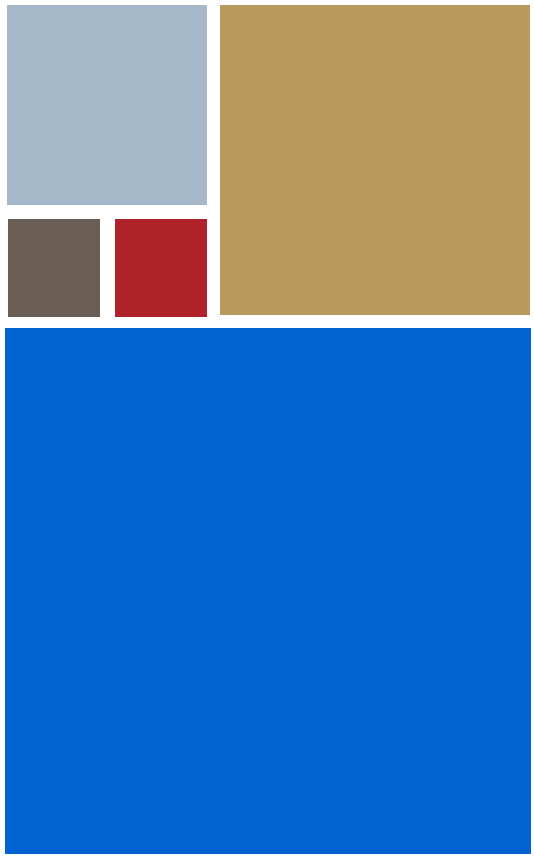

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# Microware OS-9® Release Notes

# Version 4.7

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# 1 Introduction

Microware OS-9 version 4.7 represents a maintenance and enhancement release to incorporate all of the improvements that have been introduced into the component parts.

## Conventions

RSYSxxxxx This specifies the ClearQuest issue number.

This identifier should be referenced if additional information about a particular bug-fix or enhancement is required.

## How to Use Release Notes

The release notes in this document reflect only the enhancements and resolved issues implemented after the OS-9 v4.6 release and before this release, OS-9 v4.7. Since all processors are not released at the same time, to read about all the OS-9 changes for a particular processor from one of its releases to another you must read all the release note documents starting with the older release and stopping at the newer release. For example, assume you are currently using OS-9 v4.1 for SH-4 and you wanted to know what changed for v4.6. You would want to read the release notes for v4.2, v4.3, v4.4, v4.5, and v4.6.

# 2 Operating System

This chapter provides an overview of the changes and improvements made to OS-9 for version 4.7.


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# Enhancements

- RSYS9115: Universal getstat/setstat parameter block added to srvcb.h

  A universal getstat/setstat parameter block was added to /mwos/SRC/DPIO/DEFS/srvcb.h. It may be used when the parameters for a sub-code can be easily passed in a couple of integers. When used, it saves the trouble of having to call _os_chkmem() and then de-referencing another parameter block structure.

- RSYS9506: OS-9 should allow system-state code to pre-allocate alarms

  The OS-9 kernel was enhanced to support an alarm pre-allocation facility. A new alarm flag (TH_ALLOC) was created. This flag, when passed to _os_salarm_set() or _os_salarm_cycle(), will cause the kernel to allocate an alarm, but not schedule the alarm. The alarm can be scheduled at a later time by using _os_salarm_reset(). To stop, but not free, a pre-allocated alarm call _os_salarm_delete_sp() without the TH_ALLOC flag. To stop and free a pre-allocated alarm call _os_salarm_delete_sp() with the TH_ALLOC flag. Like other system-state alarms, pre-allocated alarms can be owned by either the calling process or the system process. In the latter case, they will not be freed until explicitly freed.

- RSYS9521: Added multiple serial card support to SC16450 driver

  SC16450 driver now supports cards with multiple serial chips.

- RSYS10232: RomBug needs a command to dump text from memory

  RomBug was enhanced to have a dt command that can be used to dump ASCII text from memory. It supports any EOL (CR, LF, or CRLF).

# Resolved Problems

The following section describes the issues related to the OS-9 operating system and how they were resolved for the current release.

- RSYS8850: Updates to MVME5500 port due to GT-64260 errata

  Changes were made to the MVME5500 port due to errata of the Marvell Discovery GT-64260 chip. This updated the following modules: abort, gt64260irq, tkdec, and spgt64260.

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- RSYS8851: PPC403/405 vector code updated for errata 77

  Code to implement the change in errata 77 was added for PPC403/405.

