



Linux Development Kit for C&H's Intelligent VXI Carriers

C&H Technologies, Inc. offers an Embedded Linux Development Kit containing hardware, software, documentation and technical support that eases integration and development using Embedded Linux on C&H's family of Intelligent VXI Carriers. The Linux Development Kit is a requirement for C&H supported Linux development using C&H Embedded Linux distribution. It not only eases development and reduces time-to-market; the development kit contains hardware that is compulsory for the developer to utilize many standard open source development tools.

Overview:

The Linux Development Kit includes the following:

- Ethernet PMC Module
- NULL modem serial cable
- 8-pin header to D-Sub adapter
- RS-232 to TTL level converter
- CAT5 Ethernet Cable
- Windows based VXI host applications
- Complete Documentation
- 1 year tech support agreement

Development Kit Hardware

The PMC Ethernet card will populate the internal PMC position of the intelligent carrier and will allow the developer to utilize standard network based utilities such as telnet, FTP, NFS, and GDB/GDBserver.

The combinations of the Null modem serial cable, 8-pin header to D-Sub adapter and RS-232 to TTL level converter, provides low-level access to the bootloader and kernel consoles. The serial cable is essential when performing low level

diagnostics or performing kernel level debugging when customizing the kernel.

Development Kit Software

In addition to the software provided as part of the kernel, bootloader and root file system, the Linux development kit includes a set of Window's based host applications to assist development. These applications provide access to the VXI Console, VXI FTP, and the standard word serial commands. Further, a utility is provided that allows firmware residing in flash memory to be updated via the VXI bus.

Host Development Environment

The host development environment is not included in this kit. C&H recommends tools that are freely available in the open source community

The recommended combination of a Fedora Linux host and DENX ELDK

toolchain provide a complete cross-development environment for Embedded Linux.

Other open source tools such as DDD, Eclipse, MEMWATCH, strace, kgdb and a host of others can also be used for development and debug purposes.

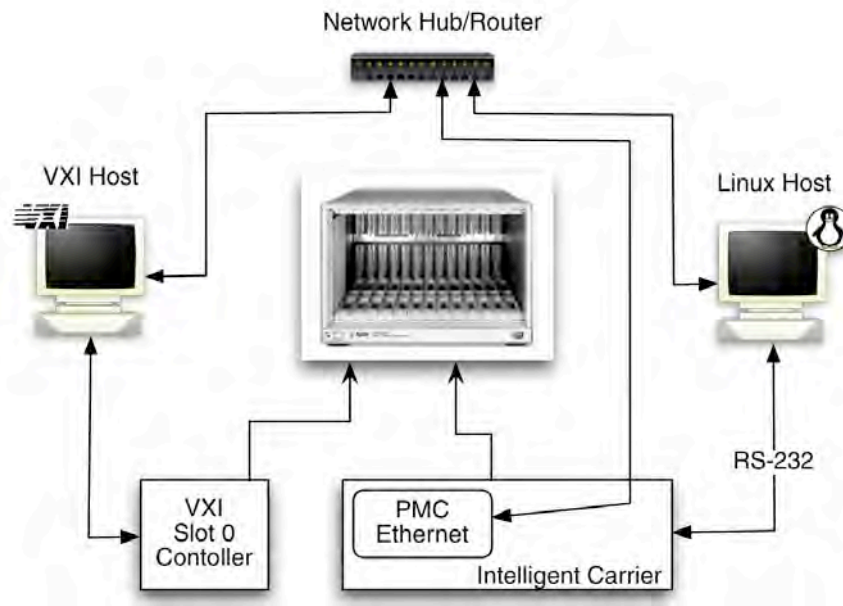
Additional Information:

Data sheets and user manuals for C&H's intelligent carriers can be found on our website at www.chtech.com

Intelligent carriers and associated mezzanine modules must be purchased separately.

Ordering Information:

Description	Part Number
Linux Development Kit	11028595-0001



Typical Linux Development System
Not all items shown are included in the development kit

Features:

Kernel:

- Linux Kernel Version 2.6.14.2
- Customized for the VX406C, VX407C and VX411C
- Source-code patch file provided
- GPL Licensed

Root File System:

- Ext2 Filesystem
- 32 MB Ramdisk Image
- Read-Only
- Fully customizable
- Busybox
- uClibc
- Applications include: FTP, Telnet, GDBServer, PCMCIA Utilities, PCI Utilities and others

Bootloader:

- DAS U-Boot 1.1.4
- Customized for the VX406C, VX407C and VX411C
- Source-code patch file provided
- VXI Console
- VXI Word Serial Commands
- 'vxiupdate' for VXI based firmware updates to flash
- GPL Licensed

VXI Console

- Serial port emulation via VXI bus
- Console interface to both U-Boot and kernel
- Network-based remote interface to console

VXI FTP

- File transfer protocol over the VXI bus
- Runtime downloads of files from VXI host to target
- Access to root file system from VXI host

VXI Word Serial Character Driver:

- Kernel level handling of word serial protocol
- Interrupt driven
- System command interpreter w/ defined commands
- User application can create custom commands
- Blocking or Non-blocking I/O

Cross-Development Tool Recommendations

- Linux based PC using Fedora Linux
- DENX ELDK – www.denx.de
- Large number of open source utilities

Supported Intelligent Carriers

- VX406C - VXI intelligent carrier for M-modules
- VX407C - VXI intelligent carrier for PXI/cPCI
- VX411C - VXI intelligent carrier for PMC & PCMCIA

Intelligent Carrier Architecture

- MPC8245 w/ 603e PowerPC Core
- Onboard PCIbus
- 128 Megabyte SDRAM
- minimum 8 Megabyte Flash
- 16 Kilobyte Dual Ported Shared Memory
- Internal PMC position
- TTL Level UART interface