

NetComm Software for Communication Processors Built on Power Architecture® Technology

Overview

NetComm Software (NCSW) is a comprehensive package that supplies customers with a variety of tools and software code to help develop networking solutions on supported Freescale PowerQUICC and QorIQ processor platforms. NCSW provides both static (automatic configuration) and run time (initialization, drivers and monitoring) capabilities. Accompanied with thorough and comprehensive documentation, NCSW is designed to help speed your development time in today's challenging markets. The NCSW package includes the following major components:

- NetComm device drivers (NCDD)
- CommExpert graphical user interface
- Use case environment
- Extensive documentation

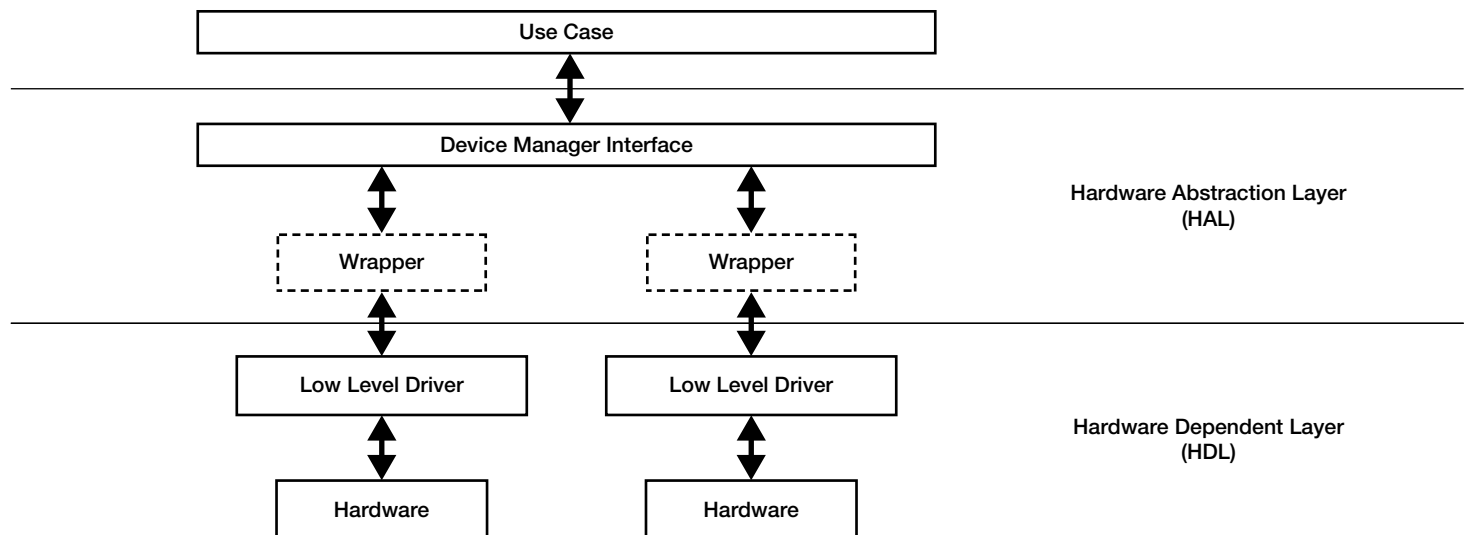
NCDD are delivered as free source reference code and direct virtually all system and communication blocks of the supported platforms. The drivers are highly modular and tightly connected to the data path acceleration firmware, enabling the highest level of optimization possible. The code is provided under the non-GPL Freescale End-User License Agreement.

NCDD Features

- Customer focused: Developed, tested and supplied with hundreds of applicable use cases.
- Mature: Enabling Freescale silicon for over 15 years.
- Widely accepted: With hundreds of downloads every year, from companies all across the market segments, including all major industry leaders.
- Full coverage: Drives all system and networking hardware blocks for supported platforms. Includes substantial interworking support.

