

MICROWARE® ENHANCED OS-9® FOR 68K

PRODUCT BENEFITS

- Rapid Application Development (RAD) that accelerates your total project time by enabling parallel hardware and software development.
- High reliability and availability — OS-9 is proven and fielded in millions of mission-critical devices around the world.
- Secure process-model architecture that is fully reentrant, position independent and protects against accidental or malicious system corruption.
- Module CRCs validate executable module integrity, and module header enables dynamic feature addition, removal, or replacement while the device is online and in use for high product availability.
- Adaptable end products — many modules in deployed systems can be upgraded or fixed without a re-boot while the system is on line and in use.
- Product development expertise — customer care engineers respond quickly and intelligently to technical questions, and consultants provide advisory expertise, project management, and development services.
- Comprehensive hardware support — the software is ready to run on your choice of Popular VME and evaluation boards.

THE COMPLETE EMBEDDED SOFTWARE SOLUTION

PRODUCT OVERVIEW

Microware Enhanced OS-9 for 68K is a complete solution for real-time applications. Microware provides the operating system, drivers, development board level solutions, development environment, and middleware making application development easier and reducing time to market. Products on the CD-ROM include:

OS-9 for Embedded Systems

Enhanced OS-9 for 68K is a licensed product that includes the development environment tools, fast and efficient run-time binary software, and driver sources for custom 68K-hardware platform development.

OS-9 Board Level Solutions

Microware Board Level Solutions (BLS) provide a complete OS-9 run-time and development environment for immediate application development targeting the following Motorola platforms:

- MVME 167/177
- MVME 162/172
- MVME 147
- 68328ADS (Dragonball)
- Quads Boards

Based on the industry leading OS-9 real-time operating system, Enhanced OS-9 for 68K provides drop-in system software for Motorola single board computers, to address connectivity, user

interface, and storage requirements for communications, imaging, industrial control and similar intelligent systems.

Enhanced OS-9 for 68K provides an open environment for resident and networked application deployment. Microware Hawk™ Integrated Development Environment (IDE) provides robust productivity tools to create 68K system images for Flash, ROM or disk. Once your application is complete, Microware provides flexible licensing options allowing you to affordably distribute to your market.

This combination of a proven OS-9 system software base, a robust development tool set, and drop-in device support for 68K hardware offers integrators and manufacturers the advantage of Rapid Application Development (RAD) for real-time embedded systems.

OS-9 EVALUATION PACKAGE

The FREE Evaluation CD is the actual Microware OS-9 Board Level Solution (BLS) that has been set to expire in 60 days!

PRODUCT FEATURES

OS-9 Kernel

The OS-9 kernel provides a secure, process-based, multi-tasking environment for embedded systems. OS-9's use of position-independent, reentrant code modules allows the kernel to dynamically load application and/or system modules at run-time. This capability enables system designers to add or update software modules across the network during development or in the field.

SoftStax™ Communications Framework

SoftStax is a high-performance communications subsystem that supports a wide variety of standard and custom networking protocols, including local and wide area networks (LAN/WAN). SoftStax's architecture and API layer allow applications to be written independent of the underlying protocols, device drivers and network media for portability. With SoftStax, applications can utilize several protocol stacks during a single communications session, and switch protocols depending on the network requirements. The Enhanced OS-9 for 68K package includes a TCP/IP protocol stack and popular Ethernet drivers.

Serial/Parallel I/O

The Sequential Character File Manager (SCF) I/O subsystem handles basic character oriented I/O devices, such as serial ports, parallel ports and modems. It also functions as the input path for a variety of MAUI devices, such as keypads, mice and touchscreens.

Storage I/O

The Random Block File Manager (RBF) I/O subsystem implements a hierarchical, UNIX-like file system for data storage. Enhanced OS-9 for 68K includes a RAM

disk device driver for OEMs whose devices require temporary storage during operation and a PC file system for PC-AT compatibility.

PCMCIA I/O

Enhanced OS-9 for 68K supports a variety of popular PCMCIA devices including modems, ATA flash and hard disks, 8250 serial devices, ethernet and more.

Hawk Integrated Development Environment (IDE)

