MEDIATEK

MTK Andes Tool Chains Usage

Version: 0.03
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Revision History

Date	Revision	Author	Description
2014.02.12	First v0.01	Jinchuan	Initial draft.
2014.04.15	v0.02	Jinchuan	Add Andes Sight Setup Add Q&A
2014.05.28	v0.03	Jinchuan	

Contents

1. Install AndeSight

1-1: How to get AndeSight install files

http://www.andestech.com/cn/download/andesight-download.htm

Access this websit, and fill information for application

Your will receive a email include AndeSight download path, after

and there is a quick start for AndeSight installation

http://forum.andestech.com/viewtopic.php?f=23&t=576&p=672

1-2: Install AndeSight following the quick start :

AndeSight default install Path is :　　C:\Andestech\AndeSight14\

The toolchains install Path is :　　　C:\Andestech\AndeSight14\toolchains\nds32le-elf-newlib-V2j

The config file in C:\Andestech\AndeSight***\toolchains\nds32le-elf-newlib-v2j\cygwin-andes.bat
must mapping the toolchain install path,
if the toolchian install path is changed,　below path setting also need to be changed in cygwin-andes.bat
set TOP=C:\Andestech\AndeSight14\cygwin
set TOP=%TOP:\=/%
set TMP=C:\Andestech\AndeSight14\cygwin\cygwin_tmp
set PATH=C:\Andestech\AndeSight14\cygwin\bin;%CD%\bin
set HOME=%CD%\bin
IF EXIST "C:\Andestech\AndeSight14\cygwin\bin\bash.exe" set SHELL=/bin/bash
"C:\Andestech\AndeSight14\cygwin\bin\bash.exe" --login –i

For MTK MT7681 Project, a special tool chains should be used,
Thus, we need instead the original tool chains as MTK ones

2. Update Tool chains

Decompress the MTK's toolchains package　　"nds32le-elf-newlib-v2j.rar"

to C:\Andestech\AndeSight14\toolchains\nds32le-elf-newlib-V2j

The original one should be deleted or rename first.

3. Modify MT7681 configuration file

Modify the configuration files in MT7681 folder: mak/compiler.mk
Add yellow line and delete gray line

```
#**********************************************************************
# TOOLCHAINS DEFINE
#**********************************************************************
#TOOLCHAINS =     /root/Andestech/BSPv310/toolchains/nds32le-elf-newlib-v2j/bin
#TOOLCHAINS =     /cygdrive/c/Andestech/BSPv310/toolchains/nds32le-elf-newlib-v2j/bin
TOOLCHAINS   =     /cygdrive/c/Andestech/AndeSight14/toolchains/nds32le-elf-newlib-v2j/bin
CROSS        =     $(TOOLCHAINS)/nds32le-elf
```

