desired by users.

/correlator

Function: Root directory. Ideally, should contain only subdirectories.

Contents: mk3/ data/ sysvex/ dist/ prog/ task/ tmp/

/correlator/mk3 $MK3

Function: Support directories for Mk3 correlator operations.

Contents: corlogs/ corrupt/ dribble/ schedules/

These subdirectories will simply be moved to /correlator/mk3 from their current locations in /correlator. Some scripts will have to be modified, or symbolic links made. These directories should probably not reside physically on CCC.

/correlator/data

Function: Points to main data directories

Contents: data0/ (=$CORDATA) data1/ data2/... afiles/

These subdirectories currently contain MkIII data, and Mk4 data can coexist in the same directories. The actual location of data is configurable via the CORDATA environment variable.

/correlator/sysvex $SYSVEX

Function: Standard location for system-wide reference VEX files, namely evex, cvex, ivex and svex. Pointed to by the environment variable SYSVEX.

Contents: evex.global cvex.global ivex.global svex.global

/correlator/dist $DIST

Function: Location for assembly of sanitized, self-consistent, exportable versions of the software system (renamed from current directory for this purpose, called "hops").

/correlator/task $TASK

Function: Location for all correlator task files. Used primarily by opera.

/correlator/tmp $TMP

Function: Location for files of temporary nature only.

/correlator/prog $CORPROG

Function: Root directory for everything needed to make the software run.

Contents: bin/ doc/ text/ src/

/correlator/prog/bin $BIN (architecture-specific)

Function: Contains architecture-specific program executables.

Contents: hppa/ hprt/ linux/ others?

The $BIN environment variable should point to the appropriate architecture.

/correlator/prog/text $TEXT

Function: Ascii files needed to support program execution. For example, files describing VEX formats, file defining messaging system aliases. Does not include online help files.

/correlator/prog/doc $DOC

Function: General system documentation, including online help files.

Contents: mk4_development/ help/ file_formats/ modifications/

The contents of this directory are historical, and should at some point be made more rational. The help directory should probably have separate subdirectories for different programs, such as opera and aedit. Currently it is called "unix_software" and contains all the files used by the vhelp utility. The "modifications" directory is an underused repository of software revision history information.

/correlator/prog/src $SRC

Function: All source code, including shell scripts, belongs in this directory tree

Contents: include/ postproc/ correlator/ scripts/ sub/

/correlator/prog/src/include $INC

Function: All header files which are used by more than one program are placed in this directory. Header files which are strictly local to a program, or internal to a library, belong instead in the home directory of that program or library.

/correlator/prog/src/sub $SRCSUB

Function: Subroutine libraries of general utility belong here.

Contents:			
	afio/	$AFIO	A-file IO library
	bfio/	$BFIO	MkIII binary file IO library
	ccfio/	$CCFIO	MkIII schedule file IO library
	dfio/	$DFIO	Mk4 binary file IO library
	util/	$UTIL	Collection of useful subroutines and utilities
	vex/	$VEX	Vex file parsing and utility library

/correlator/prog/src/scripts $SCRIPT

Function: Home for scripts of various kinds. Copies should exist in $BIN.

Contents: shell/ awk/ aedit/ others?

/correlator/prog/src/postproc $POST

Function: Home of all the postprocessing programs, and postprocessing-specific subroutine libraries.

Contents: One directory per program, directory name the same as the program name. Within each program directory lives the source code, a makefile, and separate directories for each flavor of computer architecture which is supported. In addition, there is a "sub" directory, which contains one subdirectory for each postprocessing-specific subroutine library.

/correlator/prog/src/correlator $CORR

Function: Home of all programs related to correlator function, and related subroutine libraries (like CALC). This is where all the operational code for the various programs in the Mk4 online system belongs. The correlator-specific subroutine library area is where messaging system code belongs.

Contents: Same structure as $POST above, one directory per program with directory name the same as the program name. In addition, a "sub" directory, which should contain, at the least, "calc" and "mess" subdirectories.