

Military, Security, and Defense

Reliable, certified, secure, and mission-critical RTOS technology

Solution highlights

- ▶ **Common Criteria EAL4+ certified QNX Neutrino Secure Kernel**
- ▶ **Inherently secure design with high availability framework, adaptive partitioning technology, predictable and deterministic behavior**
- ▶ **Non-stop operation with microkernel architecture and full memory protection**
- ▶ **Standards-based design for security and easy interoperability of networked applications**
- ▶ **Advanced graphics for 3D visualization, mapping, ruggedized and multi-headed visual display systems, and multi-language support**
- ▶ **Rich ecosystem of technology partners providing solutions for vehicle busses, databases, navigation, connectivity, graphics and speech processing**
- ▶ **Comprehensive middleware offering that includes multimedia management, rich HMIs with Adobe Flash Lite, and acoustic echo cancellation**
- ▶ **Massive scalability through transparent distributed processing and symmetric multiprocessing**
- ▶ **Open tooling platform with Eclipse-based IDE, code coverage, system analysis and profiling tools**

Common Criteria certification

The QNX Neutrino RTOS Secure Kernel is for customers requiring Common Criteria ISO/IEC 15408 certification. Certified to EAL4+, this is the first full-featured RTOS certified under the common criteria standard. The QNX Neutrino RTOS Secure Kernel also benefits from the operating system's inherent reliability and failure-proof design.

Military-grade security and reliability

In mission-critical government and military systems where information is vital and lives can be at stake, downtime is not an option. The need for a highly reliable, secure, and fast OS is crucial.

Thanks to the true microkernel architecture of the QNX Neutrino RTOS, full memory protection is built in. Any component can fail and be dynamically restarted without corrupting the microkernel or other components. If a failure does occur, a QNX Neutrino-based system has the capability for self-healing through critical process monitoring and customizable recovery mechanisms.

Commitment to standards

QNX Software Systems has an extensive and longstanding commitment to developing and promoting industry standardization in the embedded software market.

QNX-powered defense applications

- ▶ Unmanned aircraft control systems
- ▶ Acoustic sensors for tracking tank movements
- ▶ JTRS wireless military radios
- ▶ High-capacity data radios
- ▶ Autonomous underwater vehicles
- ▶ Guidance systems for anti-tank weapons
- ▶ Embedded controllers for aerospace applications
- ▶ Wearable GPS/communication systems for ground troops
- ▶ Transponder landing systems
- ▶ Military weather satellite test beds

Key customers

- ▶ Advanced Navigation & Positioning Corporation
- ▶ BAE Systems
- ▶ The Boeing Company
- ▶ EADS
- ▶ Harris RF Communications
- ▶ Lockheed Martin
- ▶ NASA
- ▶ Naval Undersea Warfare Center (NUWC)
- ▶ US Army

- ▶ **Portable Operating System Interface (POSIX) standards**
QNX Software Systems was the first RTOS vendor to certify conformance to POSIX.1, and is the undisputed leader in adherence to the broadest range of POSIX API specifications.
- ▶ **Military standards** — Products running QNX Neutrino RTOS have been certified to a number of military standards, including DO-178B and MIL-STD 1553. Joint military certification has also been achieved (#0033857) and cage code (3AD83).
- ▶ **Networking standards** — QNX support is available for a range of networking fabrics such as Ethernet, Infiniband, and ARINC 1553. QNX Software Systems is a leading supporter of emerging multimedia bus standards such as MOST.
- ▶ **Standards associations** — As an active member of several industry associations, QNX Software Systems works with other industry-leading device software vendors and corporate and government organizations towards the creation of standards and interoperability, including the Eclipse foundation and the Open Group.

Foundry27

This community portal for QNX software developers provides source repositories, forums, blogs and wikis. Whether the developer wants to discuss ideas with fellow developers or even create a new code project for the QNX community, Foundry27 offers the resources required.

About QNX Software Systems

QNX Software Systems, a subsidiary of Research In Motion Limited (RIM), is a leader in middleware, development tools, operating-system software, and professional services for the embedded market. Companies such as Cisco, Daimler, General Electric, Lockheed Martin, and Siemens depend on QNX technology for vehicle telematics units, network routers, industrial control systems, medical instruments, security and defense systems, and other mission- or safety-critical applications. Founded in 1980, QNX Software Systems is headquartered in Ottawa, Canada; its products are distributed in over 100 countries worldwide.



QNX SOFTWARE SYSTEMS

QNX military, security and defense solution

QNX Neutrino RTOS and services

- ▶ Common Criteria ISO/IEC 15408 certified to EAL4+
- ▶ Reliable microkernel OS
- ▶ Multi-core support
- ▶ Unique adaptive partitioning technology
- ▶ Fast boot and instant device activation technology
- ▶ Standards-based (POSIX, OpenGL-ES, OpenVG, etc)
- ▶ Transparent distributed processing
- ▶ Fully customizable QNX Photon microGUI
- ▶ Sophisticated multilayer 3D graphics support

QNX Aviage Acoustic Processing Suite

- ▶ Component-based design
- ▶ Simple API, stand-alone C-callable library
- ▶ Dynamic configuration utility

QNX Aviage HMI Suite

- ▶ Adobe certified Flash Lite player
- ▶ Rich graphical UIs
- ▶ Native graphical app compatibility
- ▶ Extendable application framework

QNX Momentics Tool Suite

- ▶ Comprehensive Eclipse-based IDE
- ▶ Innovative visualization features
- ▶ Multi-core enabled

Supported processors

- ▶ PowerPC
- ▶ x86
- ▶ ARM
- ▶ SH-4
- ▶ MIPS

Ecosystem

- ▶ Speech middleware
- ▶ Vehicle bus technologies
- ▶ Connectivity solutions
- ▶ Database technologies
- ▶ Graphics/multimedia technologies
- ▶ System integrators
- ▶ Navigation technologies

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