

# Enhanced OS-9 for SuperH Release Notes

**Edition 4**



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# Chapter 1: Board Port Release Notes

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## OS-9 for SuperH

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This section describes the release notes on OS-9 for SuperH version 2.2.

### SH7709/SH7709A Solution Engine

- The Ethernet driver used to be built from the `/mwos/SRC/DPIO/SPF/DRVR/SP83902` directory. This has been changed. It is now built from the `/mwos/SRC/DPIO/SPF/DRVR/SP83902_SH` directory. The code has been enhanced for performance improvements.

### EBX7709 Reference Platform

- There is no Super I/O (SIO) support currently for the parallel port.
- Keyboard support is available for serial ports SIO3 and SIO4.
- Mouse support is not available for serial ports SIO3, SIO4, and SIO5. These ports do not generate enough power to support a mouse (note: this can affect Java applications that require a mouse).
- The EBX contains both a top and a bottom PCMCIA slot. However, due to hardware limitations, the top slot is limited to memory type devices (i.e. ATA flash cards), while the bottom slot is limited to I/O devices (i.e. Ethernet cards).
- If an Ethernet PCMCIA card is installed, software reset (i.e. “rst” from ROMBUG) will hang the system.
- OS-9 does not use any of the DIP switches on the EBX board (note: the EBX hardware does use DIP switch 1 to determine which part of ROM to boot from).
- Currently, LCD support is not available; however, the video mode of the graphics controller is supported.

# Configuration Wizard

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This section describes the release notes on OS-9 for SuperH version 2.2.

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- It is possible to select the checkbox labeled **JAVA Support Modules** in the Configuration Wizard's **Master Builder** window even when the **PersonalJava for OS-9** package is not installed. This checkbox should not be selected if you do not have **PersonalJava for OS-9** installed. Selecting this checkbox for a build when **PersonalJava for OS-9** is not installed will result in an error.
- The Configuration Wizard does not properly set the MAC address (or low level ethernet address) in the SPF descriptors. No matter what the MAC address field in the wizard is set to, the SPF descriptors made by the Configuration Wizard will have this address set to 0. As a result, the SPF ethernet drivers will always obtain this address from the hardware jumpers.

# HawkEye

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This section describes the release notes for Microware HawkEye for SuperH.

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- HawkEye uses timer 0 on the SH7709 board.
- When starting HawkEye, select **File->Preferences->Target** and choose the **SuperH** processor type. HawkEye's current default processor is **PowerPC**.
- If the router daemon locks up, reset the target to capture any future profiles.
- Currently, logging to a user log is not supported on the SuperH. User events are logged directly into the system log.
- The PC values corresponding to some of the kernel's internal system calls are not set to enhance performance.
- The process ID (PID) is set to the program that calls the kernel. Because of this, the system call event will show up in the log file as part of the calling process. Furthermore, the PC value is not properly set in the details window for the system call events.
- The stack indicated is the system stack. Some of the system calls include the following:

F\_UACCT

F\_MOVE

F\_CMPNAM

F\_PRSNAM

F\_INITDATA

F\_SLINK

F\_TLINK

I\_IOEXIT

I\_IOFORK

I\_IODEL

F\_SALARM

I\_OPEN

I\_GS\_DEVTYPE

I\_GS\_DSIZE

I\_READ

I\_CLOSE

I\_GS\_EOF

I\_GS\_FD

- If the filters are applied in the Filter Criteria dialog box, the system call events will not show up in the HawkEye application window. However, the details will show up in the Details dialog box.



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# Chapter 2: LAN Communications Pak

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These notes describe release 3.3 of the LAN Communications Pak.



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## Note

For hardware specific information, please see the release notes for the board you are interested in.

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# Enhancements/Changes Since LAN Communications Pak v3.2

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## Enhancements

- The LAN Communications Pak is now year 2000 compliant.
- Multicast support has been added to the core protocol stacks, as well as the slip and PPP drivers. Refer to the release notes for a particular board for information on multicast support for specific hardware drivers.
- Interface drivers now inform IP of their capabilities, such as multicast or broadcast support, rather than depending on them being specified correctly in the `inetdb` modules or on the `ifconfig` command line. If it is not desirable to use all the capabilities of a driver, new options have been added to `ifconfig`, `ndbmod`, and `idbgen`. For example, if you do not wish an ethernet interface to support broadcasting, you can specify the `iff_nobroadcast` option.
- “Zero copy” transmissions are now implemented in the LANCOM stack. This should improve performance for data transmissions.

## Bug Fixes

- During an `ICMP_UNREACHABLE` scenario in response to a `SYN`, we do not storm the network with the packets.
- Fixed retransmission Nagle problem in TCP.

## ifconfig

- Added `iff_nobroadcast`, `iff_nomulticast`, and `iff_nopointopoint` options to override driver default values.

- No longer requires UDP. Now also tries TCP or RAW sockets before giving up.
- Repeated changing of an interface's netmask no longer results in an EOS\_FULL error.

## ndbmod

- Added `iff_nobroadcast`, `iff_nomulticast`, and `iff_nopointopoint` options to override driver default values.

