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QNX NEUTRINO 6.5

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1 Document Intention 5
1.1 Purpose and scope 5
1.2 Document issue: the 2.9 framework 5
1.3 Conventions 5
1.4 Related documents 6
2 Introduction 7
2.1 Overview 7
2.2 Evaluated (RTOS) product 7
2.3 Supported CPU 7
3 Evaluation results summary 8
3.1 Positive points 8
3.2 Negative points 8
3.3 Ratings 8
4 Technical evaluation 9
4.1 OS Architecture 9
4.1.1 Task Handling Method 12
4.1.2 Memory Architecture 16
4.1.3 Interrupt Handling 18
4.1.4 System timer 19
4.1.5 Synchronisation mechanisms 19
4.1.6 Specialities 22
4.2 API richness 24
4.2.1 Task Management 24
4.2.2 Clock and Timer 25
4.2.3 Memory Management 25
4.2.4 Interrupt Handling 27
4.2.5 Synchronization and Exclusion Objects 27
4.2.6 Communication and Message Passing Objects 29
4.3 Documentation 31
4.4 OS Configuration 32
4.4.1 OS Boot options 32
4.4.2 OS Configuration 33
4.4.3 Building your own BSP 33
4.5 Internet components 34
4.6 Development tools 36
4.6.1 Basic Development 36
4.6.2 Extra Tools provided 39
5 Appendix A: Vendor comments 42
6 Appendix B: Acronyms 43

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1 Document Intention

1.1 Purpose and scope

This document presents the qualitative evaluation results of the QNX 6.5 operating system. The testing results of this operating system employed on various platforms can be found on our website. (www.dedicated-systems.com)[Doc. 5, 6 & 7].

The layout and the content of this report follow the one depicted in “The evaluation test report definition” [Doc. 3] and “The OS evaluation template” [Doc. 4]. See section 1.4 of this document for more detailed references. Therefore these documents have to be seen as an integral part of this report!

Due to the tightly coupling between these documents, the framework version of “The evaluation test report definition” has to match the framework version of this evaluation report (which is 2.9). More information about the documents and tests versions together with their corresponding relation can be found in “The evaluation framework” see [Doc. 1] in section 1.4 of this document.

1.2 Document issue: the 2.9 framework

This document shows the results in the scope of the evaluation framework 2.9.

1.3 Conventions

Throughout this document, we use certain typographical conventions to distinguish technical terms. Our used conventions are the following:

- ***Bold Italic*** for OS Objects
- **Bold** for Libraries, packets, directories, software, OSs...
- `Courier New` for system calls (APIs...)

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2 Introduction

2.1 Overview

QNX Software Systems Ltd was founded in 1980 and has been always focused on delivering solutions for the embedded systems market.

One of the main differences between **QNX** and other RTOS is the fact that **QNX** is built around the **POSIX** API standard. This has its advantages as a lot of code for **Linux** based platforms can be compiled and run on **QNX Neutrino**. However, bear in mind that we are discussing a real-time operating system here.

QNX Neutrino is based on true microkernel architecture with message-based inter-process communication. For instance, drivers are just applications with special privileges, and as such they cannot crash the kernel. The concept of kernel modules which is the case in **Linux** is not needed here, which makes **QNX Neutrino** a very stable product.

Furthermore, **QNX Neutrino** was initially built-up as a multi-processor capable operating system (both SMP and AMP). Nowadays, this is a very important asset in today's multi- and many-core business.

2.2 Evaluated (RTOS) product

The operating system that we are going to evaluate is the **QNX NEUTRINO RTOS v6.5.0**, from **QNX** Software Systems Ltd.

2.3 Supported CPU

QNX Neutrino v6.5.0 supports the following processors:

- x86
- ARM
- POWER architecture (PowerPC)
- MIPS
- SH-4

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3 Evaluation results summary

Following is a summary of the results of evaluating the **QNX NEUTRINO RTOS v6.5.0**, from **QNX** Software Systems Ltd.

3.1 Positive points

- Excellent architecture for a robust and distributed system.
- Very fast and predictable performance.
- Large number of board support packages (BSP) and drivers (the source code for most of them was available for public) which can be easily downloaded.
- One of the best documented RTOS on the market.
- Efficient and user friendly Integrated Development Environment (IDE)
-

3.2 Negative points

- Not all the source code is available. Customers can apply for source access.
-

3.3 Ratings

For a description of the ratings, see [Doc. 3].

RTOS Architecture	0	9	10
OS Documentation	0	9	10
OS Configuration	0	8	10
Internet Components	0	8	10
Development Tools	0	9	10
BSPs	0	8	10
Support	0	8	10

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