

Features

- 68K / Coldfire
- Complete integrated development environment
- Seamless integration of target components
- Posix Kernel
 - Small Size
 - Very Fast
 - Static Allocation of Objects
 - Size and Speed Option
 - Multiprocessor – Shared Memory
 - Distributed – Thin Links
 - Heterogeneous
 - Thread Migration and Flexible Scheduling Policies
- Digital Signal Processing and Math Libraries
- A/D & D/A
- Timers & PWM
- Serial I/O (Asynchronous, Synchronous, tty, raw, SPI)
- Networking
- USB
- CAN
- File I/O
 - NFS
 - Flash
 - Fast Contiguous
- X11
- Small footprint software components (less than 1/20th the size of uClinux)
- Integrated Compiler, Assembler, Linker, Librarian based on GCC
- Integrated debugger support based on Eclipse CDT 4 and GDB
- Single click install
- Off the shelf evaluation board support
- Complete documentation including:
 - Index and Release Notes
 - Tutorial manual as part of the IDE
 - Programmer's Guide for Unison™ with PPC chapter for specifics
 - Reference Guide for Unison
 - DSP Library manual
 - Integrated Development Environment manual embedded in the IDE including:
 - Compiler, Assembler, Linker and Librarian
 - GDB and CDT
 - Unison tutorial

Overview

Unison is a DSP Operating System intended for efficiently developing and delivering embedded digital signal processing solutions for a broad set of applications. Its main strengths are: simplicity and standards, DSP library integration, DSP optimized design, very small size and integrated DSP development environments.

DSP applications are daunting for many engineers but they need not be. If the implementation libraries are tried and proven, the design patterns are well known, accepted standards are used, and good tools are available, implementation can be fast and simple.

With DSP libraries and servers as part of the implementation package, users seldom have to develop optimized libraries themselves. Fast and low risk implementation is the end result.

By maximizing the utility of the operating system for DSP systems, the design patterns change and the system becomes more efficient. For example, a producer consumer model with fixed size buffers and a message queue is an ideal subcomponent of a pipelined signal processor design. Both the inter thread communication using message queues and fixed size buffer pools with buffer management are required to be fast and simple for easy implementation.

Great tools also benefit the developers of DSP systems. By being able to look into the system and observe at the design level based on signal processing functionality, users can debug systems quickly and easily. As users become familiar with the signals and objects throughout the system, these tools become invaluable in helping users understand when the system is operating correctly.

With an integrated IDE based on Eclipse including an integrated compiler, assembler, linker, librarian, and jtag debugging, users can develop systems much more quickly with far fewer support questions.

Using common development boards users get up to speed in an error free environment, immediately. Check our site for the currently supported 68K/Coldfire boards at www.rowebots.com.

Integrated software components with complete I/O can save significant time in OEM application development. Today, all systems are networked in some way and the integration of the Unison kernel along with various networking support, serial support and more will allow them to build whatever they need quickly.

Integration of the kernel libraries on the host will support debugging without hardware on the host workstation, speeding development by elimination of development road blocks.

Overview

Continued

With a single click install on any host operating system, Unison is always simple to deploy and get people started without questions or start-up difficulties.

With extensive documentation which walks the user through the system from conceptual understanding of the system through to actual hands on operation on standard hardware, users come up to speed quickly and develop confidence with the system before encountering more challenging problems.

Supported Hosts

- Windows XP™
- Windows Vista™
- Linux
- Solaris™

Supported Processors

- M680x0
- Coldfire 522xx, 521x0

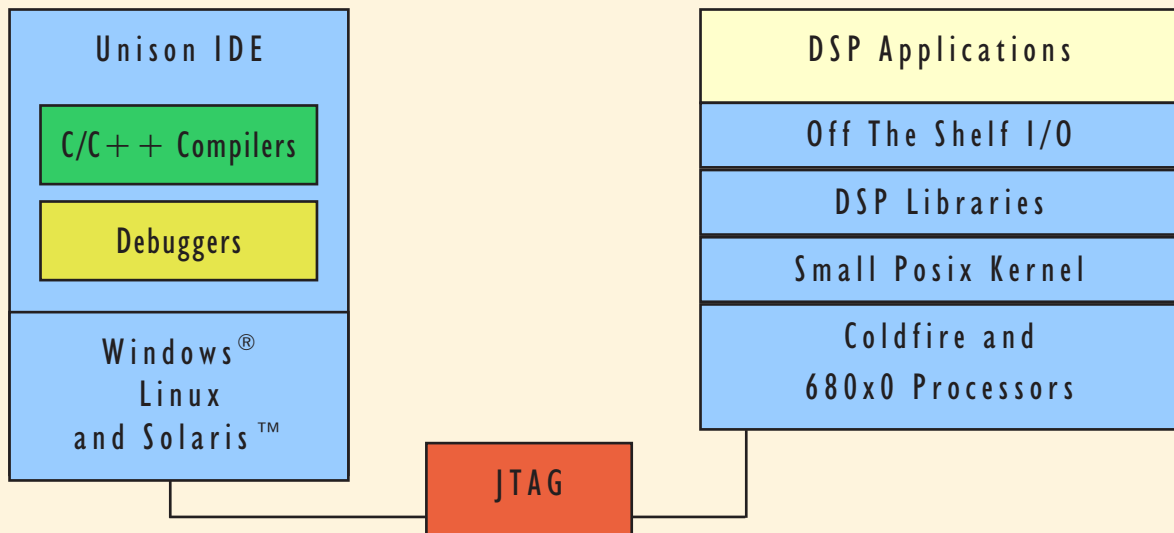
Software Version

- Unison DSP OS V4

Availability

- Beta
- Q3/ 07

Unison DSP Operating System Architecture



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