Nucleus RTOS Support for i.MX

Overview

Freescale Semiconductor's advanced i.MX family of applications processors helps you quickly harness the power of wireless, broadband, multimedia and the Internet. Designed for use in smartphones, wireless PDAs, mobile gaming, GPS systems and many other mobile wireless applications, i.MX applications processors are a leading solution in today's smartphone environment.

On the software side, demanding mobile wireless applications require a portable and scalable real-time operating system (RTOS) as well as a robust and reliable software platform. Accelerated Technology®, the embedded systems division of Mentor Graphics, supplies a software foundation—Nucleus® RTOS—that empowers the i.MX1 and i.MX21 applications processors. It provides developers with a flexible, high-performance software foundation from which to build complex multimedia applications.

i.MX1 Applications Processors

Handheld users are increasingly demanding converging wireless and multimedia applications. Enter the i.MX1 applications processor, or MC9328MX1. This member of the i.MX Family provides a Bluetooth™ accelerator which combines with the on-chip universal serial bus (USB), multimedia accelerator (MMA), color LCD controller, analog-to-digital converter (ADC) with touch panel control, multimedia card/secure digital (MMC/SD), and Sony Memory Stick® expansion card controllers, to replace six ICs with a single-chip optimal multimedia platform. This system-on-chip (SoC) integration enables efficient MP3, JPEG encode and decode, and MPEG-4 media processing and offers extremely low power consumption and low overall system costs.

Based on the ARM920T™ core, the i.MX1 targets next-generation handheld computers, including those with integrated 2.5G and 3G wireless connectivity, as well as smartphones, advanced information appliances, Web browsers and other connected portable devices. Mobile computing products can leverage the ARM920T core in the i.MX1 with speeds up to 200 MHz.

i.MX21 Applications Processors

The newest member of Freescale Semiconductor's widely adopted applications processor portfolio is the i.MX21 multimedia applications processor. The i.MX21 is designed to deliver the ultimate performance in multimedia to handheld devices. Developers will enter new dimensions in smart video, 3-D graphics, connectivity and power management with the i.MX21 applications processor. The i.MX21 is Freescale's key to robust multimedia applications, with higher levels of video and graphics capabilities, plug and play connectivity, and smart power management for long battery life. Some of the features of the i.MX21 are:

> Enhanced video capabilities

> Exceptional graphics

> Power management

> Smart Speed switch

> USB-On-The-Go (USB-OTG)

Embedded developers using the i.MX1 or the i.MX21 applications processor and the Nucleus RTOS will now have a solution in which to build wireless and multimedia applications including smartphones, wireless PDAs, mobile gaming, portable media players and many other mobile wireless applications. The Nucleus® family of embedded software is affordable, well-engineered, and backed by a strong corporate environment. It has added networking, Web technology, a file system and development tools to the base of real-time embedded kernels. The result is a complete family of embedded software capabilities fully scalable to the customer's needs.

Accelerated Technology® A Mentor Graphics Division

Learn More: For more information about Freescale products, please visit **www.freescale.com**.

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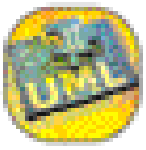
Launched by Motorola freescale™ semiconductor

Nucleus

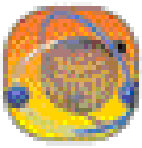
Embedded made easy.

At Accelerated Technology, we provide everything you need to quickly and easily develop, debug and deploy your embedded device. Our embedded products take you from start to finish with a full suite of Nucleus software including modeling software, prototyping tools, a royalty-free real-time operating system (RTOS), middleware and development tools.



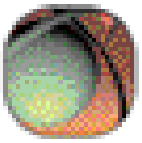
UML Suite

Nucleus BridgePoint software is a sophisticated graphical design tool for embedded systems. Implementing xtUML technology, Nucleus BridgePoint will allow you to build complete embedded systems directly from a high-level design. With xtUML technology, Nucleus BridgePoint is the easiest and most efficient way to create your device.



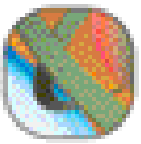
Prototyping

We offer the most comprehensive prototyping suite, with features and functionality that are unmatched in the industry. Our Nucleus SIM and Nucleus SIMdk software will allow you to develop your ideas into products and get them to market faster, at a lower cost and with higher quality than ever before. You can begin your software projects the day you receive our Nucleus prototyping software without waiting for hardware availability.



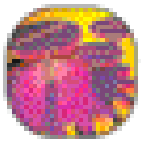
RTOS

Our complete line of source code, royalty-free Nucleus RTOS products includes APIs for C++, micro-ITRON, OSEK and POSIX kernels. All APIs are based on the robust, reliable Nucleus PLUS kernel, the foundation of all the Nucleus family of products. The Nucleus RTOS has been optimized and supports hundreds of different embedded CPU and development tool combinations.



Middleware

We provide a full suite of Nucleus Middleware products for your particular needs. A TCP/IP networking protocol stack, including IPv6 support and 802.11b or wireless Ethernet support, along with a graphics package, file management software, USB support and Web-enabling software are just a few of the products available.



Development Tools

Our comprehensive suite of development tools includes a compiler, an embedded development environment and a multitasking debugger in which you can build, compile and debug your applications quickly and easily. With a complete tool set, as well as a prototyping and modeling environment, Nucleus provides everything necessary to develop, debug and deploy your device.

Partnering with Freescale

Accelerated Technology and Freescale are producing a progressive new era of embedded devices full of low-cost benefits for their users. In addition to core functionality, these devices now feature network connectivity and graphical user interfaces.

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