fastrack2012.2_prognotes.pdf

This file lists some of the software and structural changes included in McIDAS-X version 2012.2 that are most likely to affect your locally-developed McIDAS code.

(See *http://www.ssec.wisc.edu/mcidas/software/x/fastrack2012.2_changes.txt* for the complete list of code changes included in McIDAS-X 2012.2.)

SSEC recommends that you always compile and link all local code after installing each new version of McIDAS-X. Use the information below to determine if you should make additional changes or accommodations to your local code.

- IMGCOPY commands with SIZE=SAME or SIZE=ALL were failing when data was served directly from an SDI-104. The root cause of the problem is related to older compiler versions on some systems. While debugging the problem, an array overwrite was found in **GVAR.c**. This problem was fixed by using *TryRead* instead of *FillBlock*. Another problem was fixed in **SDIUtil.c** when a null pointer was being sent to rewind.

- A problem was identified when client commands were denied access to servers implementing accounting. This was only happening when data was requested from workstations where the fourth octet of an IP address is greater than 127. The problem was identified as a type-mismatch in **ddeservc.c** and required changing the types of some variables from "unsigned long" to "unsigned int".

- The MSG servers were updated to read compressed HRIT data. A new module, **WaveletDecompressor.c**, was written to decompress segment files "on the fly". The code was adapted from the Public Wavelet Transform Decompression Library Software, found at http://www.eumetsat.int/Home/Main/DataAccess/SupportSoftwareTools/index.htm .

- A memory leak was identified in the module **mci_cmap.c** that is used with **mcimage** (McIDAS-X image window). When using **-optimizeForSpace** on Linux workstations, the memory leak caused the Xorg process memory usage to increase over time, which could eventually cause the workstation to freeze. The error was traced to improper variable initialization and use of *XFreeColors*.

- A new keyword, EXCLUDE=, was added to the WXTLIST command (**wxtlist.c**). This keyword allows a user to exclude output that matches a specified string.

- An error was introduced in McIDAS-X 2012.1 where the initial blank line of DATALOC command (**dataloc.pgm**) output was removed. The error, which caused the GUI to incorrectly write out the file **SERVERTABLE.TDAT**, has been fixed in this release.

- The **GEODATA.CORE** and **LEODATA.CORE** context files (which are used to identify the data used in commands GEO and LEO) were updated to use current satellites and datasets. For example, in **GEODATA.CORE** datasets MSG/FD, EASTL/NH, WESTL/NH, WESTL/SH, MTSAT/FD and INDOEX/FD were updated, and in **LEODATA.CORE** the NOAA 15-18 LAC datasets were removed.

- Tracking capabilities were added to the COMS servers via updates to modules **comsaget2.for** and **comsadir2.for**.

- New products were added to the calibration module **kbxprd2.dlm**. Data file **SATBAND** was also updated to reflect the changes.

- Changes were made to the GINI servers to handle Rainfall Rate products (now band 29) and high resolution NEXRAD Level 3 Base Reflectivity products (N0Q). Also, temperature values are now scaled by 10 and the band number for Vertically Integrated Liquid Water products was changed from 29 to 14. The following modules required changes:

  **giniutil.c   giniadir.cp   servutil.c   giniaget.cp
  giniutil.h**

- Calibration coefficients for FY2D and FY2E satellites were added to **kbxfy2.dlm**. Radiance values based on temperatures are now correct for these two satellites.

- The *syslog include* statement in **ddeservc.c** was moved to the top of the code to allow for compiles on the unsupported Ubuntu operating system.

- The value of the **MAXDFELEMENTS** parameter in **mcidas.h** and **areaparm.inc** was increased from 22000 to 25000 in preparation for GOES-R data (whose full resolution visible data has 22141 elements). An additional change was made to **imgfilt.pgm** to use **MAXDFELEMENTS**. Local code with hardcoded array dimensions may need to be updated. The preferred method is to include **areaparm.inc** or **mcidas.h** and start using **MAXDFELEMENTS** to dimension arrays.

- System testing on Mac OS X 10.7 revealed problems with the level 1b, giniadir and nexradir servers. The problems were resolved by turning off optimization in the compile script **mccomp.sh** when compiling **servutil.c**, **giniadir.cp** and **nexradir.cp**. The change was only made for compiling on workstations running Mac OS X.