- Accurately optimized: Built over the underline acceleration firmware.
- Single architecture, single API: Across all supported platforms.
- Easily scalable: NCSW is fully modular over all of its components (silicon, boards, communication blocks, memories). No driver is written twice over different platforms.
- Highly portable to any major operating system (OS): Completely OS-agnostic accompanied with a comprehensive porting guide.
- Comprehensively documented: Wide array of specs, user's guides and reference manuals across the board and platform specific.
- Non GPL: Open and free source code supplied under Freescale software license agreement.

NCDD and Use Cases Architecture



Use Case Environment

Freescale offers a rich CodeWarrior tools-based set of use case examples for the supported NetComm drivers. These use cases provide great examples for utilizing the extensive NCDD application programming interface (API) as well as reference code for typical applications.

NCDD Documentation

Complete package documentation

- API changes—per release
- Porting guide
- Highly commented source code
- Acceleration firmware description, including loading guide

Platform-specific documentation

- Driver user guide
- Driver reference guide
- Use cases user guide

CommExpert

A powerful graphical user interface (GUI)-based tool set that speeds up and simplifies initialization, configuration and run time of the drivers and communications protocols for various data path engines driving communication on the PowerQUICC, QorIQ and DSP processors. This tool provides an easy-to-use environment for handling common programming tasks along with immediate access to relevant documentation. It helps you to quickly initialize and run applications on NetComm devices so you can focus on application creation and other tasks that differentiate your end product in the marketplace. For the runtime environment, CommExpert provides a wide range of monitoring tools.

CommExpert Features

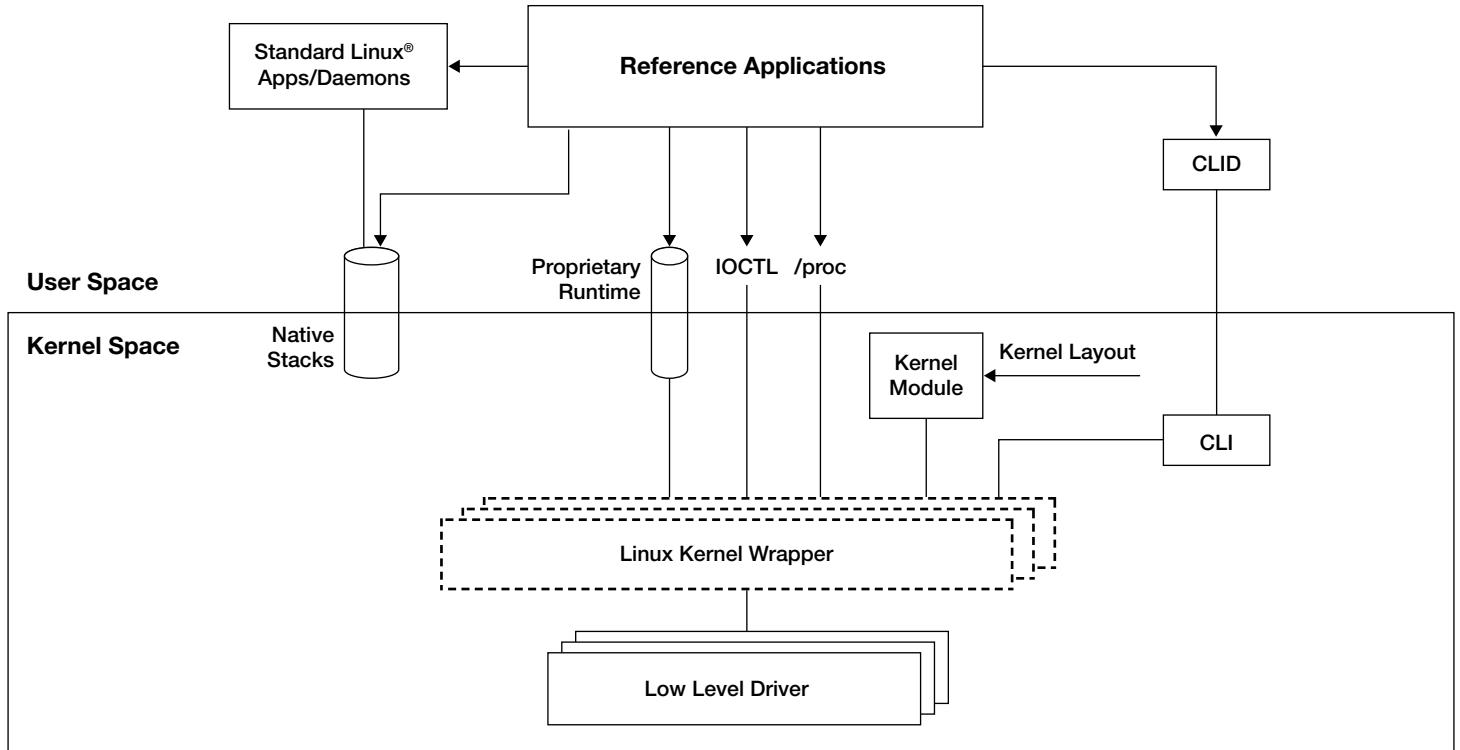
Easy-to-use configuration GUI—a true speed multiplier

