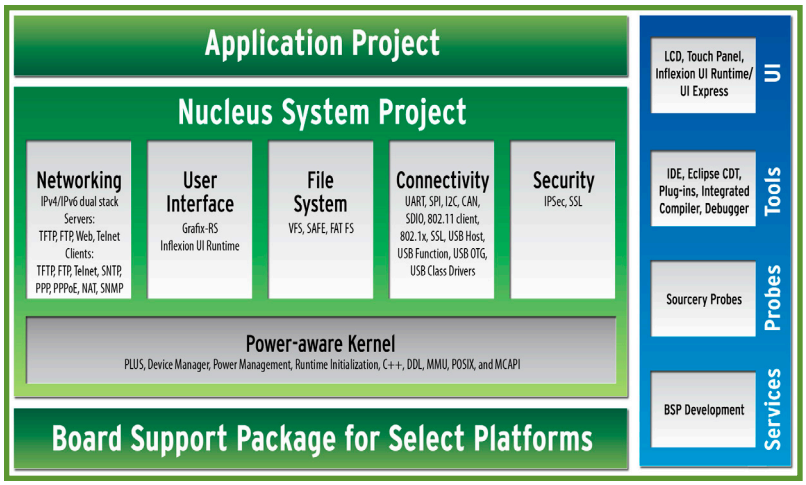
Mentor Embedded

Nucleus ReadyStart

D A T A S H E E T



Nucleus ReadyStart comprises integrated software IP, tools, and services targeting specific hardware boards and SoCs.

The answer for what developers need today

Mentor® Embedded Nucleus® ReadyStart™ is the enablement platform system developers need today. At the foundation of Nucleus ReadyStart is Nucleus RTOS, a proven and highly efficient OS that offers an impressive set of services that scale to any target hardware.

Nucleus ReadyStart brings together integrated software IP, tools, and services into a single, "ready-to-use" solution ideal for applications where a small footprint, connectivity, power management, and deterministic performance are essential. Nucleus ReadyStart includes demonstrations and configurations enabling immediate productivity for your next embedded application.

Nucleus ReadyStart

Nucleus ReadyStart answers the most critical development challenges: cost and time to market. By providing a single distribution that accelerates fast bring-up of a complete system and by offering a new board support package (BSP) interface along with power management services, software developers are able to create complex and optimized out-of-the-box target platforms instantly.

Further, Nucleus ReadyStart now includes Mentor's Sourcery™ CodeBench technology, a GNU-based integrated development environment (IDE), and Mentor's Inflexion® UI technology which assists developers in creating stunning UIs in a fraction of the time.

Product features:

- Stable and proven kernel
- Fully integrated "ready-to-use" solution
- Includes system and application work flows
- Includes Sourcery CodeBench, a complete Eclipse-based IDE
- Includes Mentor's Inflexion UI Runtime and Express tools

Benefits:

- Quick and easy design configuration enables users to immediatley and easily customize system requirements
- Debugging in under 15 minutes from bring-up
- Complete tool integration of Sourcery CodeBench allows users to develop in one common environment
- Just in time BSP development provides immediate support of new reference or custom hardware
- Professional services to speed efficient development

Nucleus ReadyStart System Requirements:

Supported Host Development Platforms:
Windows 7, Windows XP

Supported Architectures:
MCU, MPU, DSP, FPGA

Supported Processor Cores:
ARM (Cortex™-M, Cortex™-R, Cortex™-A), ARM7™, ARM9™, ARM11™

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Nucleus ReadyStart highlights:

- Enhanced IP content

Nucleus ReadyStart includes a collection of efficient, highly integrated, ready-to-use software IP. At the core of Nucleus ReadyStart is the stable and proven Nucleus® RTOS, deployed in billions of devices complemented by a broad set of kernel services, including middleware for networking: IPv4/v6 (IPv6 Ready certification), FTP, IPSec, SSL; for storage: VFS, FAT 16/32, SAFE; and connectivity: multiple Bus interfaces, USB, wireless.

- Power-aware kernel

Nucleus ReadyStart removes the system and application developer's burden to define power management for their embedded design by providing a standard interface for drivers and applications to participate in the power policy. Nucleus ReadyStart is capable of automatic discovery and management of power aware components and includes tick suppression to decrease power consumption. APIs for changing system states, peripheral states, and dynamic voltage frequency scaling (DVFS) are included.

- Broad connectivity

Nucleus ReadyStart tightly integrates with the Nucleus RTOS with wired connectivity middleware such as USB 2.0/USB 3.0, Ethernet, Wi-Fi, Bluetooth, and ZigBee; in addition to a variety of Bus support options, such as UART, I2C, CAN, and SPI.

- Configuration & methodology

Nucleus ReadyStart consists of a single unified source tree that includes all of the Nucleus middleware components, giving the system developer the flexibility to easily add or remove components based on application requirements. While the system developer tailors requirements for differing end products, the application developer is immediately productive within the build and configuration system of Nucleus allowing application developers to set up their target environment, develop applications rapidly, and start debugging in minutes, independent of system functionality.

More about Mentor Embedded

The Mentor Graphics® Embedded Software Division (ESD) comprises the Mentor Embedded™ family of products and services, including embedded software IP, tools, and professional consultant services to assist developers and silicon partners. Mentor Embedded continues to lead the industry with involvement in the open source community (Linux® and Android) and in innovations such as Android beyond handsets, advanced 2D and 3D UI development, open source tools, and multi-OS on multicore architectures.

Android is a trademark of Google, Inc. Use of this trademark is subject to Google Permissions. Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

Software tools also play a critical role within Nucleus ReadyStart. Tools such as Sourcery™ CodeBench and Inflexion® UI Runtime/Express are central components to creating a single, integrated development environment.

Sourcery CodeBench features:

- GNU C & C++ compilers
- GNU assembler & linker
- GNU debugger
- C & C++ runtime libraries
- CS3 initialization and interrupt handling
- Debug Sprites
- Eclipse IDE
- Library reduction utility
- Sysroot utilities
- Command-line core development tools
- JTAG debug support
- Flash programming and peripheral register display
- Custom board support via Board Builder utility
- CSLIB small foot print high-performance library

Inflexion UI Runtime/ UI Express features:

UI Runtime tool:
- Small, efficient UI Engine
- 3D and animation effects

UI Express tool:
- Rapid creation and customization of UIs without coding
- Rendering services
- OpenGL ES support
- COLLADA™: An open standard for 3D models

For additional information please visit us at mentor.com/nucleus

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