EasyXS

PowerPC 750GX
Turnkey VME System

- Available — 2 Weeks Lead Time
- Powerful — 1 GHz PowerPC, 2eSST VME
- Extensible — One VME 6U Board up to Two PCI Mezzanine
- Time-Saver — Instant Bring-Up with Pre-loaded Demo OS: Vxworks 5.5, LynxOS 4.0, Linux 2.4

Product Overview

After having used this system for small demos and evaluation, you may wish to switch to a genuine application development. There are the necessary steps to achieve this. Failing to use the advice contained here may lead to an unsupportable system and possible violation of the copyrights from the various software vendors involved in this program.

Developing for VxWorks

A Tornado development seat from Wind River Systems is required. VxWorks development can only be done with development tools from Wind River. The Tornado development seat contains all the necessary tools to create and debug software on a PowerPC target. These tools run on a host PC and connect to the target using TCP/IP on Ethernet. Wind River now bundles tools and the rights to use VxWorks into its "Platforms" offering. Many platforms bundle can be used with the PowerEngine7. The most common platform is the VxWorks Developer's Toolkit (more info at link 1).
NOTE: EasyXS PowerPC 750GX sample kernel is a VxWorks 5.5 version built with Tornado 2.2 tools.
A VxWorks BSP and support from Kontron is also needed. EasyXS PowerPC 750GX contains a single board computer named PowerEngine7. To generate application and kernels for this platform, a BSP from Kontron is needed. It contains the hardware dependant code for this board. Delivered as a CD, it must be purchased only once per program and self-installs in an existing Tornado environment. The order code is BSP-1C-VMPC7. To purchase new PowerEngine7 to use with VxWorks, the PROM-1C-VMPC7 option should be ordered with the boards. Kontron also offers another version of BSP and PROM to use with Tornado 2.0 and VxWorks 5.4: PROM-1A-VMPC7 and BSP-1A-VMPC7.

Developing for LynxOS

A LynxOS development seat from LynuxWorks is required. As LynxOS is a full-fledged Posix OS, LynxOS application development can be done entirely on the target board, this is called native development. Cross development solutions from a PC or a UNIX workstation are also possible and need to be purchased from LynuxWorks. More information on LynxOS is available at link 2.

A LynxOS BSP and support is needed. Board Support Package CD for the PowerEngine7 from Kontron is delivered as a bootable CD to enable native installation of the target board. The same CD can be used to add the board dependant files to a pre-installed LynxOS cross development environment. BSP support from Kontron is also available. The Kontron PowerEngine7 is now listed in the LynxOS BSP link 3.
Additional software tools are also available only from Kontron for multi-processor and multi-board systems. These will allow complex architectures required by applications such as Radar, Sonar and Medical Imaging. See link 4 and look for "Powerline Layers" for more information. The detailed user manuals for PowerLine are also included in the software section on the documentation CD delivered with your system.

Developing for BlueCat Linux

The Linux demo system embedded in EasyXS PowerPC 750GX was designed and built using BlueCat Linux from LynuxWorks. Due to the open source nature of the Linux kernel and BSP code, other strategies to run Linux on the PowerEngine7 board from Kontron may also be employed. However, at this time, standard BSP software support is only available for Bluecat Linux. Contact Kontron if you have other requirements.
A BlueCat Linux development seat from LynuxWorks is recommended. BlueCat embedded Linux is an efficient small footprint Linux distribution for embedded systems.
The BlueCat offering includes a set of cross compilation and debugging tools, along with small kernel downloadable images (kdi) given as examples. Complete support and expertise are also provided by LynuxWorks. More information on BlueCat is available at link 5.
A BlueCat Linux BSP and support from Kontron is also needed. The board support package (BSP) CD for the PowerEngine7 from Kontron is delivered as a source-only CD containing the board-dependant Linux kernel files properly configured for BlueCat Linux. The order code to use is BSP-3A-VMPC7. Yearly standard BSP support for BlueCat Linux is also available from Kontron. The Kontron PowerEngine7 is already listed in the "coming soon" section of the BlueCat BSP list. In the near future, users will be able to choose direct support from LynuxWorks on the PowerEngine7.

1 http://www.windriver.com/products/vxworks/index.html
2 http://www.lynuxworks.com/rtos/lynxos.php3
3 http://www.lynuxworks.com/board-support/thales/powerengine7.php
4 http://www.thalescomputers.com/software.asp
5 http://www.lynuxworks.com/embedded-linux/embedded-linux.php

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