- Users pick configuration components from the rich GUI
- Every possible parameter is hyperlinked to the spec document
- Online, elaborated and automatic error discovery
- Auto-generation of “C” source for configuration
- Complete graphical support for interworking configuration
- Pin-muxing support

Comprehensive runtime monitoring environment

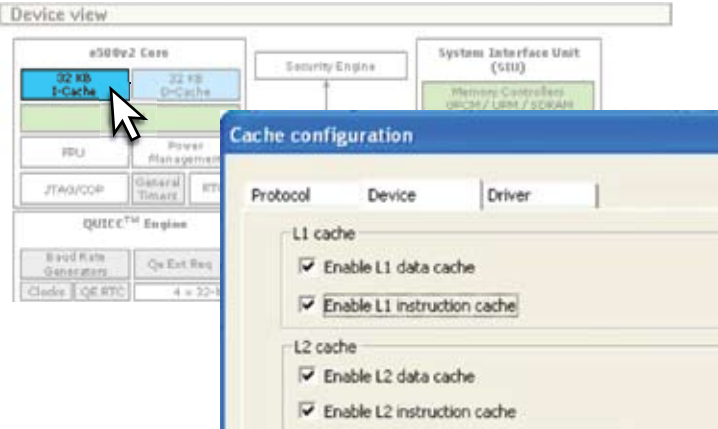
- Memory view
- Registers view
- Memory annotation
- Buffer descriptor view
- Performance monitoring

