# 编译某基于openwrt的sdk

由于自己的linux系统比较新，导致编译个基于openwrt的sdk问题多多，在此记录解决过程

1.
问题：
freadahead.c: In function 'freadahead':
freadahead.c:91:3: error: #error "Please port gnulib freadahead.c to your platform! Look at the definition of fflush, fread, ungetc on your system, then report this to bug-gnulib."
   91 |  #error "Please port gnulib freadahead.c to your platform! Look at the definition of fflush, fread, ungetc on your system, then report this to bug-gnulib."
      |  ^~~~~
make[7]: *** [Makefile:1837: freadahead.o] Error 1
make[7]: Leaving directory '/opt/p2/openwrt/build_dir/host/m4-1.4.17/lib'

解决：
cd /opt/p2/openwrt/build_dir/host/m4-1.4.17/
sed -i 's/IO_ftrylockfile/IO_EOF_SEEN/' lib/*.c
echo "#define _IO_IN_BACKUP 0x100" >> lib/stdio-impl.h

2.
问题：
lib/fseterr.c: In function 'fseterr':
lib/fseterr.c:77:3: error: #error "Please port gnulib fseterr.c to your platform! Look at the definitions of ferror and clearerr on your system, then report this to bug-gnulib."
   77 |  #error "Please port gnulib fseterr.c to your platform! Look at the definitions of ferror and clearerr on your system, then report this to bug-gnulib."
      |  ^~~~~
make[6]: *** [Makefile:3461: lib/fseterr.o] Error 1
make[6]: Leaving directory '/opt/p2/openwrt/build_dir/host/bison-3.0.4'

解决：
cd /opt/p2/openwrt/build_dir/host/bison-3.0.4/
sed -i 's/IO_ftrylockfile/IO_EOF_SEEN/' lib/*.c
echo "#define _IO_IN_BACKUP 0x100" >> lib/stdio-impl.h

3.
问题：
/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.o: in function `write_special_file':
/opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:944: undefined reference to `major'
/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:944: undefined reference to `minor'
/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.o: in function `recursive_populate_directory':
/opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:1273: undefined reference to `minor'
/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:1273: undefined reference to `major'

/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:1263: undefined reference to `minor'

/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:1263: undefined reference to `major'

/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.o: in function `interpret_table_entry':

/opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:467: undefined reference to `makedev'

/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:503: undefined reference to `makedev'

/usr/lib64/gcc/x86_64-suse-linux/9/../../../../x86_64-suse-linux/bin/ld: /opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c:510: undefined reference to `makedev'

解决：
/opt/p2/openwrt/build_dir/host/mtd-utils-1.5.2/mkfs.jffs2.c 中添加#include <sys/sysmacros.h>


4.
问题：
  CC    ubi-utils/libubi.o
ubi-utils/libubi.c: In function 'vol_node2nums':
ubi-utils/libubi.c:383:10: error: called object 'major' is not a function or function pointer

解决：
此问题与3号问题相似，打开文件发现二者都有#include <sys/types.h>，暴力点可以直接修改/usr/include/sys/types.h添加
#include <sys/sysmacros.h>


5.
问题：
/usr/include/asm-generic/int-ll64.h:31:42: error: conflicting types for '__u64'
   31 | __extension__ typedef unsigned long long __u64;
      |                                          ^~~~~
In file included from <command-line>:
./../include/compiler.h:69:18: note: previous declaration of '__u64' was here
   69 | typedef uint64_t __u64;

解决：
修改build_dir/host/u-boot-2018.03/include/compiler.h
注释或者删除typedef uint64_t __u64;

6.
问题：
freadahead.c: In function 'freadahead':
freadahead.c:92:3: error: #error "Please port gnulib freadahead.c to your platform! Look at the definition of fflush, fread, ungetc on your system, then report this to bug-gnulib."
   92 | #error "Please port gnulib freadahead.c to your platform! Look at the definition of fflush, fread, ungetc on your system, then report this to bug-gnulib."
      |  ^~~~~
make[9]: *** [Makefile:2225: freadahead.o] Error 1
make[9]: Leaving directory '/opt/p2/openwrt/build_dir/host/findutils-4.6.0/gl/lib'

解决：

进入出错目录：

cd /opt/p2/openwrt/build_dir/host/findutils-4.6.0

sed -i 's/IO_ftrylockfile/IO_EOF_SEEN/' lib/*.c

echo "#define _IO_IN_BACKUP 0x100" >> lib/stdio-impl.h

sed -i 's/IO_ftrylockfile/IO_EOF_SEEN/' gl/lib/*.c

echo "#define _IO_IN_BACKUP 0x100" >> gl/lib/stdio-impl.h

sed -i '/unistd/a #include <sys/sysmacros.h>' gl/lib/mountlist.c

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问题：

hecking version of makeinfo... v. ?.??, bad

configure: WARNING:

