

# Multi-Core

Embedded industry's only field-proven platform and clean migration strategy for multi-core.

## Solution highlights

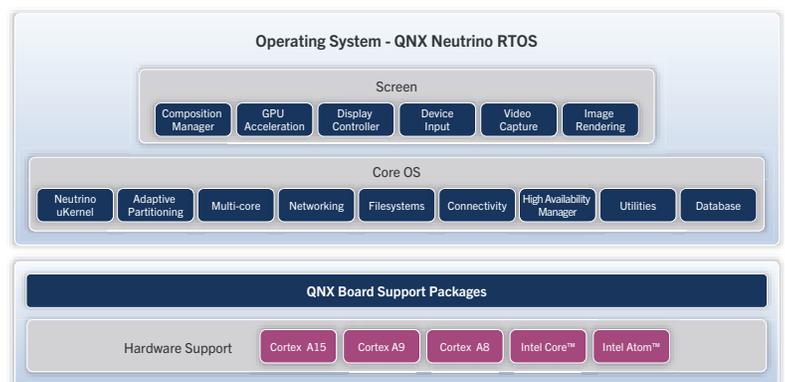
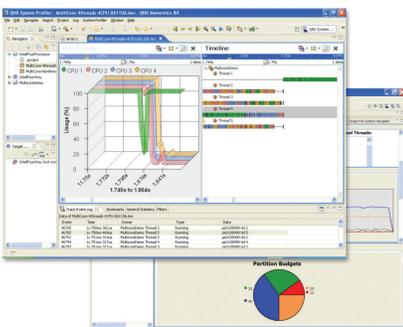
- Proven, reliable OS – the QNX® Neutrino® RTOS has been multiprocessor capable for over 10 years
- Comprehensive multi-core support for symmetric, asymmetric, and bound multiprocessing
- Seamlessly scale beyond two processors with symmetric and bound multiprocessing
- Accelerate legacy code migration to multi-core processors using bound multiprocessing
- Propel time to market – reuse existing applications with full visibility into application processes and system resources
- Maximize performance of bound multiprocessing systems through techniques like soft affinity and runmasks
- Debug and optimize multi-core applications efficiently with best in class tools

For years, QNX Software Systems has been the leading provider of multiprocessing RTOS technology. With the addition of multi-core technology, QNX now offers the industry's most comprehensive software platform for multi-core systems. Powered by the massively scalable QNX Neutrino RTOS and the QNX Momentics® Tool Suite, this fully integrated solution supports symmetric and bound multiprocessing. Introduced by QNX, bound multiprocessing is a ground-breaking technology that simplifies code migration and future-proofs designs.

## Choose the model

Only the QNX Neutrino RTOS provides the choice of any multiprocessing model for your product: symmetric or bound multiprocessing. Only the QNX Momentics Tool Suite provides the tools you need to develop, visualize, and optimize multiprocessing applications. For years, QNX has proven the power of symmetric multiprocessing with its industry-leading solution. With QNX multi-core technology you can migrate your existing uniprocessor code to a multi-core processor without any modification whatsoever.

QNX Momentics Tool Suite



**Maximum choice for multi-core:** QNX multi-core technology provides visualization tools for quickly developing, debugging, and optimizing multi-core applications for maximum performance.

## Migrate legacy code

For new application development, symmetric multiprocessing (SMP) offers a way to extract the maximum performance from multi-core processors. However, not all legacy applications are compatible with the SMP model. To address this, QNX Software Systems has created bound multiprocessing (BMP). BMP offers the simplicity of SMP's transparent resource management with the ability to dedicate applications or threads to an individual core. BMP combines the control of asymmetric multiprocessing with the power of symmetric multiprocessing to allow code written for uniprocessing environments to run without modification on multi-core processors.

Legacy applications can co-exist with applications designed to extract the maximum performance from multi-core processors. Legacy applications can be bound to a specific processor while applications designed with concurrency in mind (parallel processing) can be scheduled by the operating system for highest performance.

## Build and debug applications quickly

The QNX Momentics Tool Suite provides the tools that developers need to develop, debug and optimize multi-core systems. These include:

- A complete multi-core aware toolchain for multiprocessing debuggers, compilers, and embedding tools.
- Value-added tools developed specifically for multiprocessing, including the QNX system profiler for maximizing performance in multi-core systems. The system profiler provides a detailed view of all system activity (operating system, drivers, application, filesystems, stacks). It includes time-stamped interactions between the various elements.

## Foundry27

This community portal for QNX developers provides software updates, board support packages, drivers, forums, and wikis. Whether developers want to discuss ideas, post questions or answers about developing with QNX, or download drivers for the latest hardware, Foundry27 offers the resources required.

## About QNX Software Systems

QNX Software Systems Limited, a subsidiary of BlackBerry, is a leading vendor of operating systems, development tools, and professional services for connected embedded systems. Global leaders such as Audi, Cisco, General Electric, Lockheed Martin, and Siemens depend on QNX technology for vehicle infotainment units, network routers, medical devices, industrial automation systems, security and defense systems, and other mission- or life-critical applications. Founded in 1980, QNX Software Systems Limited is headquartered in Ottawa, Canada; its products are distributed in more than 100 countries worldwide. [Visit www.qnx.com](http://www.qnx.com)

[qnx.com](http://qnx.com)

© 2014 QNX Software Systems Limited, a subsidiary of BlackBerry. All rights reserved. QNX, Momentics, Neutrino are trademarks of BlackBerry Limited, which are registered and/or used in certain jurisdictions, and used under license by QNX Software Systems Limited. All other trademarks belong to their respective owners. MC433.90