Example Port: NCDD-Linux® Operating System Architecture



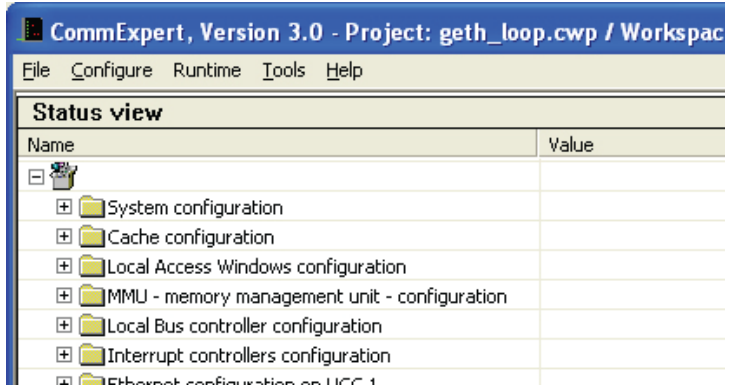
Glue Logic

CommExpert—Hyper-Text Based Configuration



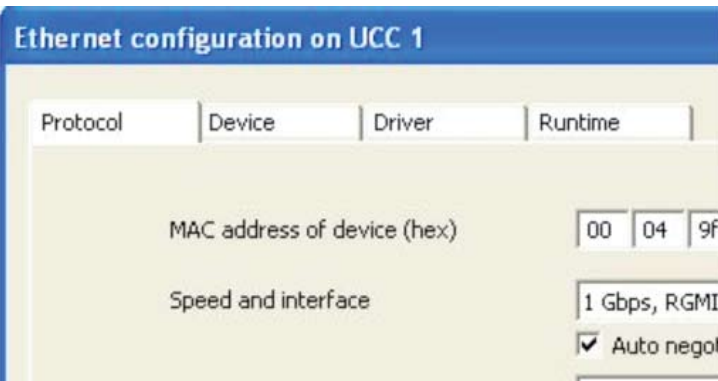
Hyper-text block of the configured device—click any of the configurable blocks in order to open a rich configuration dialog box

CommExpert—Configuration Status



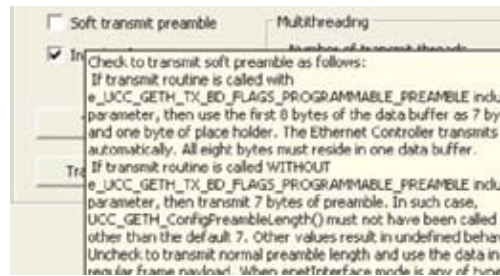
Detailed status of each of the already configured blocks

CommExpert—Layout of Block Configuration

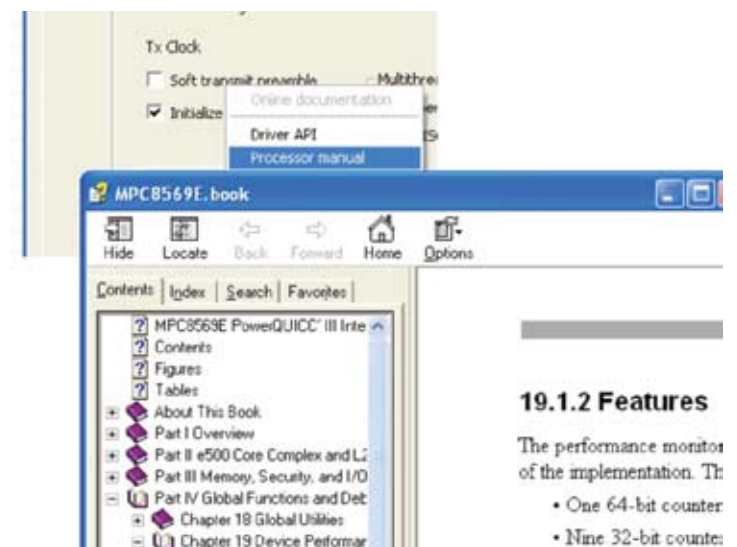


The block configuration box is broken down to three types—protocol, device and driver. Another tab is available for runtime control when relevant