*** These auxiliary programs are missing or incompatible versions: makeinfo

*** some features will be disabled.

*** Check the INSTALL file for required versions.

checking LD_LIBRARY_PATH variable... contains current directory

configure: error:

*** LD_LIBRARY_PATH shouldn't contain the current directory when

*** building glibc. Please change the environment variable

*** and run configure again.

make[3]: *** [Makefile:30: /opt/p2/openwrt/build_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/glibc-2.22-b995d95-headers/.configured] Error 1

make[3]: Leaving directory '/opt/p2/openwrt/toolchain/glibc/headers'

解决：

系统中安装有makeinfo 6.7 真实指向的是texi2any  /usr/bin/makeinfo -> texi2any

安装旧版的makeinfo4 发现无效

只能修改build_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/glibc-2.22-b995d95/configure

  { $as_echo "$as_me:${as_lineno-$LINENO}: checking version of $MAKEINFO" >&5

$as_echo_n "checking version of $MAKEINFO... " >&6; }

  ac_prog_version=`$MAKEINFO --version 2>&1 | sed -n 's/^.*GNU texinfo.* \([0-9][0-9.]*\).*$/\1/p'`

  test_info=`$MAKEINFO --version`

 $as_echo "$test_info";

  case $ac_prog_version in

    '') ac_prog_version="v. ?.??, bad"; ac_verc_fail=yes;;

中的

    '') ac_prog_version="v. ?.??, bad"; ac_verc_fail=yes;;

    改成

    '') ac_prog_version="v. ?.??, bad"; ac_verc_fail=no;;

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问题：

checking LD_LIBRARY_PATH variable... contains current directory

configure: error:

*** LD_LIBRARY_PATH shouldn t contain the current directory when

*** building glibc. Please change the environment variable

*** and run configure again.

解决：

echo $LD_LIBRARY_PATH 查看当前LD_LIBRARY_PATH变量

:/usr/lib64:/usr/local/lib:/usr/local/lib64:/usr/local/cuda/lib64:/usr/local/cuda/extras/CUPTI/lib64:/usr/lib64:/usr/local/lib:/usr/local/lib64:/usr/local/cuda/lib64:/usr/local/cuda/extras/CUPTI/lib64

第一个字符是多余的，可以把它删除，或者暴力点直接把变量清空

export LD_LIBRARY_PATH=''

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问题

./scripts/dtc-version.sh: line 17: dtc: command not found

./scripts/dtc-version.sh: line 18: dtc: command not found

*** Your dtc is too old, please upgrade to dtc 1.4 or newer

make[4]: *** [Makefile:1375: checkdtc] Error 1

make[4]: Leaving directory '/opt/p2/uboot'

解决：
系统中安装dtc这个软件

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问题

make[8]: Entering directory '/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio'

  CC      libgio_2_0_la-gdbusauth.lo

gdbusauth.c: In function '_g_dbus_auth_run_server':

gdbusauth.c:1304:11: error: '%s' directive argument is null [-Werror=format-overflow=]

 1304 |          debug_print ("SERVER: WaitingForBegin, read '%s'", line);

      |          ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

cc1: some warnings being treated as errors

make[8]: *** [Makefile:3531: libgio_2_0_la-gdbusauth.lo] Error 1

make[8]: Leaving directory '/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio'

解决：

cd /opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio

修改

      debug_print ("SERVER: WaitingForBegin, read '%s'", line);

      if (line == NULL)

        goto out;

为

      if (line == NULL)

        goto out;

      debug_print ("SERVER: WaitingForBegin, read '%s'", line);


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问题：

gdbusmessage.c: In function 'g_dbus_message_to_blob':

gdbusmessage.c:2698:30: error: '%s' directive argument is null [-Werror=format-overflow=]

 2698 |      tupled_signature_str = g_strdup_printf ("(%s)", signature_str);

解决：
修改gdbusmessage.c 2698行

    tupled_signature_str = g_strdup_printf ("(%s)", signature_str);

改为
```
    if (signature_str)
      tupled_signature_str = g_strdup_printf ("(%s)", signature_str);
```

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问题：
make[8]: Entering directory '/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio/tests'
  GEN     gdbus-test-codegen-generated.h
Traceback (most recent call last):
  File "../../gio/gdbus-2.0/codegen/gdbus-codegen", line 37, in <module>
    from codegen import codegen_main
  File "/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio/gdbus-2.0/codegen/codegen_main.py", line 28, in <module>
    from . import parser
  File "/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/glib-2.50.3/gio/gdbus-2.0/codegen/parser.py", line 23, in <module>
    import xml.parsers.expat
ImportError: No module named xml.parsers.expat
make[8]: *** [Makefile:4643: gdbus-test-codegen-generated.h] Error 1

