TWR-MPC5125
Lab tutorial

Introduction

This document explains the out-of-box demo of Freescale TWR-MPC5125 system. TWR-MPC5125 system is a Freescale tower compatible system and based on Power Architecture microprocessor MPC5125. This document presumes that the reader has already gone through the Quick Start Guide and followed the steps to setup the hardware system ready. If not, please refer to the Quick Start Guide firstly.

The **MPC5125** is a cost and power consumption optimized, industrial networking, automotive, and human-machine interface (HMI) solution.

Learn More: For more information about Freescale products, please visit **www.freescale.com**.

Lab Tutorial for LimeOS™ Demo by LimePC

How to start LimeOS™

The TWR-MPC5125 module will start LimeOS™ demo when the user exits the auto-play video demo (press Q on the keyboard). If this behavior is lost, LimeOS™ can be started from the U-Boot command line. Please refer to the QSG of how to get a U-Boot command line. Enter the following command on the U-Boot command line to start the LimeOS™ demo.

U-Boot Command: "=> run nandboot"

Note: Longer boot times will be experienced if the proper exit procedure is not followed. This behavior is due to the file system not being closed properly just like on a standard PC. In addition, this demo implementation has not been optimized for performance.

X Window Desktop

LimeOS™ is an X Window based graphical interface showing the ability to run X Window applications on the TWR-MPC5125 platform.

The LimeOS™ environment comes preload with some application launch icons to demo different applications within the environment.

There might arise cases where a user name and password to needs to be entered. The factory programmed user name and password is as follows:
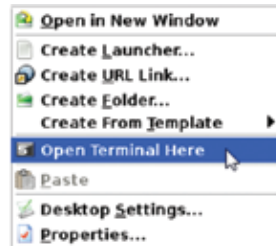
limeos login: root
Password: root

User can modify the desktop by right click on background and select "Desktop Settings". Icon size and font size can also be modified here by select "Icons" tab on "Desktop Settings" window

Terminal window can be started by the methods below:
• Right click on background and select "Open Terminal Here".
• Left click "Start" button on the most left of task bar, select "Terminal".

Right click on the file in File Manager, select "Open With Other Application…" can help user choose proper application to open the file.

How to safely shutdown LimeOS™

When select "Log Out" in the start menu, you can see the "Log out user" window shown as below:

Restart: reboot LimeOS™

Shut Down: shut down LimeOS™. After it displays "You can safely power off now!", you can reset board or remove the power supply.

Suspend: suspend LimeOS™, deep sleep mode

Boot to BSP: close X-Window desktop and shift to console

Hibernate: hibernate LimeOS™

Once the board go to suspend/hibernation mode, pressing Hibernate(SW8) button on board can get out of suspend/hibernation mode.

Playing Multimedia Files from Removable Media

You can play multimedia files from a SD card or a USB stick. The system can support *.mp3, *.avi, *.wmv, *.mpg, *.mov, *.swf, etc.

1. Copy the the files into SD card or a USB stick.
2. Plug in the SD card into SD socket of the board or the USB stck into the USB hub which connects the USB port of board. If the SD card or USB device does not automount and show up on the desktop, please follow the instructions 3 and 4 below.
3. For SD card, on the console, please type
=> mkdir /mnt/sd (If the sd directory already exist, ignore this step)
=> mount –noatime /dev/mmcblk0p1 /mnt/sd
Now you can browse the files inside the SD card.
=>ls /mnt/sd -l
4. For USB stick, on the console, please type
=>mkdir /mnt/usb (If the usb directory already exist, ignore this step)
=>mount /dev/sda1 /mnt/usb (If the usb stick has MBR section - master boot record, the system recognize it as /dev/sda)
Now you can browse the files inside the USB stick.
=>ls /mnt/usb

How to run a flash animation – Gnash flash player

LimeOS™ has integrated a open source SWF movie player – Gnash for flash animation support. To launch the Gnash, please just double-left-click the mouse on the Gnash icon on the desktop of limeos. The Gnash can also be used to view a picture file. Then the swf file is played on the screen.

You may use "gnash -h" to get more information about the flash player.

How to run the java application - LimeVM

LimeOS™ integrates a java virtual machine to support Java applications. Here is a guide to launch a java application preinstalled in the system. Please just double-left-click the mouse on the java icon on the desktop of limeos. You will see a classical minesweeper java game running on the desktop.

You may type "java -h" on the console to get more information about the java virtual machine.

How to play a multimedia file – LimePlayer

LimeOS™ integrates LimePlayer to support playing multimedia files. To play a multimedia file with audio content, you need plug in a speaker or a earphone into the Jack on the Tower board. Please just double-left-click the mouse on the LimePlayer icon on the desktop of LimeOS™, the LimePlayer will run on the

screen. Then browse the multimedia file and open.

Press "o" key will open the browse window. Then you can select a file to play. You may type "limeplayer -h" on the console to get more information about the Mplayer.

Prepare the network and browse the internet

The default Ethernet for eth0 device is the RJ45 on the MPU tower board. Firstly, you need to setup the network of the TWR-MPC5125. Here is the step.

1. Use a Ethernet cable to connect RJ45 connector on the Tower board to your internet connection. You may need to enable networking by right click the network icon on the right of task bar and select "Enable Networking" on the menu. Also, you need to left click the network icon and select "Auto eth0" on the menu.
2. If your network has a dhc server, it will automatically assign an ip address for the board. Normally, this will be done automatically. If not, you may use "dhclient" to do ip request. To launch the dhc client, type the following command in console:
=>dhclient
3. If your network does not have a dhc server, you may config your network ip manually. Here is the step:
=>ifconfig eth0 <your ipaddress> netmask <your netmask>
4. You can use ping command to check if the Ethernet is working properly
=>ping <known ip on the network>
5. If the network is ready, you may start the internet browser. LimeOS™ integrates the web browser Firefox. To launch it, just left-click the mouse on the Firefox icon on the desktop of LimeOS™

Now you may input the URL inside the url bar.

If proxy is needed to access the internet, you may set the proxy server in "Connection Settings" window : Firefox Edit menu-->Preferences-->Advance Tab-->Settings.