- RSYS8852: PowePC e500 SSM performance improved

  Performance for the PowerPC e500 SSM was improved for large programs.

- RSYS9381: The PCI library for SH-4A can not access configuration registers with offsets higher than 0x40.

  The PCI library (pcilib.l) was fixed to properly mask the register offset to a 4-byte aligned value less than 0x100. This allows all valid configuration registers to be accessed.

- RSYS9393: pcmcia utility now sleeps for .5 seconds instead of 50 ticks during card power on routine.

  The power on routie in the pcmcia utility used to sleep for 50 ticks. This was changed to .5 seconds.

- RSYS9398: PCF (OS-9/non-68K) would not allow deleting a filename that started with "..".

  Although PCF allowed the user to create a filename starting with two dots ("..filename"), trying to delete a file by the name would result in an error. PCF has been updated to properly identify special "." and ".." directory entries, and now files starting with ".." can be deleted.

- RSYS9554: MIPS64's dbgentry module does not correctly save/restore hi/lo

  The dbgentry module was fixed to save/restore the 64-bit versions of hi and lo on the MIPS64 processor. Previously, only the lower 32 bits were saved/restored.

- RSYS10158: OS-9 corrupts memory near address 0 when certain module directory trees are manipulated.

  The kernel was fixed to no longer write an address near address 0 (address 0x34) when a module directory entry that has a nearest predecessor with no left children that is not directly on the entry's left is deleted. For example, previously this sequence of commands would cause a write to 0x34 in memory (the integrity of the module directory structure is not disturbed):

```
$ makmdir TEST
$ chm TEST
$ load -d c a b d
$ unlink c
```

The reorganization of the module directory tree would cause a write a 0x34.

- RSYS10644: bootgen fails to recognize that a non-RBF disk is being used

  The bootgen utility was updated to ensure that a RBF formatted device is being used as the target device.

# 3 Host Applications

This chapter contains release notes for host applications used with OS-9 v4.7.


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# Hawk Notes

The following sections represent changes and updates to Hawk since the last release.

## Enhancements

- RSYS8692: Allow variable display width in Hawk debugger memory visibility window.

  The Hawk debugger memory visibility window now allows a display width of 4, 8, 16 or 32 bytes.

- RSYS8693: Hawk debugger Symbol Browser window should be dockable.

  The Hawk debugger Symbol Browser window can now be docked inside the CPU window.

- RSYS8696: It would be nice to be able to find the definition and references to symbols while working on a Hawk project.

  The Hawk project manager and source code browser was updated to include support for Ultra C/C++'s cross-reference database. Refer to chapter 10 of the Using Hawk manual (hawk_use.pdf) for complete information on this feature.

## Resolved Problems

This section provides a list of Hawk-specific issues and how they were resolved for the current release.

- RSYS8684: Stack Trace in System State debugging corrected.

  Adjusted stack calculations so the stack trace seen when an exception occured while performing system state debugging will behave as expected.

# TECH-CHECK Notes

The following sections represent changes and updates to TECH-CHECK since the last release.

- RSYS9069 - TECH-CHECK report lists system time and date incorrectly

  TECH-CHECK now reports the correct target system time and date.

# 4 Components

This chapter contains processor-independent release notes for OS-9 components.


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# OS-9 Compiler Notes

The following sections contain release notes for the OS-9 Ultra C/C++ compiler.

## Enhancements

The following list describes general enhancements made to the Ultra C/C++ compiler for this release.

- RSYS10175: The OS-9 development tools need an e200 target processor.

  The Motorola e200 core processor target was added to all the relevant OS-9 development tools in the compiler, utiltiies, and IDE.

# Networking Notes

The following sections include the release notes for the current versions of SoftStax and LAN Communications.

## Resolved Problems

This section discusses problems that were resolved for SoftStax and LAN Communications:

- RSYS3846: IP address swapped in IPCP

  An IPCP swapped IP address has been corrected in spipcp

- RSYS9556: FTPD rename of nonexistent file would return extra errors.

  The OS-9 FTPD server was not properly parsing the error message from a rename of a nonexistent file. It would then emit a few extra unwanted output messages back to the FTP client. This has been resolved.

- RSYS10114: FTP does not show time zone adjusted time.

  When FTPing into an OS-9 machine, the date code returned would always be system time and not local/adjusted time zone. FTPD was updated to allow the TZ time zone environment variable to be honored in its date display