PRODUCT BRIEF

QNX Web Browser

The QNX Web Browser, based on the Blink rendering engine, is a state-of-the-art browser designed to address performance, reliability, memory footprint, and security requirements of embedded systems. With a heritage of best-in-class browser technology from BlackBerry, the QNX Web Browser enables a wide range of uses from pure document viewers and video players, to feature-rich application environments in systems such as infotainment head units and in-flight entertainment units. The browser employs a modular, component based architecture that leverages QNX Neutrino® Realtime Operating System's advanced memory protection, security mechanisms, and concurrency to provide reliable, robust, and responsive performance.

Overview

Web applications have been widely used on PCs and mobile devices. These applications are now surfacing in embedded systems due to the large developer base to draw from, as well as general ease of development, deployment, and portability of web technologies. Consequently, web browsers are becoming a central component of modern-day embedded systems.

To provide an optimal web experience in an embedded system, the browser must enable high performance and stability within the confines of limited system memory. Also of vital importance is adaptability. That is, to ensure a continued optimal browsing experience, web browsers must keep pace with upstream development. They must adapt to the always-changing web standards and take full advantage of pertinent updates. Doing so helps to combat a system's security threats.

The QNX Web Browser offers a high-performance, feature-rich, automotive-grade browser engine that provides reliable and secure access to the World Wide Web and feature-rich web applications. Optimized and deeply integrated with QNX middleware and operating system services, the browser can be used as a standard browser with a standard toolbar offering browser controls for accessing the open web, or as a headless application runtime for running HTML applications on the system.

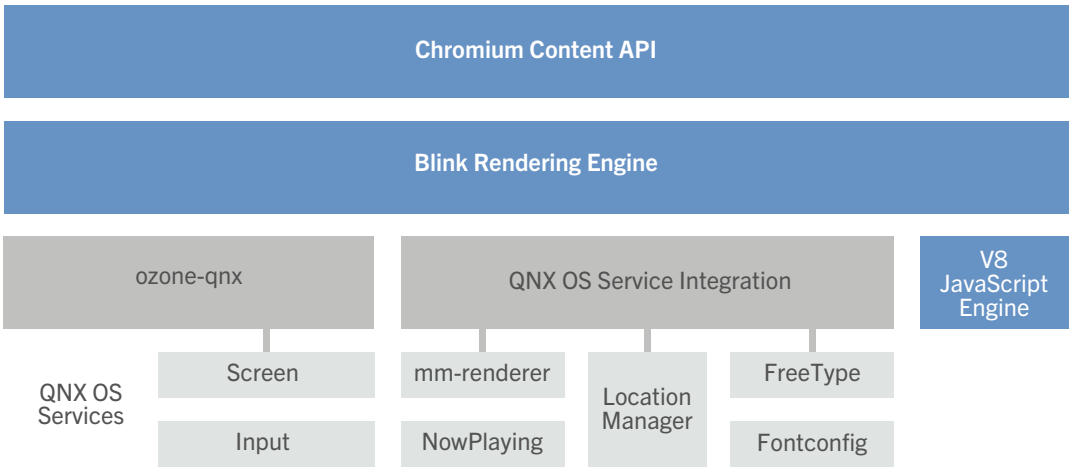
Benefits

- Highly secure browser designed with most advanced QNX SDP 7.0 security mechanisms
- Up to 35% lower memory footprint when compared to a Linux-based implementation
- Fully-integrated with other QNX technologies including:
  - o Video playback capabilities of QNX Multimedia Suite
  - o Location manager service for geolocation
  - o QNX CAR Platform for Infotainment
- Customization for fine grain control of features, behavior and appearance
- Keeps pace with bleeding edge HTML5 features and Chromium releases
- Regular security certificate updates available via QNX Software Center
- Clean IP (no LGPL/GPL contamination)
- Optimized on all leading automotive hardware platforms

Browser Features at a Glance

- V8 JavaScript Engine
- Progressive web apps
- Web push notification
- Shadow DOM
- Custom elements
- Service workers
- Web inspector
- Pointer events
- JavaScript async/await

Architecture



Browser Architecture – Increased Security

- Multi-process architecture:
  - o limits capabilities of high risk processes (renderer process)
  - o application processes sandboxed for safeguarding and easily resurrected
  - o Compiled with best-in-class security and integrity techniques
- Renderer Process Models:
  - o Process-per-site
  - o Process-per-site-instance
  - o Process-per-tab
  - o Single-process (for debug only)

Browser Modes Supported

- Headless mode: browser runs with no toolbar or address bar (useful for running apps on the target)
- Standard mode: browser runs with a standard set of controls that can be configured

Target System Requirements

- QNX SDP 7.0
- QNX Screen Graphics Subsystem
- QNX Multimedia Playback (optional – required for video playback)
- Location Manager Service package for Geolocation (optional)

Hardware Architectures Supported

- ARM
- X86

About BlackBerry QNX

BlackBerry QNX, is a leading supplier of safe, secure, and trusted operating systems, development tools, and professional services for connected embedded systems. Global leaders such as Ford, Audi, Cisco, General Electric, Lockheed Martin, and Siemens depend on BlackBerry QNX technologies for their next generation of secure vehicle software platforms, network routers, medical devices, industrial automation systems, security and defense systems, and other mission and/or life-critical applications. This includes full software lifecycle management via secure over the air software updates. Founded in 1980, BlackBerry QNX is headquartered in Ottawa, Canada, with its products distributed in over 100 countries worldwide.

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