## netstat

- Added `-ia` option to print all multicast groups joined on each interface
- Prints `igmp` statistics using either the `-s` or `-p igmp` options.

## ping

- Increased the size of the receive buffer to handle packets bigger than 48K. Now able to specify values up to 65507 using the `-s` option.

## routed

- No longer crashes when a new interface is added by `ifconfig`.

## idbdump

- Now prints `mw_flags` in the interfaces section. The override flags are: `iff_nopointopoint`, `iff_nobroadcast`, and `iff_nomulticast`.

## idbggen

- Modules are now created as a multiple of 8 bytes in size to fix alignment problems on some platforms.
- Added `iff_nobroadcast`, `iff_nomulticast`, and `iff_nopointopoint` options to override driver default values.

## rpcdbgen

- Modules are now created as a multiple of 8 bytes in size to fix alignment problems on some platforms.

## exportfs/showmount/rusers

- The date printing is now year 2000 compliant.

## rusersd

- Now uses 1970 as its time epoch instead of the OS9 version 1.x time epoch of 1980.

## pppd

- Fixed hole where we can receive a signal before we are ready to process it.

## netdb.l

- Fixed problem with the trap module not handling the stack properly in certain situations.

- If a DNS server returns an ICMP port unreachable error, the next listed DNS server is tried rather than returning an error.

## socket.l

- The backlog parameter to listen was ignored and assumed to be the old maximum of 5. It is now passed correctly, and the maximum has been changed from 5 to 128.
- The `accept` function properly sets the foreign port and address so subsequent `getpeername` functions work correctly.

## rpc.l

- Now compiled with long code and long data for all targets.

## spenet

- Now supports IP multicast packets.
- Correctly sets `arp_op` to `ARP_REPLY` when responding to proxy `arp` requests.
- Fixed mbuf leak when receiving packets from broken hardware drivers.

## spip

- Multicast support has been added.
- Support for IGMP version 2 has been added.
- Now able to add interfaces and routes from an `inetdb` module in ROM.

- Correctly counts input bytes on the loopback interface. This value is now correct when viewed with `netstat`.
- The `checksum` function is now written in assembly for ARM4 targets. This is the common function also used by `SPTCP`, `SPUDP`, and `SPRAW`.
- If only an interface's netmask changes and not its address, the request is not passed to `spenet`.
- Applied patch for CERT advisory CA-98.13.
- The 500ms IP timer now only runs when IP fragments are present in the IP reassembly queue.

## sptcp

- The retransmit timer is set if TCP can not get an mbuf to prevent certain deadlock situations when running low on available mbuf space.
- If all TCP sockets are closed its 500ms and 200ms cyclic timers are stopped. This allows the system to suspend if power management is enabled.
- The TCP congestion window now opens correctly, rather than too quickly as before.

## spudp

- Support for multicast socket options added.
- Incoming data is now delivered correctly to multiple recipients, even if it is in an mbuf packet chain.

## spraw

- No longer corrupts memory when binding a RAW socket to a specific IP address.
- Incoming data is now delivered correctly to multiple recipients even if it is in an mbuf packet chain.
- Connected RAW sockets now work.

## sproute

- Verifies size of user-supplied buffer before copying interface information into it.

## spslip

- Added support for IP multicasting.
- No longer corrupts occasional non-TCP packets by attempting to compress them.

## sphdlc/splcp/spipcp

- Now allows multiple PPP stacks to coexist by changing the `lun` number in the descriptors.

## spipcp

- Added multicast support.

## Known Issues

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### Installation

Care should be taken when installing the LAN Communications Pak on a 68000, PPC, or 80x86 platform which previously had ISP installed. ISP (Internet Support Pak) is the BSD v4.2+ TCP/IP stack provided in the past.

The two networking packages can not be run on the same machine at the same time, nor can the utilities for one run with the other. In addition, several utilities such as `telnet` and `ftp` share the same names. The installation program will list the conflicting utility names. All conflicting utilities are in `MWOS/<OS>/<PROCESSOR>/CMDS`. The ISP versions should either be renamed or moved to another directory.

Running any utility with the `-?` option will tell you what networking stack it is for. The LAN Communications Pak utilities will say SPF for the IP stack. If the utility does not list any IP stack, then it is an older ISP utility.

### NFS client and server

- The NFS server only supports RBF devices. PCF file systems can not be exported at this time.
- The `rename()` function returns 000:208 Unknown Service Routine when used on an NFS disk. The work around is to use the `_ss_rename()` function. Append mode is not supported.
- Mount disk points are limited to 2 Gigabyte media size.
- NFS does not support file locking.
- The `create()` function acts like `creat()` for the NFS server software.

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## Chapter 3: MAUI 2.3 Release Notes

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This chapter provides release note information for MAUI 2.3. It also includes release note information for MAUI 2.2.

## MAUI 2.3 Release Notes

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### Demos

- `demo_set_timeout()` now uses `signal()` instead of `intercept()` to eliminate signal handler conflicts.

### Bug fixes

- Corrected IOBLT copy from an interlaced source
- A `gfxdev` parameter was added to `gfx_clone_vport()` to correct a problem where the cloning application would attempt to access the graphic device using the `path_id` of the application that originally created the viewport.



