

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.01

2/03/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- Support Pack 4 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- Hot plug capability is not fully operational for SAS devices. To workaround, user must manually execute a "scan for new devices" command at the system console.

Major Changes From Version 04.01.00:

General Changes

Functionality

Defect Fixes

- **Issue:** RQM 288305. Abend occurs when setting physical link rate via CC_CSMI_SET_PHY_INFO ioctl.
Reported by: OEM
To Reproduce: Using csmitest version 2.01.01 using SAS card with Netware driver 4.00.05. In csmitest.nlm specify option 15, phy 0, new link, 1.5 min speed, 3.0 max speed and page fault abend will occur.
Description of Change: In routine handling CC_CSMI_SET_PHY_INFO ioctl, setup pointer correctly for memory allocation and deallocation. A null pointer was setup. Another issue occurred on same test after abend was fixed. This involved the pagetype field in MPI Configuration Page header. In some instances it contains more info than just the paetype thus when looked at it is now masked off from other info.
- **Issue:** Divide Error Abend occurs when failing an IME volume and then listing devices.
Reported by: Test lab
To Reproduce: Use 1064E. Use Netware driver 4.01.00 . Use Generic IR FW 0.6.20 . Create IME volume. Boot Netware. Pull drive to fail volume. Do list devices to check status and choose Logger Screen to see drive information. Abend will occur.
Description of Change: When displaying device information logic, driver checks if volume is being resync'd. If so code does calculation for how much of the volume is sync'd. This calculation does a divide. There is now a check to make sure we do not divide by 0. If this condition occurs we calculate the value by looking at volume status. Optimal is 100% sync'd, all other states set to 0% sync'd.

- **Issue:** On IME volumes doing a scan for new devices reports following error message on Logger screen: (LsiMptNw-SAS/Fibre/SCSI)-WRN_MPI_PAGE_IO_FAILURE WARNING: MPI Page operation 18 completed with error code 0x0022
Reported by: Test lab
To Reproduce: Use 1064E. Use Netware driver 4.01.00 . Use Generic IR FW 0.6.17 . Create IM volume with 6 other SAS drives on the system. Scan the devices.
Description of Change: Don't read SAS phy 0 config page when ID is virtual volume ID. Also enhance error message to display config page number.
- **Issue:** OEM CSMI ioctl shows incorrect BIOS and Firmware information.
Reported by: OEM
To Reproduce: Use SAS Controller Use Netware driver 4.01.00 . Use Generic IR FW 0.6.17 . Using csmitest tool invoke SAS Get Controller Config ioctl.
Description of Change: Updated csmisas.h header file to version .83.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.00

11/21/2005

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- Support Pack 4 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- Hot plug capability is not fully operational for SAS devices. To workaround, user must manually execute a "scan for new devices" command at the system console.

Major Changes From Version 04.00.05:

General Changes

Functionality

- Added support for a particular tape device which uses Basic Model of Queueing described in SAM2 standard. This case happens when a sequential device returns inquiry data with bits Bque=1, CmdQue=0.

Defect Fixes

None

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.05

10/25/2005

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- Support Pack 4 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- Hot plug capability is not fully operational for SAS devices. To workaround, user must manually execute a "scan for new devices" command at the system console.

Major Changes From Version 04.00.04:

General Changes

Functionality

- SAS support added to a OEM specific loctls to allow driver to be compatible with CPQSHD.CDM .
- Behavior changed for GetRaidConfig CSMI loctl to not report hot spares with a volume if incompatible. The two invalid hot spare scenarios identified were if the drive type is not the same, hot spare is too small for volume, or volume is a IS volume.

Defect Fixes

- **Issue:** Following message displayed when IR volume present during boot on logger screen:

MPI Page operation 18 completed with error code 0x22.

Reported by: Developer/Test Lab

To Reproduce: With two SAS drives connected to 1064 A3 controller.

Running 4.00.04 driver. Need an Integrated RAID volume present.

After system boots look on logger screen where lsimptnw.ham driver output is located.

Description of Change: Change driver so it doesn't try to read SAS Device Page 0 MPI Config page if the ID is a virtual volume ID.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.04

09/30/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Special Notes for this build:

- Support Pack 3 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.

Major Changes From Version 04.00.03:

General Changes

Functionality

- Raid Support was added to Get Device Address and Get Location CSMI ioctls.
- Made changes to Phy Control CSMI ioctl identified by firmware and driver team .

Defect Fixes

- **Issue:** Driver was not reporting degraded Integrated Raid Volume status during runtime.

