

# Hard Real-Time Unix-Compatible OS Support and Maintenance

## Client

LynuxWorks™, Inc., a pioneer and a proven leader in the embedded systems industry, delivering its software products solutions to the markets such as communications, aerospace and defense systems, medical, and automotive.

## Solution

LynxOS is a UNIX-compatible, POSIX-conformant, multiprocess and multithreaded operating system designed for real-time applications requiring fast, deterministic response. The LynxOS MPC860 product is comprised of two major components:

- LynxOS kernel
- Startup monitor program (boot prom)

The LynxOS MPC860 kernel is a full-featured LynxOS 2.5.0 kernel including the following components:

- MMU and cache driver
- complete FPU emulator
- service module for accesses to the IMM resources
- interrupt handler and client drivers ISRs registry
- CPM-based UART driver
- CPM-based Ethernet driver
- PC Card HBA driver
- SCSI driver for the PC Card Adaptec SlimSCSI adapter
- simple Power Management driver

The Startup Monitor is a firmware program specially developed for configuring the MPC860 controller and booting LynxOS kernel from a specified device. List of features includes:

- serial line console and command driven user interface
- booting over the network from a TFTP host server
- support of the BOOTP protocol

- diskless booting from the FLASH PROM
- FLASH programming tool
- PC Card's CIS parsing utility
- SCSI bus probe command (for the SlimSCSI)

## Auriga's Contribution

- Investigating the troubles customers face under LynxOS
- Fixing high priority bugs in the kernel, device drivers, utilities, libraries, debuggers, GNU tools, and related products of LynxOS operating system for the following platforms: x86 (3BSPs), PowerPC (10 BSPs), ARM, and MIPS.
- Consulting on the patches creation for the LynxOS operating system and the development of customer-specific versions of LynxOS kernel, utilities, device/network drivers, libraries.