CommExpert—Help and Documentation

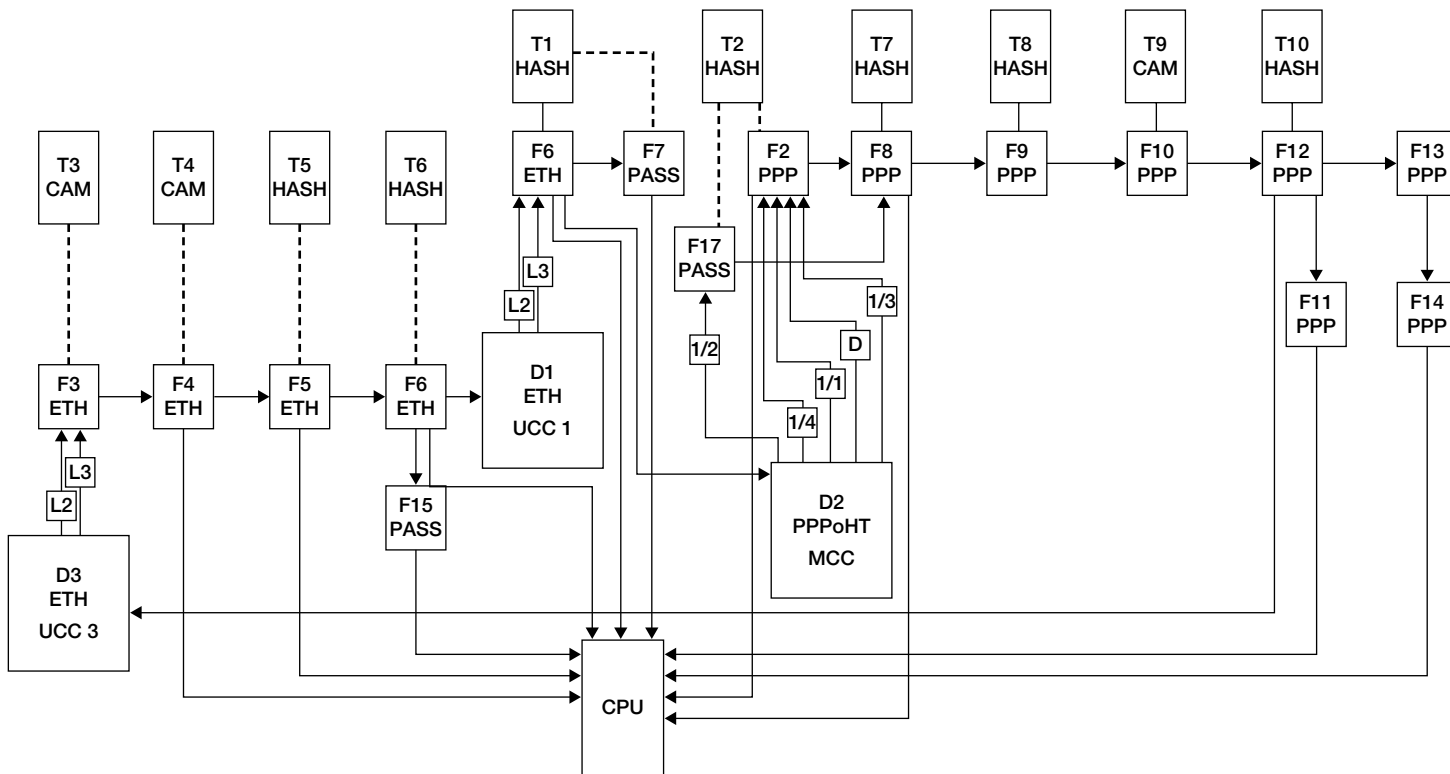


Hovering over any configuration field, will result in a pop-up short description of it



Sometimes the full specification is needed—right click the field to gain immediate, pin-pointed access to the relevant manual of your choice

CommExpert—Interworking Configuration

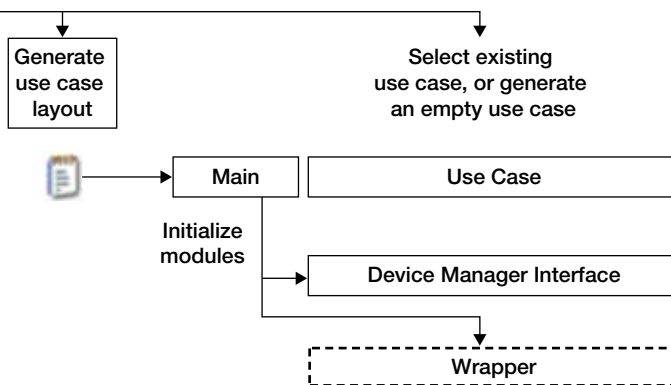


NCDD and CommExpert Integration

Configuration code generated by CommExpert is compiled into the use case and then used by the main call of the NCDD to configure the Device Manager Interface and Drivers' Wrappers (see figure NCDD and Use Cases Architecture above) at the beginning of runtime.

NCDD and CommExpert Integration

CommExpert



Glue Logic

Learn More:

For current information about Freescale products and documentation, please visit www.freescale.com/netcommsw. Registration is required for software and documentation download authorization.