Reported by: Test Lab

To Reproduce: With two SAS drives connected to 1064 A3 controller. Running 4.00.03 driver. Need a Mirrored volume that is fully synchronized. After system booted pull secondary drive of mirrored volume. Then from system console execute command "Scan for new devices". Look on logger screen to see if driver output showed volume is in a degraded state.

Description of Change: When handling an Integrated Raid Event check for SAS device and if found update Raid information if reason code is volume created , volume deleted, or volume status changed.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.03

09/19/2005

Compatibility:

1064 A3

1068 A0

1068 B0

Special Notes for this build:

- Support Pack 3 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Netware is not reporting degraded Integrated Raid Volume status during runtime. Degraded status shown during bootup.

Major Changes From Version 04.00.02:

General Changes

Functionality

Defect Fixes

- **Issue:** Abend occurred after pulling a drive which was being stressed with I/O activity.
Reported by: Test Lab
To Reproduce: With two SAS drives connected to 1064 A3 controller. Running 4.00.02 driver. On system consol start DTS - c:\dts /a/u/m . While running the test pull the non-boot drive. System should abend within about a minute or two.
Description of Change: When handling an interrupt from a system reset task management request, add an additional check in new CSMI code for a null ptrHacb within IOR.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.02

09/14/2005

Compatibility:

1064 A3

1068 A0

1068 B0

Special Notes for this build:

- Support Pack 3 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Netware is not reporting degraded Integrated Raid Volume status during runtime. Degraded status shown during bootup.

Major Changes From Version 04.00.01:

General Changes

Functionality

- Serial Number supported in loctls.
- Supports all CSMI loctls.
- Added Phase 3 support to CSMI loctls.
- Added logic change requested for CSMI loctl. Change had to do with physical disk status returned when Smart Count is > 0.

Defect Fixes

- **Issue:** Versions incorrect in SAS Get Controller Config CSMI loctl
Reported by: Developer
To Reproduce: Run sastool.nlm and select Get controller Config. Look at BIOS or Firmware Version displayed .
Description of Change: CSMI Data structures defined in csmisas.h are now packed.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.01

08/31/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Special Notes for this build:

- Support Pack 3 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Supports MPI headers version 1.05.12

Current Errata:

- Netware is not reporting degraded Integrated Raid Volume status during runtime. Degraded status shown during bootup.
- Following CSMI ioctls not supported in this release: GetScsiAddress, GetDeviceAddress, CsmiTaskManagement, PhyControl, GetLocation, FirmwareDownload. Also the logic change having to do with physical disk status when Smart Count is > 0 will not be in this release.

Major Changes From Version 04.00.00:

General Changes

Functionality

- Compiled with version 1.05.12 of MPI headers

Defect Fixes

ISSUE: If driver displays error when reading an extended configuration page it displays number 15. So we don't know which extended config page was trying to be accessed.

REPORTED BY: Developer

REPRODUCE: Attempt to access SAS Device Page 0 for an ID associated with an IM volume. Using Driver 4.00.00 .

ORIGINAL DESCRIPTION: Same as Issue.

TECHNICAL DESCRIPTION OF CHANGE: When error returned on config page completion check for extended config page and substitute if found display the extended page type.

CONTINUOUS TASK: ict1#6831

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.00.00

08/26/2005

Compatibility:

1064 A3
1068 A0
1068 B0

Special Notes for this build:

- GCA Release
- Support Pack 3 or higher is required for Netware 6.5.
- Support Pack 7 or higher is required for Netware 5.1. Novell's P4 Patch (TID 2958220) may be required to install on some systems.
- Requires Firmware release 0.04.14 or later
- Requires BIOS release 6.03.00 or later

Current Errata:

- Netware is not reporting degraded Integrated Raid Volume status during runtime. Degraded status shown during bootup.
- Following CSMI ioctls not supported in this release: GetScsiAddress, GetDeviceAddress, CsmiTaskManagement, PhyControl, GetLocation, FirmwareDownload. Also the logic change having to do with physical disk status when Smart Count is > 0 will not be in this release.

Major Changes From Version 03.99.06:

General Changes

Functionality

Remove Beta banner for GCA build.

Defect Fixes

None

NOTES, ISSUES and DETAILS

- ***Instance unload and/or restart is not supported for onboard/flash-less chip sets.***

There is a scenario when instance unload is used and then the server is exited to real-mode that will cause I/O to the instance unloaded channel to fail while using the real-mode (DOS) OS. Because there is a wide variety of sequences that may cause I/Os to fail in DOS for flash-less chip systems. Support for instance unload/reload on the actual onboard adapter will no longer be supported. This is probably the cause of the situations noted in the next section.

