

A POSIX-compliant Real Time Operating System

Product Overview

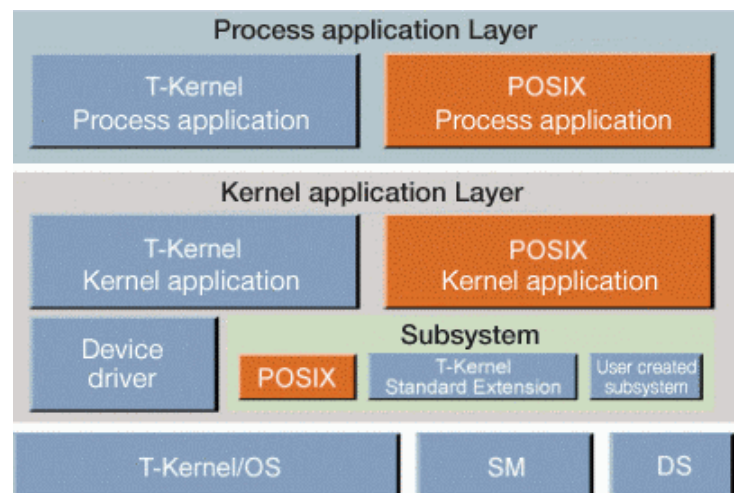
eT-Kernel/POSIX developed exclusively by eSOL based on eT-Kernel/Extended is an enhanced POSIX-compliant real time operating system providing full support for pthread, signal, and IPC (Inter Process Communication) on the system level. eT-Kernel/POSIX implements standard UNIX-based interface specifications, including Linux. eT-Kernel/POSIX produces a more efficient development cycle for embedded systems, which are becoming larger-scaled with more features.

Descriptions

- **POSIX-compliant enhanced RTOS:** eT-Kernel/POSIX complies with the IEEE Std 1003.1, 2004 Edition The Open Group Technical Standard Base Specifications, Issue 6, and supports most POSIX APIs that are prescribed in it. eT-Kernel/POSIX is more than a wrapper library. The POSIX layer has been implemented as a T-Kernel sub system while some of the small operations are implemented as libraries for better performance enhancement.
- **Basic functions of eT-Kernel/POSIX:**
 - Process/task management
 - Thread management
 - Timer management
 - Synchronization/communication mechanisms: Signal/Barrier/Rwlock/Condition Variable/Semaphore/Mutex/Message Queue/Shared memory
 - Pipe/FIFO
 - Asymmetric I/O
 - Socket
 - File

Key Features

- ❑ **Supports most of the XBD** (Base Definitions volume) **and XSH** (System Interfaces volume)
- ❑ **Supports pthread as a thread-managing function in/between processes**
- ❑ **Completely supports IPC** (Inter Process Communication)
- ❑ **Supports programming using signals which is often used in UNIX systems**
- ❑ **Reusability of UNIX/Linux based software and engineering resources**
- ❑ **Co-existence model of POSIX and T-Kernel applications**
- ❑ **eT-Kernel device drivers and sub systems can directly be accessed by POSIX applications.**

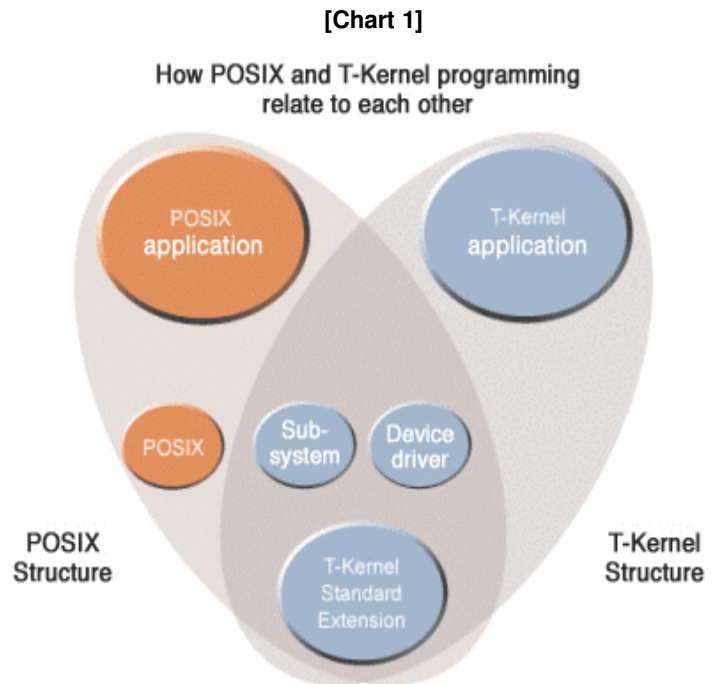


eT-Kernel/POSIX structure

eT-Kernel/POSIX was developed based on eT-Kernel/Extended. POSIX functions were implemented as subsystems and libraries of eT-Kernel/Extended.

POSIX-based applications and T-Kernel-based applications can co-exist in one system, because there is a communication method between these two applications.

Chart 1 expresses how POSIX and T-Kernel programming relate to each other. The center portion, where two oval shapes are overlapped, is jointly used by both POSIX applications and T-Kernel applications.



Development environment support with eBinder®

eBinder can be used for development & debug of process, thread, system programming, shared library, and DDL that are built on eT-Kernel/POSIX.

eBinder is capable of debugging not only process-unit basis but also individual-thread basis within a process. Device driver debugging is available, too. In addition, you can reference POSIX object condition and trace POSIX system call.

eT-Kernel/POSIX Supported environment

- ARM 11 MPCore (NaviEngine, etc) and MIPS
- Support for ARM11 and SH series will be available soon

Compatible Products

- **PrFILE®2**: Portable DOS/Windows compatible file system
- **PrCONNECT®/Pro**: TCP/IP protocol stack
- **PrUSB®**: USB device and host drivers. On-The-Go is also available on selected platforms.
- **PictDirect™**: PictBridge compliant module.

Licensing

Full source code provided.

Flexible license options available.

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