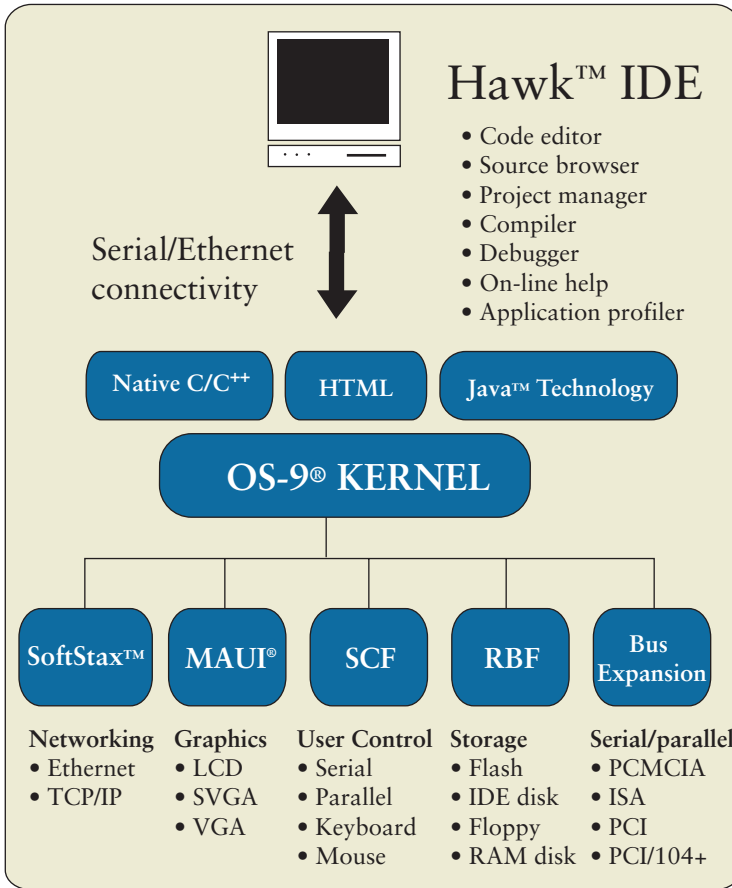
Microware's Hawk IDE is designed to increase the efficiency of OS-9 development. Hawk's highly integrated tool set simplifies and automates the tasks of creating, debugging, analyzing and managing complex real-time software development projects. The development environment includes the Codewright™ code editor, compiler, linker, object loader, application and system level debugger, application profiler, and on-line documentation.

MAUI® Embedded Graphics and Multimedia Support

Microware MAUI multimedia environment provides a rich set of text, drawing and animation functionality with windowing, clipping, and inking services to support the graphical interface. The small and fast graphics subsystem takes advantage of the real-time design features of OS-9. MAUI supports numerous I/O devices, including grayscale and color LCD panels, SVGA/VGA graphics terminals, touchscreens, mice, keypads/keyboards, and other devices commonly found in man-machine interfaces.

MICROWARE ENHANCED OS-9 FOR 68K DIAGRAM

PC Development Host
Target Environment



SPECIFICATIONS

ORDERING INFORMATION

Call for pricing and availability.

PRODUCT CONTENTS

Enhanced OS-9 for 68K contains the following software integrated on a single CD-ROM:

- OS-9 RTOS
- SoftStax communications I/O system
- Ethernet and PPP client support
- BSD v4.4 TCP/UDP/IP LAN networking
- Sample drivers and framework
- Finished ported boot image for reference platform(s)
- Device driver source
(available with Embedded System Package)
- MAUI multimedia I/O system
- Microware Hawk IDE for OS-9 including:
 - Premia's Codewright code editor
 - Source code browser
 - Project manager
 - Ultra C/C++ Compiler
 - Hawk system and user state debugger
 - Resident tool set
 - On-line help manual

ADD-ONS

EMANATE® SNMP for OS-9

EMANATE SNMP for OS-9 provides a master agent binary, MIB-II subagent binary and a MIB compiler for custom agent development for OS-9. Jointly integrated by SNMP Research and Microware, the porting and integration effort has already been done for you.

True Flash File System (TrueFFS)

TrueFFS provides wear leveling for optimal usage of the Flash silicon along with reliable flash write without the need for battery backed Ram mirrors of sectors. TrueFFS provides driver support for 29LV160VT and 29LV800VT flash parts tested on 68K platforms.

SYSTEMS REQUIREMENTS

Host Development System

- Microsoft® Windows 95, 98 or NT
- Pentium processor
- 32 MB RAM
- 250-350 MB free disk space
- CD-ROM drive

Target System

	RAM	ROM
Base OS-9 Configuration (Baseline)	64K	64K
Baseline OS-9 with TCP/IP connectivity (Networked)	256K	256K
Networked OS-9 with graphics (Multimedia)	512K	512K

HARDWARE SUPPORT

Networking

- i82596
- AMD7990 v1.1

Serial Device Support

- | | | | | | | | |
|---------|---------|------------|----------------------|--------|---------|---------|---------|
| • 8530 | • 16550 | • 2401 | • 2661 | • 410 | • 68070 | • 6821 | • 68320 |
| • 68332 | • 7201 | • 68360SCC | • 68360SMC (planned) | • 6850 | • 68560 | • 68561 | |
| • 68562 | • 68564 | • 68681 | • 68901 | • 8520 | • 8521 | | |

Parallel Device

- Scp147
- Scp167
- Scp68230
- Scpio050
- Scpio117

Physical Disk Media

- PCMCIA IDE
- SCSI