- ***Flash-less configurations and restarting the OS.***

On some flash-less adapter (No EEPROM, exclusive to some motherboard installations of the 103x chipsets) environments, the driver may fail to initialize the flash-less adapter if a server is downed from the server prompt to the DOS OS and then restarted without a hardware re-boot.

This condition is caused because under some conditions and always for NW 6.5 the firmware image is not restored by the NetWare driver to the adapter and therefore any adapter chipset reset that may occur will fail because the firmware image cannot be restored for the processor in the adapter.

The workaround if this problem is encountered is to reset or power cycle the server to force a complete hardware re-boot to occur.

- ***NW OS failing to block switch to real-mode***

The driver makes a request to the OS via a function call to block any switches to real-mode (DOS OS) because the driver will be executing a section of code that is critical and cannot allow a context switch to the real-mode driver. The problem is that sometimes a real-mode block

request is not honored by the OS and it attempts to switch to real mode during this critical time. This causes the LSIMPTNW driver to lock up, ABEND, function very sluggishly, or possibly no effect. The OS fails to block because of a race condition that exists between the sampling of the real-mode blocked flag and the OS initiating the switch to real-mode. This particular problem is seen most often during start up and while the system is under heavy I/O loading. Novell has produced a version of their NWPA.NLM, dated 6/11/2003 or later which has the ability to signal to the software that called for a real-mode block that the block action failed. LSIMPTNW drivers from version 3.04.11 forward will contain code to handle the OS failing to block a switch to real-mode. If the driver is used with an earlier version of NWPA.NLM this functionality will not be available but the OS and driver will operate with the potential of failure as described above.

- ***Unloading Instances in FLASH-less Environment***

In a FLASH-less environment using the LSI53C1030 chip – when an instance of the driver is unloaded performance on the remaining instance may be degraded. It is recommended that both instances be loaded regardless of whether there are attached SCSI devices.

- ***Loading Netware 5.1 on fast processor machines***

On machines with fast P4 processors, the installation of Netware 5.1 may fail with the following message.

SYMCJIT.NLM does not have any XDC data

Symantec JIT
java page fault occurred while executing class
com.novell.application.install.Setup

6-18-2002 8:57:40 am: Server-5.0-830 [nmID=2000A]

Short term memory allocator is out of memory.
1 attempts to get more memory failed.

java: Class com.novell.application.install.Setup exited with status -5

If that is the case then Novell's P4 Patch (TID 2958220) is required to successfully install the OS.

- ***SCSI-3 Tape Devices and ASPIMPT DOS Driver***

Devices that report themselves as SCSI-3 compliant (Inquiry Data indicates SCP-3) but do not support PPR, may cause a bus hang when ASPIMPT is present.

ASPIMPT attempts PPR negotiations to devices that report themselves as SCSI-3 compliant but do not support PPR. As a workaround use the ASPIMPT "/SYNCH_RATE" command line option to limit suspect devices to 40 Megatransfers. This will result in the usage of SDTR/WDTR instead of PPR for rate negotiation.

- ***Wide-Narrow-Wide Configuration and ASPIMPT DOS Driver***

Wide capable devices may be ignored when placed after a narrow device on the SCSI Bus when ASPIMPT is present.

ASPIMPT does not handle Wide-Narrow-Wide device bus configurations. Negotiated widths should be Wide-Narrow-Narrow, instead they are Wide-Narrow-Wide, with the end-device left in a Check Condition state that causes the MPT FW to automatically renegotiate Wide. This will result in the LSIMPTNW.HAM scan ignoring the device because a successful Inquiry cannot occur. Two possible workarounds are

- a. Physically place all narrow devices after all wide devices on the SCSI Bus.
- b. Use the ASPIMPT "/WIDTH" command line option to limit the appropriate wide devices to 8-bit width.

- ***Integrated Mirrors***

An Integrated Mirror provides copies of the Operating System on multiple drives. If NetWare is installed on an Integrated Mirror and at some future point Integrated Mirror is deleted by the system

administrator, then it is vital that only a **SINGLE** drive with the Operating System remains on the system. NetWare is not able to handle the case of multiple SYSTEM volumes attached to a system when it is trying to boot.

- **BIOS Configuration Settings Honored:**

Enable/disable Lun Scans, specify I/O timeouts, Spin-up Delay, Max Int13 devices for adapter.

Issue: Command line options for speed settings may not always have the desired effect.

Workaround: Use speed settings provided by the BIOS, or reissue the command line option for the speed settings.

Issue: The help command to the driver does not work if all instances of the driver are loaded.

Workaround: Use the text help available with the driver for help on commands available from the driver.

Issue: The printed speeds are sometimes incorrect if drives are hotplugged or devices added to the bus that restrict the speed/width of any existing devices on the bus.

Workaround: None at this time.

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