

## **QNX Real Time Operating System**

QNX is a hard real time system designed from the ground up for real time purposes. QNX runs on systems ranging from iPAQs through to powerful multi-processor servers. QNX is produced by QNX Software Systems Ltd and has been adopted as the operating system of choice on the QAV project. Some of the highlights of the QNX operating system are:

- Hard real time system
- Memory protection
- Full POSIX support
- Support for a wide range of networking protocols
- Support for a wide range of file systems
- Wide range of tools (from editors through to web servers) available for QNX

QNX is currently used on the QUT UAV projects at the undergraduate and postgraduate level. Current projects include control systems, mission planning systems, artificial intelligence, vision systems and collision avoidance. Due to the versatility of QNX the scope is limited only by what we wish to pursue. QNX is also being employed on advanced navigation and attitude determination systems being developed for satellite applications. QNX was selected for the space applications due to its high performance and reliability.

QNX is a realtime, microkernel, preemptive, prioritized, message passing, network distributed, multitasking, multiuser, fault tolerant operating system.

QNX was originally created by Dan Dodge and Gordon Bell in 1980 and ran on prototype, wire-wrapped 8088 and 6809 machines. The QNX community benefits tremendously from the fact that Dan and Gord still play an active role in the development and coding of the QNX operating system.

The OS was originally called Qunix, "Quick UNIX", until they received a polite letter from AT&T's lawyers asking that they change the name.

One of the first high-volume applications for QNX was as the enabling technology in AES dedicated word-processing machines to provide networked file servers. QNX was also used in the ICON machines that were destined for classrooms in Ontario schools.

Today QNX is used for everything from medical instrumentation to nuclear reactor monitoring, to traffic light control, to brewing beer. You probably use QNX several times a day without being aware of it.

The current version of QNX is 6, though QNX 2 and QNX 4 are still being used by many companies. QNX 6 is also known as QNX Real Time Platform (QNX RTP), which is built on the Neutrino (NTO) microkernel technology.

QNX 6.2, the latest release of QNX 6, also comes with a new name: QNX Momentics. Momentics comes with three flavors: None Commercial (NC), Standard Edition (SE) and Professional Edition (PE).

QNX is a real-time operating system (RTOS). It is a very stable, fast and secure embedded system. This operating system is available in various versions - the most popular among PC users being the QNX Real Time Platform (RTP).

Although this is a very good system, it does not have a significant application base to support it. Therefore, QNX systems have encouraged computer users to design applications for it using C++ and other languages developed specifically for the QNX RTP. Thus this system is like a Linux system where you can develop your own applications specific to the operating system you possess.