4. Select Cygwin to Compile MT7681 Source Code

Click "Begin" Button on the Windows OS

Select   Toolchains->N9->nds32le-elf-newlib-V2j, a Cygwin window shall be opened
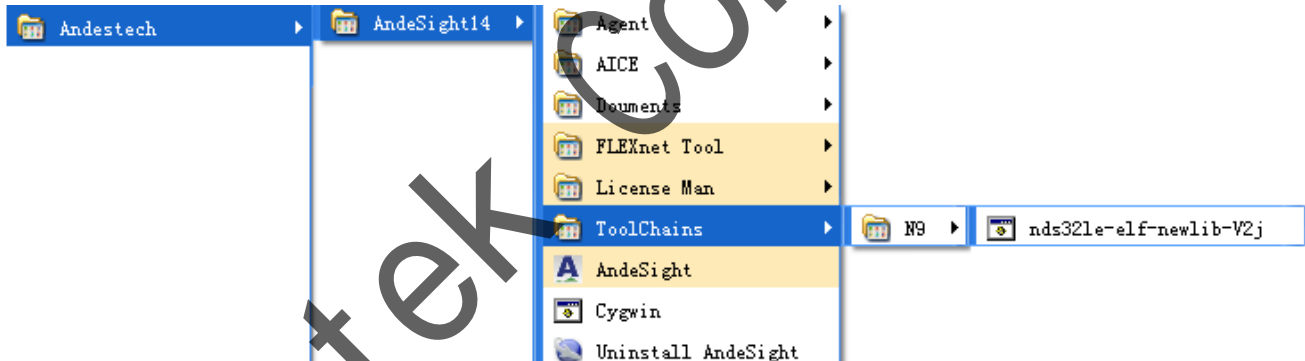
The Normal Compile message:

```
~/MT7681_IoT_Package_v0.02/Src/IoT_MT7681_PKG_v0.02                    _ □ ✕
MTK05528@PC11064726 ~/MT7681_IoT_Package_v0.02/Src/IoT_MT7681_PKG_v0.02
$ make clean;make
Makefile:293: target `cust/vectors.o' doesn't match the target pattern
Makefile:293: target `cust/startup.o' doesn't match the target pattern
Makefile:293: target `cust/ctxsw.o' doesn't match the target pattern
Makefile:325: target `cust/vectors.d' doesn't match the target pattern
Makefile:325: target `cust/startup.d' doesn't match the target pattern
Makefile:325: target `cust/ctxsw.d' doesn't match the target pattern
clean obj/iot_at_cmd.o obj/iot_at_cmd_utility.o obj/iot_parse.o out/MT7681.elf o
ut/build.log
Makefile:293: target `cust/vectors.o' doesn't match the target pattern
Makefile:293: target `cust/startup.o' doesn't match the target pattern
Makefile:293: target `cust/ctxsw.o' doesn't match the target pattern
Makefile:325: target `cust/vectors.d' doesn't match the target pattern
Makefile:325: target `cust/startup.d' doesn't match the target pattern
Makefile:325: target `cust/ctxsw.d' doesn't match the target pattern
echo Compiling cust/iot_at_cmd.c ...
Compiling cust/iot_at_cmd.c ...
echo Compiling cust/iot_at_cmd.c ... >> out/build.log
echo Compiling cust/iot_at_cmd_utility.c ...
Compiling cust/iot_at_cmd_utility.c ...
echo Compiling cust/iot_at_cmd_utility.c ... >> out/build.log
echo Compiling cust/iot_parse.c ...
Compiling cust/iot_parse.c ...
echo Compiling cust/iot_parse.c ... >> out/build.log
Linking out/MT7681.elf ...
/cygdrive/c/Andestech/AndeSight14/toolchains/nds32le-elf-newlib-v2j/bin/nds32le-
elf-ar r libandes.a
/cygdrive/c/Andestech/AndeSight14/toolchains/nds32le-elf-newlib-v2j/bin/nds32le-
elf-ld  -EL -g -Bstatic -Bsymbolic -Bsymbolic-functions --check-sections --gc-se
ctions -T mak/MT7681/ram.lds -Map out/MT7681.map -o out/MT7681.elf --start-group
 obj/iot_at_cmd.o obj/iot_at_cmd_utility.o obj/iot_parse.o cust/vectors.o cust/s
tartup.o cust/ctxsw.o  -L. -landes --end-group >> out/build.log
C:\Andestech\AndeSight14\toolchains\nds32le-elf-newlib-v2j\bin\nds32le-elf-ld.ex
e: warning: _SDA_BASE_ is recommanded being located in an output section, please
 fix it in the linker script.
Making out/MT7681.bin ...

MTK05528@PC11064726 ~/MT7681_IoT_Package_v0.02/Src/IoT_MT7681_PKG_v0.02
$
```
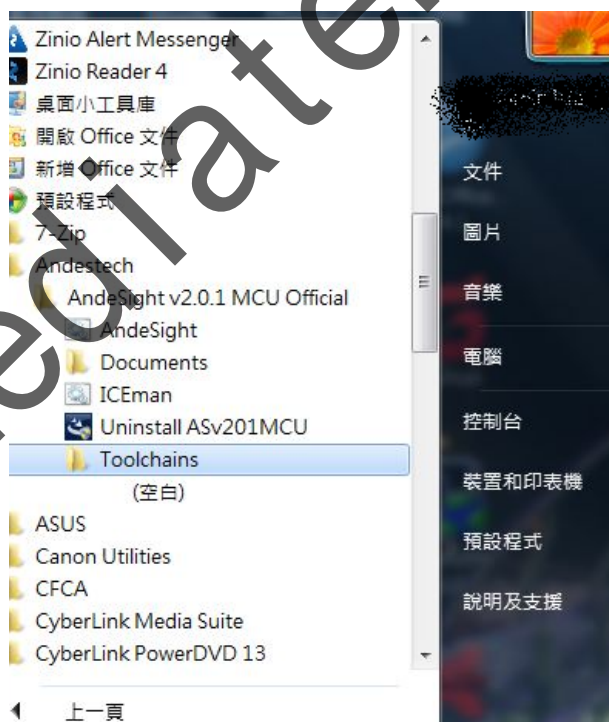
5. Q&A

5-1:   install AndeSight 之後 Toolchains 下面是空白的。請問要怎麼啟動 Cygwin

有人员在 Win 7 OS 下 可能不能打开 Cygwin， 但相同安装档在 **Win XP** 下可以

5-2：在 Cygwin 环境下编译时 提示：

```
compiler.mk  build.log
    0      10      20      30      40      50      60      70      80      90      100      110      120
1 Compiling cust/iot_at_cmd.c ...
2 /bin/sh: /cygdrive/c/Andestech/BSPv310/toolchains/nds32le-elf-newlib-v2j/bin/nds32le-elf-gcc: No such file or directory
```

原因是 toolchains 未安装 或者安装后在 mak/compiler.mk 文件中的设定不对造成
解决方法： 参考第 3 章，将 toolchians 路径 设定到 Package 的 MT7681 Source Code (mak/compiler.mk) 中