

SPD TOOLKIT PATCH INFO

Petr Votava

votava@ntsg.umd.edu

Original: 7/6/99

Revised: 12/6/01

Changes made to SPDTK5.2.4 and 5.2.5 distribution and to HDF4.1r1.1 in order to make in compile on RedHat Linux running the SMP version of kernel 2.2.5-15.

1. Changes in HDF4.1r1.1

- Changed line in ../hdf/linux/HDF4.1r1/config/mh-linux
CPPFLAGS_HDF=\$(FMPOOL_FLAGS) -DNDEBUG -DHDF by removing the
-DNO_STRERROR flag, because it is implemented in later versions of Linux

2. Changes in SPDTK5.2.4

- in bin/INSTALL-Toolkit – added -D_POSIX_SOURCE to Linux flags
- in bin/INSTALL-Toolkit – added a line to update the library
- bin/mkpgslib changed to enable passing -f flag that enables us to force update of the library file libSPDTK.a
- include/PGS_SMF.h – added extern char *sys_errlist[] to reflect the definition on linux: extern const char * const sys_errlist[], this is added in the #ifdef LINUX clause
- src/SMF/PGS_SMF_Comm.c added sys_errlist[] same as above
- src/SMF/PGS_SMF_Comp.c added sys_errlist[] same as above
- added -D_XOPEN_SOURCE to makefile DFLAGS in src/MEM
- special block in src/MET/tools/makefile for PGS_MET_Write.c – this was causing problems with signal handling so this will remove -ansi and -D_POSIX_SOURCE from the compilation line. Branched the makefile behavior on \$(BRAND) environment variable. Also added LINUX_WRITE_FLAGS variable
- in include/PGS_SMF.h added a macro that couldn't be resolved so I just moved in in there as follows:
#include <sys/stat.h>
#ifndef S_ISLNK
#define S_ISLNK(mode) __S_ISTYPE((mode), 0120000)
#endif
- Changed makefile in src/GCT/freeware so that libGctp.a is built as a part of the process and not just copied
- Change all makefile.cpp to makefile.c++

3. Changes in SPDTK5.2.5

- Same as changes to SPDTK5.2.4
- Add a directory linux as a subdirectory in directory objcpp
- Add all the subdirectories to objcpp/linux (see objcpp/sun5)
- Remove #include "PGS_SMF.h" in src/CUC/ODL/output.c

4. Changes in HDFEOS-4.2

- in INSTALL-HDF-EOS in hdfEOS/bin – changed error message so that it does not include Linux
- Added linux directory to hdfEOS/lib

5. Additional changes

- Since there has been change in gcc compiler between versions 2.91 and 2.96 that changes handling of concatenation of strings in macros from ## to just space, I needed to change this in several header files
 - include/PGS_EcsVersion.h
 - include/PGS_SMF.h
 - i.e. #define T "TIME" " __TIME__
 - Instead of #define T "TIME: " ## __TIME__
- There are problems in the TOOLKIT with the incorrect use of fpos_t variables. These are "long int" in older gcc versions, but they are "structs" in 2.96. They were incorrectly operated on as "ints" in the TOOLKIT code and that had to change in several places:
 - In PGS_SMF_SendRuntimeData.c, the use of variable currPos is incorrect, fseek() function needs to be used instead of performing arithmetic operations on currPos which is fpos_t type
 - Because global_var->startpos is of type fpos_t, it can't be returned by ftell() function that returns int, but rather by fgetpos() function that correctly sets the value as type fpos_t