解决：
系统中python安装defusedxml模块，比如suse系统，在YaST2中搜索并安装python2-defusedxml

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问题
make[4]: Entering directory '/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13'
running build
running build_ext
building dbm using ndbm
INFO: Can't locate Tcl/Tk libs and/or headers
building '_curses' extension
gcc -pthread -fPIC -fno-strict-aliasing -O2 -I/opt/p2/openwrt/staging_dir/host/include -I/opt/p2/openwrt/staging_dir/host/usr/include -I/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/include -DNDEBUG -g -fwrapv -O3 -Wall -Wstrict-prototypes -I. -IInclude -I./Include -I/opt/p2/openwrt/staging_dir/host/include -I/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/include -I/usr/local/include -I/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Include -I/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13 -c /opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Modules/_cursesmodule.c -o build/temp.linux-x86_64-2.7/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Modules/_cursesmodule.o
/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Modules/_cursesmodule.c: In function 'PyCursesWindow_EchoChar':
/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Modules/_cursesmodule.c:809:18: error: dereferencing pointer to incomplete type 'WINDOW' {aka 'struct _win_st'}
  809 |    if (self->win->_flags & _ISPAD)
      |                  ^~
/opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/host/Python-2.7.13/Modules/_cursesmodule.c: In function 'PyCurses_setupterm':

*** WARNING: renaming "_ctypes" since importing it failed: libffi.so.6: cannot open shared object file: No such file or directory
Python build finished, but the necessary bits to build these modules were not found:

| _sqlite3 | _tkinter | bsddb185 |
| dl | imageop | nis |

解决：

安装tcl-devel, tk-devel, sqlite3-devel, libffi-devel，注意必须要有libffi.so.6这个文件，实在没有且有libffi.so.7的则可以ln -s libffi.so.7 libffi.so.6来做临时解决。

如果还是不行，则试下安装readline-devel，bzip2-devel，openssl-devel，gdbm-devel，libdbi-devel，ncurses-libs，zlib-devel，libnsl-devel

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问题：

checking for refresh in -lncurses6... no

checking for refresh in -lncurses... no

checking for refresh in -lncurses6... (cached) no

checking for refresh in -lncurses... (cached) no

checking curses.h usability... yes

checking curses.h presence... yes

checking for curses.h... yes

configure: error: missing libraries: libncurses

make[3]: *** [Makefile:57: /opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/htop-2.0.2/.configured_yyyyyyyy] Error

解决：

查看build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/htop-2.0.2/config.log

configure:13075: checking for refresh in -lncurses

configure:13100: arm-openwrt-linux-gnueabi-gcc -o conftest -Os -pipe -march=armv7-a -mtune=cortex-a7 -mfpu=neon -fno-caller-saves -fno-plt -fhonour-copts -Wno-error=unused-but-set-variable -Wno-error=unused-result -mfloat-abi=hard -iremap /opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/htop-2.0.2:htop-2.0.2 -Wformat -Werror=format-security -D_FORTIFY_SOURCE=1 -Wl,-z,now -Wl,-z,relro -I/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/usr/include -I/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/include -I/opt/p2/openwrt/staging_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/usr/include -I/opt/p2/openwrt/staging_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/include -L/usr/lib64/ncurses5 -Wl,-O2 -Wl,-Bsymbolic-functions -Wl,--as-needed -lncurses -ltinfo -L/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/usr/lib -L/opt/p2/openwrt/staging_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/lib -L/opt/p2/openwrt/staging_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/usr/lib -L/opt/p2/openwrt/staging_dir/toolchain-arm_cortex-a7+neon_gcc-5.3.0_glibc-2.22_eabi/lib -znow -zrelro conftest.c -lncurses -lm >&5 /lib64/libncurses.so.5: file not recognized: File format not recognized

collect2: error: ld returned 1 exit status

configure:13100: $? = 1

关键是这句 -L/usr/lib64/ncurse5, 加上/lib64/libncurses.so.5: file not recognized: File format not recognized, 可见是链接目录有问题，交叉编译时却链接上pc中的库，无法识别，出错。

系统中安装了ncurses-devel ncurses5-devel, 这里删除掉ncurses5-devel，问题解决。

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问题：

+ mkdosfs /opt/p2/openwrt/build_dir/target-arm_cortex-a7+neon_glibc-2.22_eabi/linux-leo_gx8009b-ssd-lc-v1/cfg.img -C 1024

./gen_leo_sdcard_img.sh: line 40: mkdosfs: command not found

解决：

系统安装dosfstools, 如果是suse系统，又安装有dosfstools, 则是路径有问题(/usr/sbin/mkdosfs), 在/usr/bin/下创建软链接sudo ln -s /usr/sbin/mkdosfs /usr/bin/mkdosfs

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