NetFront™ Browser BE for Automotive

High performance HTML5 Chromium Blink engine with improved stability and performance for use in embedded automotive platforms

NetFront™ Browser BE is an advanced HTML5 solution that provides In-Vehicle Infotainment (IVI) platforms with a comprehensive platform to offer services via standardised HTML5 rather than operating system specific binaries or applications. This enables highly portable applications that can be readily deployed to multiple units by using responsive design techniques. The NetFront™ Browser BE Chromium Blink engine features enhanced security, controlled memory usage, high stability and market leading performance on embedded platforms.

NetFront™ Browser BE utilises ACCESS' experience of the embedded browser and CE equipment markets and leverages the latest Chromium Blink technology to provide a dependable and secure solution for the automotive market. NetFront™ Browser BE addresses the real world shortcomings that affect Chromium Blink browsers, including instability in constrained environments, high platform memory usage, large code size and inability to utilise preferred automotive media player solutions.

Key characteristics

HTML5 Standards and Platform Support

NetFront™ Browser BE delivers high levels of HTML5, CSS3 and JavaScript conformance as well as an optional extension to enable multimedia services using the HbbTV standard for connected vehicles. NetFront™ Browser BE is available for popular automotive operating system platforms, including QNX and Linux, and is provided as an embeddable Software Development Kit (SDK). The SDK approach provides the OEM or Tier 1 maximum flexibility to integrate standards based HTML5 capabilities within their platform and still ensure the best OEM branded presentation of the human-machine interface (HMI) and browsing experience.

High Performance

NetFront™ Browser BE's multi-process architecture enables automotive designs to take best advantage of platform and hardware capabilities, such as multi-core CPUs, accelerated graphics processing units (GPUs) and OpenGL-ES. Enhanced compositing algorithms enable the rendering engine to dynamically choose hardware or software rendering based on the content in order to provide the best user experience (UX).

Support

The SDK is a commercially provided solution that includes documentation, world class engineering support and, where required, engineering services. ACCESS professional services help OEMs and Tier 1s to tailor the delivery to a particular device or environment and ensure the success of automotive projects.

The Engine of Next Generation UIs

Based on Chromium Blink HTML5 technologies and provided as an embeddable technology component Software Development Kit (SDK), NetFront™ Browser BE is a highly capable next-generation UI engine that can deliver greatly enriched user experiences (UX) including 3D graphics and animations, HTML5 application stores and HTML5 based applications.

The Power of Two Billion

NetFront Browser BE for Automotive is based on market-proven browser technologies that have been

successfully deployed in over two billion devices throughout the world. This unique set of technologies have been adapted to improve platform stability, resilience to low memory situations, portability and ability to take advantage of chipset specific features such as multi-core CPUs and the availability of a dedicated Graphics Processing Unit (GPU).

Key Features and Benefits

- Commercial grade engine: Chromium Blink engine, enhanced with ACCESS technology and experience deployed in over 2 billion units worldwide
- Market leading performance through tight platform integration
- Chromium Embedded Framework (CEF) 3.0
- DIAL (optional module)
- Platform Media Player APIs
- Plugins : Enhanced, render process based solution, as an alternative to PPAPI
- Hardware acceleration/GPU support, including OpenGL ES and WebGL
- JavaScript JIT*
- HTML5 Video and Audio tag support
- Key HTML5 features including Canvas 2D, Web Workers, Web Storage, CORS, etc.
- CSS3 including Animations, 3D Transforms, Transitions and Media Queries
- Encrypyted Media Extensions / Media Source Extensions
- WebGL support, extending Java-Script™ to support interactive 3D graphics
- HTML5 Remote User Interface - RUI (optional module)
- Android SDK also available

JavaScript JIT available for selected platforms, dependent on Chromium

Specifications

Markup

- HTML5 (Audio/Video tags, Canvas, Web Workers, Web Storage, etc.)

Style Sheets

- CSS1, CSS2, CSS3 (Media Queries, Animations, Transforms, Transitions, etc.)

Security

- TLS1.2
- NSS
- Configurable digital certificates
- Extended Validation
- Elliptic Curve Cryptography

Scripting

- ECMAScript (ECMA-262 3rd Edition)

Browser SDK Features

- Embeddable HTML library
- Chromium Embedded Framework (CEF)
- Render process based plugin extension
- Configurable dynamic memory usage
- Cookie Management
- Cache Management
- Tabbed browsing support
- Page history
- Configurable error pages

Supported CPU architectures

- ARM®
- Intel/x86
- Android
- Linux
- QNX

Device Classes

- Connected TVs
- IP and Hybrid Set-top Boxes

- PVRs / DVRs
- Game Consoles
- Internet-capable Media Players
- Automobile Infotainment Systems
- Other Connected Appliances

Memory Usage

- Code Size (32-bit): ~60 MBytes* uncompressed
- RAM Size: min. 60MBytes, 256 MB recommended (single tab)

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