**MUXponder Porting Guide v0.5**

1. **Preparatory work**

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| **Basic Software** | **Note** |
| CentOS | Install full Linux server mode, prefer R5.9 and later  CentOS 5.9 + ToolChain + Uboot + Linux Kernel, Running in Linux |
| Minicom | Install in CentOS, f.g. minicom-2.7.tar.gz |
| LTIB | MPC8308 basic development tools |
| hg | Source codes control management tool , install in CentOS  https://www.mercurial-scm.org/ |
| vncserver | vncserver |
|  |  |
| **Required Libs** | **Note** |
| Tcl8.5 | http://www.tcl.tk/ |
| Xml2 | http://xmlsoft.org/ |
| libz | http://www.zlib.net/ |
| readline | http://cnswww.cns.cwru.edu/php/chet/readline/rltop.html |
| ncurses | <http://ftp.gnu.org/gnu/ncurses/> |
| openssl | https://www.openssl.org/ |
|  |  |
| **Win7 Tools** | **Note** |
| VirtualBox | Virtual Linux Server for co-working with Win7 |
| EasyBCD | Tools for installing multi-OS(such as Win7+CentOS5.9) in same PC |
| WinGRB | Same as above |
| UltraISO | Same as above |
| Daemon Tools | Virtual CD/DVD tools |
| Vnc viewer | Vnc viewer |
|  |  |
| **Reference** | **Note** |
| Freescale | [Kenny.Liu@nxp.com](mailto:Kenny.Liu@nxp.com) |
| NXP | [Ades.gao@nxp.com](mailto:Ades.gao@nxp.com) |
| Demo Board | Freescale borrowed |
|  |  |
| File list | .\Doc\_shared\MPC8308  .\Doc\_shared\MPC8308\WindRiver  .\Doc\_shared\MPC8308\AN4028.pdf  .\Doc\_shared\MPC8308\AN4326.pdf  .\Doc\_shared\MPC8308\help.zip  .\Doc\_shared\MPC8308\images.zip  .\Doc\_shared\MPC8308\ltib-mpc8308erdb-20100413-built.zip  .\Doc\_shared\MPC8308\MPC8308CE.pdf  .\Doc\_shared\MPC8308\MPC8308EC.pdf  .\Doc\_shared\MPC8308\MPC8308FS.pdf  .\Doc\_shared\MPC8308\MPC8308PB.pdf  .\Doc\_shared\MPC8308\MPC8308RDBFS.pdf  .\Doc\_shared\MPC8308\MPC8308RM.pdf  .\Doc\_shared\MPC8308\PCN16279.htm  .\Doc\_shared\MPC8308\PQIIPROWP.pdf  .\Doc\_shared\MPC8308\PWRARCHQIQSG.pdf  .\Doc\_shared\MPC8308\WindRiver\install\_BSPs.pdf  .\Doc\_shared\MPC8308\WindRiver\wrl\_4\_0-fsl\_mpc8308\_rdb-00205193.txt  .\Doc\_shared\MPC8308\_DVD  .\Doc\_shared\MPC8308\_DVD\Freescale\_MPC8308\_BSP.iso - Shortcut.lnk  .\Doc\_shared\Mux\_doc  .\Doc\_shared\Mux\_doc\100G Muxponder.doc  .\Doc\_shared\Mux\_doc\Block\_V102.pdf  .\Doc\_shared\Mux\_doc\Key Component List\_V102.pdf  .\Doc\_shared\Mux\_doc\MPC8308模块引脚定义及尺寸.doc  .\Doc\_shared\Mux\_doc\MXP\_draft\_v0.1.docx  .\Doc\_shared\Mux\_doc\MXP-100G\_MIB\_DEF\_V2.doc  .\Doc\_shared\Mux\_doc\100G MXP\_Panel\_Diag.pdf  .\Doc\_shared\Ref  .\Doc\_shared\Ref\12P120\_simulator-.txt  .\Doc\_shared\Ref\centos-5.9-dvd - Shortcut.lnk  .\Doc\_shared\Ref\LCStartProcess.doc  .\Doc\_shared\Ref\HowToGetCode.docx  .\Doc\_shared\Ref\UsersGuide\_LINX\_for\_Linux.pdf |

