

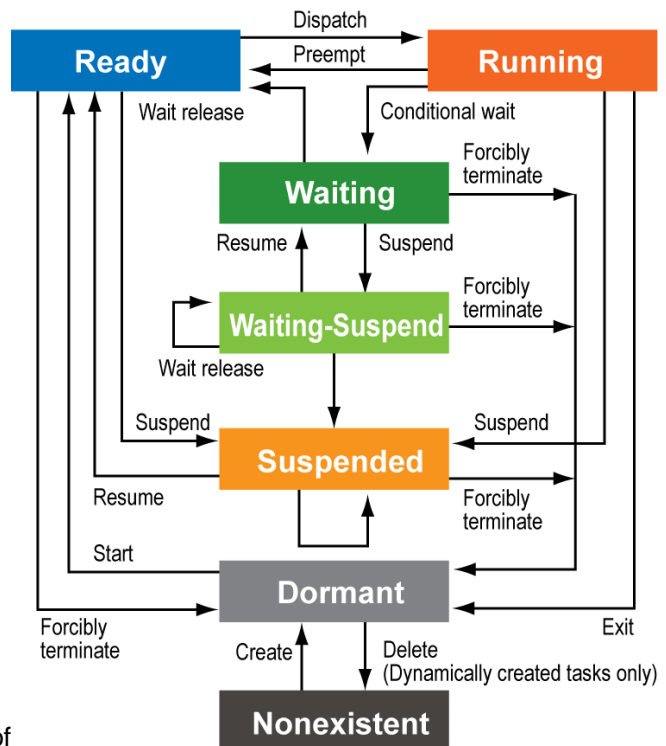
Advanced Real Time Kernel

Product Overview

PrKERNELv4 is a fully preemptive and deterministic kernel, targeting market-leading 32-bit RISC processors. PrKERNELv4 comes with the functions of a fully "preemptive kernel" which enables true real-time operation. The system is completely configurable by the user, so unused functions will not be included in the application. The preemptive kernel prevents priority inversion of service calls and improves response time. Our meticulous proprietary designs, such as the "system trace" function for debugging, are key value-added features that build on standard OS designs.

Key Features

- ❑ Preemptive kernel
- ❑ Reentrant design
- ❑ Compact and scalable
 - Small footprint
 - User configurable
- ❑ High performance
 - Very low interrupt latency
- ❑ Advanced RTOS features
 - Priority inversion protection
 - Mutex support
 - Variable-sized memory pool
 - Alarm handler
 - Dynamic kernel object generation
- ❑ Includes diagnostic utilities
 - Monitors the state of kernel objects
 - System trace
- ❑ Many system services can be activated from interrupt service routines
- ❑ Completely ROMable
- ❑ Supports CPU-specific functions
- ❑ μ ITRON4.0 compliant
 - Supports "standard" and "extended" prof
- ❑ Complete source code provided



μ ITRON

The μ ITRON specification establishes a common operating system standard and environment. The specification has been designed to allow the user to create multitasking applications that are compatible across architectures and systems that support the μ ITRON specification. Function calls found in the μ ITRON specification will work in the same manner from implementation to implementation regardless of how the underlying system operates.

Memory Usage

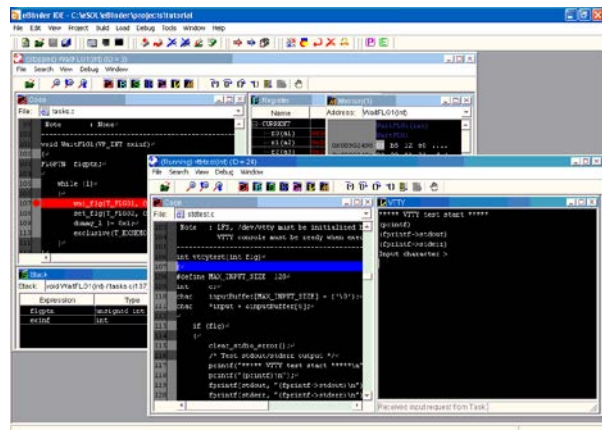
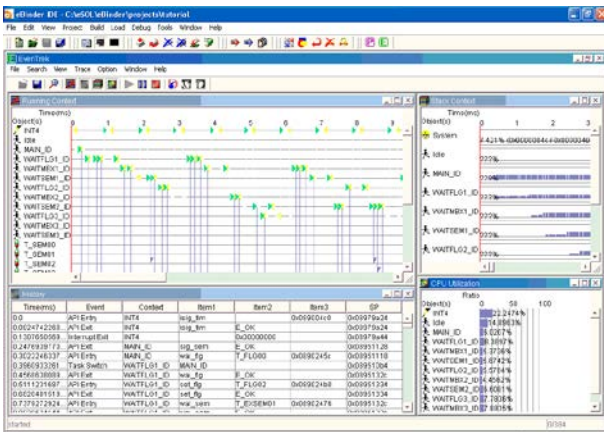
PrKERNELv4 requires very little memory. The table "Memory Usage" illustrates well how compact the PrKERNELv4 implementation is on many 32-bit RISC architectures.

Processors Supported

- ARM7/9/10/11 & MPCore, Freescale DragonBall iMX/L, Renesas SH 3/4, SH3-DSP, Texas Instruments TMS320DM320/35x/36x/644x/646x
- Supported Compilers: RVCT (ARM), GCC (SH)
- Many Board Support Packages are available

eBinder IDE Solutions

- ❑ **Overview:** The eBinder integrated development environment is an embedded system development package that provides a comprehensive range of integrated development tools and software components for debugging multi-threaded applications. The eBinder IDE is an Integrated Development Environment with a built-in multicontext debugger for eSOL's real time kernels (PrKERNELv4 / eT-Kernel) and is seamlessly integrated with the kernel and middleware products from eSOL (TCP/IP, file system, and USB stack) as an out-of-the-box solution.
- ❑ **Package Contents:** eBinder includes a cross compiler, an RTOS-aware multi-context debugger, and tools for system configuration, system build, and optimization. It also includes robust system profiling tools to find out the critical system bottle-necks, and software engineering tools to increase development productivity.
- ❑ **Screenshots**



Compatible Products

- **PrFILE2:** Portable DOS/Windows-compatible file system with various media drivers
- **PrCONNECT/Pro:** TCP/IP protocol stack
- **PrUSB:** USB device and host drivers
- **PictDirect:** PictBridge-compliant module

Licensing

Royalty-free source code license.

eSOL Co., Ltd.
Embedded Products Division

Harmony Tower, 1-32-2 Honcho
 Nakano-ku, Tokyo 164-9721, Japan
 Tel: +81 3-5302-1360 Fax: +81 3-5302-1361
 ep-info@esol.co.jp