## TARGET DEVICE CONNECT (TDC) - RTOS SIMULATOR APPLICATIONS CAN NOW UTILIZE TARGET DEVICES FOR TESTING

MapuSoft's RTOS Simulator allows engineers to develop and test commercial RTOS applications on Windows or Linux host environments when the real target hardware is not ready or expensive for use by application developers. RTOS Simulator with TDC now enhances the application development and testing to include device interactions by allowing the RTOS Simulator applications to utilize devices (I/O, serial ports, etc.) on the inexpensive Raspberry, Cortex or customer specified target prototyping hardware.

Using RTOS Simulator as a development platform
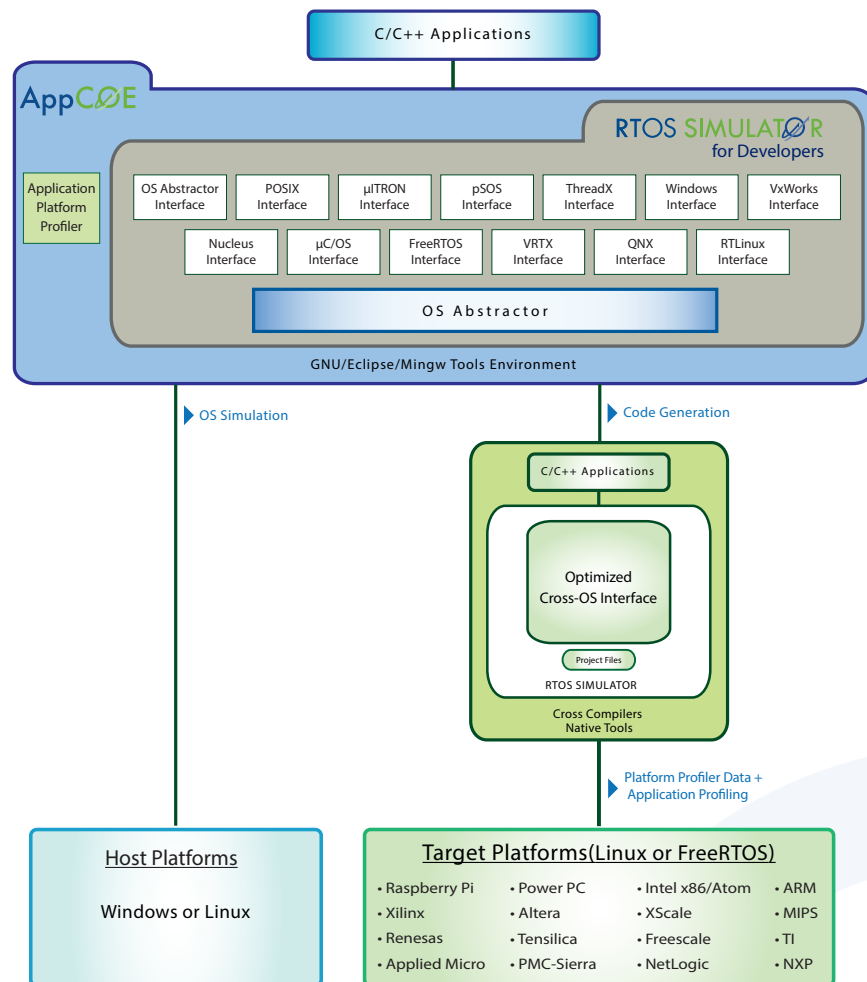
CROSS_COMPILE, DOWLOAD AND TEST APPLICATIONS ON VARIOUS SUPPORTED TARGET HARDWARE

MapuSoft's RTOS Simulator allows engineers to generate optimized RTOS hypervisor source code to enable various RTOS applications to be tested and profiled for performance on Raspberry boards and other supported target hardware. The hypervisor code can be hosted on Linux and FreeRTOS which are freely available for use. There is absolutely no need to purchase the actual commercial RTOS's for your hardware, as MapuSoft's generated hypervisor code will support hosting various types of RTOS environment. This way, the students get good working experience on using an embedded target and further be able to develop application prototypes for their projects, thesis and other industry collaboration work. Please note that for any commercial deployment of the actual product that uses MapuSoft run-time code will require further licensing from MapuSoft.

RTOS Simulator is integrated with AppCOE, an Eclipse based framework packaged with CDT, BIRT and GNU x86 tools, providing a state-of-the-art IDE for development and testing. RTOS Simulator provides the following features when used as a development platform:

- Allows you to simulate real-time applications on Windows or Linux hosts by hardening and optimizing the underlying OS platform
- OS Abstractor Interface in non_source is provided in object format for development, simulation, testing and integration of applications on a x86 host environment
- Optionally, the OS Abstractor Interface library is available in full source code format for use with target native tools/software on Windows or Linux
- Source Code Generation option allows for gathering p r o fi l e r data regarding the application and the OS Abstractor Interface so that they can be optimized
- RTOS Simulator also provides a virtualized test platform to simulate a system of applications interacting with each other on one or more CPU cores through simulated devices. Optionally, RTOS Simulator is available with source code to simulate OS Abstractor® applications integrated with native tools and/or software on Windows or Linux target environments

For more information please visit: https://www.mapusoft.com/rtos-simulator/

Execute your developed code on a Hardware (Raspberry-pi Board):

The Raspberry Pi is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages

MapuSoft Raspberry Package includes:

- arm_development_tools: The GNU ARM Plug-ins for eclipse
- arm_toolchain: The GNU Embedded Toolchain for Arm is a ready-to-use, open source suite of tools for C, C++ and Assembly programming targeting Arm Cortex-M and Cortex-R family of processors. It includes the GNU Compiler (GCC) and is available free of charge directly from Arm for embedded software development on Windows, Linux
- include (folder): This folder contains all the header files of all interfaces for creating the application on AppCOE using the Mapusoft api's to run on raspberry target.
- lib (folder): This folder contains all the library files of all interfaces for building your project. You can link the libraries depending upon application to be developed in process, non-process and non-process along with profiler enabled.
- Workspace (folder): This folder contains raspberry workspace along with demo projects.

RTOS Simulator (using AppCOE IDE) can be used to run & debug the RTOS application on the Raspberry-pi Target Board (ARM1176 jzf-s) from Windows or Linux Host Machine. We support Raspberry-pi target board running with Raspbian operating system (Raspbian GNU/Linux 8 (Jessie) – Linux Raspberry-pi 4.4.50-v7+).

For more information on Interfacing Raspberry-pi Board with RTOS Simulator (Mapusoft's AppCOE) click link:
https://www.mapusoft.com/wp-content/uploads/documents/Interface_Raspberry_windows.pdf

RELEVANT LINKS

- A free evaluation can be downloaded here:
  http://mapusoft.com/downloads/

- For any technical or sales questions please submit a ticket at the MapuSoft support site at this link:
  http://mapusoft.com/support

- You can contact MapuSoft to request a license key for evaluation click this link:
  https://www.mapusoft.com/contact/

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