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| **Useful link** | **Note** |
| <https://www.nxp.com/webapp/swlicensing/sso/downloadSoftware.sp?lang_cd=zh-Hans&catid=SDK_ENABLEMENT> | Freescale |
| <https://community.freescale.com/docs/DOC-104750>  <https://freescale.sdlproducts.com/LiveContent/web/pub.xql?c=t&action=home&pub=QorIQ_SDK_1.9&lang=en-US> | CPU Doc |
| <http://www.freescale.com/products/power-architecture-processors/powerquicc-processors/powerquicc-ii-pro-83xx/low-power-powerquicc-ii-pro-processor-with-ddr2-esdhc-pci-express-etsec-usb-ieee-1588:MPC8308> | MPC8308 DS |
| [http://www.freescale.com/products/power-architecture-processors/powerquicc-processors/powerquicc-ii-pro-83xx/low-power-powerquicc-ii-pro-processor-with-ddr2-esdhc-pci-express-etsec-usb-ieee-1588:MPC8308?tab=Documentation\_Tab&pspll=1&SelectedAsset=Documentation&ProdMetaId=PID/DC/MPC8308&fromPSP=true&assetLockedForNavigation=true&componentId=2&leftNavCode=1&pageSize=25&Documentation=Documentation/00210KscRcb``Application%20Notes&fpsp=1&linkline=Application%20Notes](http://www.freescale.com/products/power-architecture-processors/powerquicc-processors/powerquicc-ii-pro-83xx/low-power-powerquicc-ii-pro-processor-with-ddr2-esdhc-pci-express-etsec-usb-ieee-1588:MPC8308?tab=Documentation_Tab&pspll=1&SelectedAsset=Documentation&ProdMetaId=PID/DC/MPC8308&fromPSP=true&assetLockedForNavigation=true&componentId=2&leftNavCode=1&pageSize=25&Documentation=Documentation/00210KscRcb%60%60Application%20Notes&fpsp=1&linkline=Application%20Notes) | Application  Notes |
| [https://freescale.sdlproducts.com/LiveContent/web/pub.xql?c=t&action=home&pub=QorIQ\_SDK\_1.9&lang=en-US#addHistory=true&filename=GUID-EF66BE04-F788-41B0-9C33-038C74599E08.xml&docid=GUID-EF66BE04-F788-41B0-9C33-038C74599E08&inner\_id=GUID-EF66BE04-F788-41B0-9C33-038C74599E08&tid=&query=&scope=&resource=&toc=false&eventType=lcContent.loadDocGUID-EF66BE04-F788-41B0-9C33-038C74599E08](https://freescale.sdlproducts.com/LiveContent/web/pub.xql?c=t&action=home&pub=QorIQ_SDK_1.9&lang=en-US#addHistory=true&filename=GUID-EF66BE04-F788-41B0-9C33-038C74599E08.xml&docid=GUID-EF66BE04-F788-41B0-9C33-038C74599E08&inner_id=GUID-EF66BE04-F788-41B0-9C33-038C74599E08&tid=&query=&scope=&resource=&toc=false&eventType=lcContent.loadDocGUID-EF66BE04-F788-) |  |
| <https://www.nxp.com/webapp/sps/download/license.jsp?colCode=MPC8308NSG_Linux_BSP&appType=file1&location=null&DOWNLOAD_ID=null> | BSP |
| <http://download.savannah.gnu.org/releases/ltib/> | LTIB |

1. **Generals**
   1. Hg repos Paths

Two repos are introduced for porting

Ltib: /home/wqiu/vobs

MUX sw Vobs: /home/wqiu/vobs

Compiler: /opt/freescale (not managed with hg)

Stardlib tars: /opt/freescale/pkgs/ (not managed with hg)

* 1. Porting status summary

Ltib tool setup ok, basic system can be built and running on demo board.

All Project Sw components were moved to dedicated project and user space components were compiled and linked Success. But Not been run on target yet.

1. **Ltib**

Ltib is a powerful scripts set, we use it to manage and build kernel, stdlibs, and basic linux system

Compile:

$cd /home/wqiu/ltib

$./ltib

Useful options:

$./ltib -help

$./ltib prep packeage\_name

$./ltib scbuild packeage\_name

Stdlib include and lib dirs.:

/opt/freescale/usr/local/gcc-4.1.78-eglibc-2.5.78-1/sysroots/mpc8308\_mv-armanda-xp

/opt/freescale/rootfs/wra9\_lc

Try to use a same sysroots while porting;

Most Current Components use the first sysroots, but there’s still some components which was ported at the earlier stages using different one. Suggest changing it to using the same one during the later develops.

New introduced Stdlibs:

Tcl8.5 xml2 libz readline ncurses openssl

1. **Vobs**

All user space components can be compiled and linked OK.

Linx kernel components not built yet

Compile:

$cd /home/wqiu/vobs/pss/node

$./buildall.sh wr\_a9

$cd /home/wqiu/vobs/assets/linx

$./buildall.sh

Maybe there’s still some components need to be build separately, refer to the changeset logs.

1. **Issues and status**

Swig issue: digi\_adpt\_swig.c is script generated source code, same label jump is out the range of jmp instruction, issue will be showed while linking.

Some C++ language issue marked with MUXPONDER\_TBD

Upgrade the compiler will solve these issues.

1. **TBD suggestions**

Keyword MUXPONDER\_TBD was placed in source code to mark the unsolved issues.

Search the whole project to list all of them.

Upgrade to New gcc version will solve a lot of issues.

Use the same sysroot

1. **Information**

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| **已做项目** | **说明** |
| 向Freescale申请和购买MPC8308开发板及相关光盘 |  |
| 基于CentOS搭建开发环境：  编译服务器，代码并行开发维护服务器 |  |
| 讨论并定义和上层软件的借口/文件 |  |
| 选择并安装GCC 3.4.3/Montavista4.0/MPC8308交叉编译工具 |  |
| 选择并安装板间通信软件LINX |  |
| 完成盘级配置模块configMain代码 |  |
| 完成盘级告警模块Fault代码 |  |
| 完成Linux simulator编码和编译 |  |
| 完成目标板应用空间代码的编码和编译 |  |
| **未作项目** | **说明** |
| 目标板uboot驱动的编码 |  |
| 目标板内核空间的驱动的编码 |  |
| 目标板相关代码的验证 |  |
| 目标板业务打通 |  |