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FreeRTOS+ Ecosystem Showcase

Internet of Things:
Innovative complete solution

InterNiche TCP/IP:
Low cost pre-ported libraries

FreeRTOS BSPs:
3rd party driver packages

FAT File System:
DOS compatible FAT FS

UDP/IP:
Thread aware UDP stack

Trace & Visualisation:
Tracealyzer for FreeRTOS

CLI:
Command line interface

CyaSSL SSL / TLS:
Networking security protocols

Safety:
TUV certified RTOS

RTOS Training:
Delivered online or on-site

IO:
read(), write(), ioctl() interface

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Last site update Oct 5 2014

▼   # FreeRTOS™

The Market Leading, De-facto Standard, Cross Platform RTOS
Don't Let Your RTOS Solution Lock You In

Immediate Free Download * Feature Rich * Tiny Footprint * Easy To Use Pre-configured Projects * Can Be Used In Commercial Applications * Massive User Community * Free Support * Optional Commercial Licensing/Support * Strict Coding Standard * Safety Critical Version Available * Tiny Footprint *Tickless Mode for Low Power Applications

Developed in partnership with the world's leading chip companies over a 12 year period, FreeRTOS is the market leading real time operating system (or RTOS), and the de-facto standard solution for microcontrollers and small microprocessors.

With millions of deployments in all imaginable market sectors (from toys to aircraft), FreeRTOS is trusted because it is professionally developed, strictly quality controlled, robust, supported, free to use in commercial products without a requirement to expose proprietary source code, and has no IP infringement risk.

The FreeRTOS value proposition . . .
Things you might not know about FreeRTOS . . .

Latest News . . .

- FreeRTOS V8.1.2 released. See the change history and upgrading guide.
- Innovative Internet of Things solution. Connect peer to peer through firewalls.
- Tick suppression for low power demo'ed on SAM4L, RX100 and STM32L.

| ▶   **Internet of Things** |
| ▶   **RTOS Trace and Visualisation** |
| ▶   **OpenRTOS® With Middleware** |
| ▶   **Safety Critical Applications** |

Did you know?

- **FreeRTOS came top in class in the 2011, 2012, 2013 and 2014 EETimes embedded systems market surveys** in two categories: The RTOS kernel currently being used, and the RTOS kernel being considered for the next project!
- FreeRTOS offers *lower project risks* and a *lower total cost of ownership* than commercial alternatives because:
  - It is fully supported and documented.
  - Most people take products to market without ever contacting us, but with the complete peace of mind that they could opt to switch to a fully indemnified commercial license (with dedicated support) at any time.
- Some FreeRTOS ports never completely disable interrupts.
- For strict quality control purposes, and to remove all IP ownership ambiguity, official FreeRTOS code is separated from community contributions.
- FreeRTOS has a tick-less mode to directly support low power applications.

New: FreeRTOS Labs

FreeRTOS+TCP

Thread Safe and Scalable Simulator Demo, Try It Now

New in the FreeRTOS Lab

FreeRTOS Sponsors

USB TCP/IP File Systems

WITTENSTEIN

Supplied as **integrated** and **functioning FreeRTOS projects**
from the **Official FreeRTOS Partner**

Napier

PR partner for **FreeRTOS** & leading tech companies

FreeRTOS Partners

ARM CONNECTED

PLATINUM PARTNER RENESAS

MICROCHIP PREMIER THIRD-PARTY PARTNER

NXP

Atmel

ST

- FreeRTOS was downloaded 107000 times in 2013.
- FreeRTOS is designed to be simple and easy to use: Only 3 source files that are common to all RTOS ports, and one microcontroller specific source file are required, and its API is designed to be simple and intuitive.
- The RL78 port can create 13 tasks, 2 queues and 4 software timers in under 4K bytes of RAM!

Latest News Snippets:

- Atmel add highly efficient and thread aware FreeRTOS drivers into their Atmel Software Framework (ASF). View the application note for details.
- Photos from FreeRTOS training at the Microchip Masters technical training conference: photo #1, photo #2, photo #3, photo #4.

- **All news snippets...**

Why choose FreeRTOS?

"It's probably safe to say at this point that FreeRTOS goes through more 'peer-review' than any other RTOS available on the planet. I have used it in several projects - one of which was a multiprocessor environment that used more than 64 processors and needed to run for months reliably. The RTOS core performed well. Take FreeRTOS for a spin." - John Westmoreland

FreeRTOS is a risk free choice, providing the best of all worlds: FreeRTOS is truly free, even for use in commercial applications. The FreeRTOS license does not pose any risk to your proprietary software. You can take a product to market using FreeRTOS without even talking to us, let alone paying any fees, and thousands of people do just that. If, at any time, you would like to receive additional backup, or if your legal team require additional written guarantees or indemnification, then there is a simple low cost commercial upgrade path. Your peace of mind comes with the knowledge that you can opt to take the commercial route at any time you choose.

Here are some reasons why FreeRTOS is a good choice for your next application - FreeRTOS...

- Provides one solution for many different architectures and development tools.
- Is known to be reliable. Confidence is assured by the activities undertaken by the SafeRTOS sister project.
- Is undergoing continuous active development.
- Has a minimal ROM, RAM and processing overhead. Typically an RTOS kernel binary image will be in the region of 4K to 9K bytes.
- Is very simple - the core of the RTOS kernel is contained in only 3 C files. The majority of the many files included in the .zip file download relate only to the numerous demonstration applications.
- Is truly free for use in commercial applications (see license conditions for details).
- Comes with a porting, platform development, or application development service should it be required.
- Is well established with a large and ever growing user base.
- Contains a pre-configured example for each port. No need to figure out how to setup a project - just download and compile!
- Has an excellent, monitored, and active free support forum.
- Has the assurance that commercial support is available should it be required.
- Provides ample documentation.
- Is very scalable, simple and easy to use.
- FreeRTOS offers a smaller and easier real time processing alternative for applications where eCOS, embedded Linux (or Real Time Linux) and even uCLinux won't fit, are not appropriate, or are not available.

FreeRTOS Announcements Mailing List

You can keep up to date with very occasional FreeRTOS announcements by adding yourself to the FreeRTOS mailing list. Emails are infrequent and kept short. We respect your privacy, so do not provide email addresses to any third party. Every email sent contains unsubscribe instructions.

NEW: You can also now follow FreeRTOS on Twitter for instant notifications.

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