

QNX Software Systems

Integration of cellular and Wi-Fi across embedded devices and markets



QNX® Software Systems offers deep integration of wireless connectivity with the QNX Wireless Framework, an innovative software solution for building advanced cellular and Wi-Fi connectivity into connected embedded systems, including medical devices, industrial controllers, and in-car infotainment systems. The QNX Wireless Framework is optimized and integrated with the QNX Neutrino® Operating system (OS) and market specific solutions that have been powering safety-critical, mission-critical, life-critical, and secure embedded systems for decades.

Best-in-class technology

The QNX Wireless Framework provides a smartphone-grade feature set for embedded devices that need reliable access to wireless data connections and voice services. The framework provides dedicated resource managers to ensure fault-tolerant operation, handle dynamic behavior and deliver reliable and robust wireless services. The secure IoT and M2M connectivity offered by the QNX Wireless Framework is derived from best-in-class technology already deployed in millions of BlackBerry devices and supported by hundreds of carriers worldwide and has been proven in the most complex wireless environments.

Flexibility

Product lines need the flexibility to select and deploy the wireless module or chipset that best suits the product and end customer needs, globally. The QNX Wireless Framework has the flexibility to support modems and wireless modules from numerous, market-leading vendors. The framework's architecture provides a common services layer and API, regardless of the underlying module or chipset, allowing developers to create future-proof applications that can support new cellular or Wi-Fi features without the cost of a completely new integration.

Time to Market

Creating a solution for a specific hardware configuration can be time consuming and costly. The QNX Wireless Framework stimulates rapid prototype development and de-risk acceptance. A selection of modules from market-leading vendors are pre-integrated in the QNX Wireless Framework, allowing customers to jump-start their connected solutions. The framework uses an automated test suite to validate all features on reference configurations. This test suite can also be used to test customer configurations.

Intuitive interface

Designed to simplify system design, the framework encapsulates the complexities of modem control through an easy-to-use, high-level application programming interface (API). These APIs are available via QNX's UI-agnostic Persistent Publish Subscribe (PPS) and have been integrated in the QNX CAR Platform. The QNX Wireless Framework's scalable architecture uses only the service APIs required for the device.

QNX Wireless Framework Data Runtime Module

Cellular

- CRM (Cellular Resource Manager)
- Support for industry leading Cellular and Wi-Fi modules
- Radio Control and Status
- SMS (Short Message Service)
- CBS (Cellular Broadcast Services)/CMAS (Commercial Mobile Alert System)
- Carrier Profile Management
- UICC (Universal Integrated Circuit Card) Management
- SIM Application Toolkit (STK) refresh support (allows cellular operators to update subscription, identification information and service configurations)

- CNICE (Cellular Network Interface Controller)
- BM (Bearer Management)
- CDSC (Cellular Data Service Controller)
- IO-PKT Cellular Driver

Wi-Fi

- WLAN manager
- WPA Supplicant
- Wi-Fi chipset driver
- Wi-Fi direct

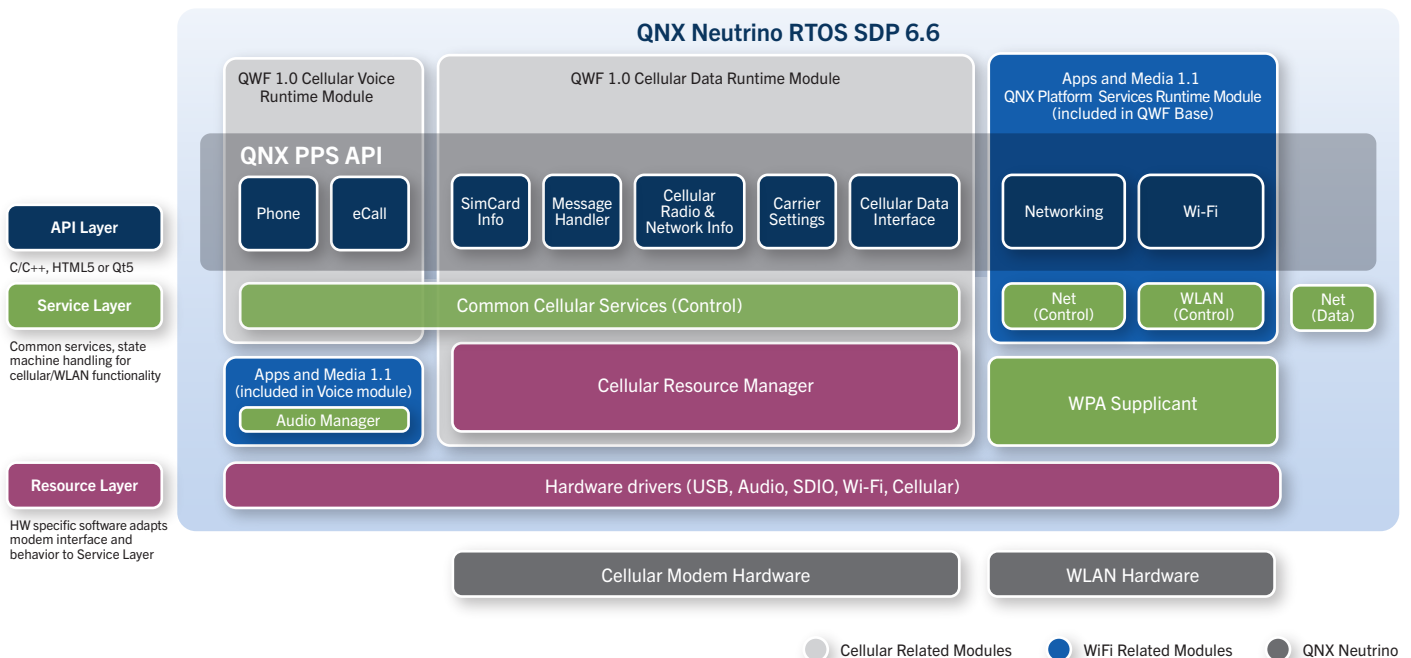
QNX Wireless Framework Voice Runtime module

- Phone Services
- Emergency Calling
- eCall for Europe
- Audio Manager

Board support package (BSP) for reference configurations

Real-time operating system

The QNX Neutrino real-time operating system is a full-featured and robust multi-core operating system that exceeds the most demanding reliability, performance, and security needs. The architecture incorporates core functionality into a microkernel while leaving drivers, networking stacks, and other OS services outside in memory protected space – providing unparalleled reliability, a higher degree of determinism, and fault-tolerance.



QNX Wireless Framework Architecture

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)

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