

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.17

08/06/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 1 Support Pack 5 or higher is required for Netware 6.5.
- 2 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.
- 3 Supports MPI headers version 1.05.12
- 4 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 1 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.16:

General Changes

Functionality

None

Defect Fixes

- 1 **Issue:** The command 'scan for new devices' displays only six drives for an RAID IS volume of 8 drives.
- 2 **Reported by:** Test Lab
- 3 **To Reproduce:** Use NetWare driver version 4.01.16 with 0.23.12 IR firmware and Bios 6.17.02. Create a SAS/SATA IS raid volume with 8 disks. Execute 'scan for new devices' command.
- 4 **Description of Change:**
The code has been modified to support maximum fifteen physical drives per RAID volume.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.16

07/20/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 5 Support Pack 5 or higher is required for Netware 6.5.
- 6 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.
- 7 Supports MPI headers version 1.05.12
- 8 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 2 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.15.2:

General Changes

Functionality

None

Defect Fixes

5 **Issue:** The CSMI_SAS_GET_LOCATION ioctl displays incorrect location information when SAS and SATA IM volumes with Hot Spare are configured on the same adapter.

6 **Reported by:** Test Lab

7 **To Reproduce:** Use NetWare driver version 4.01.15.2 with 0.23.10 IR firmware and Bios 6.17.02. Create a SAS IM data volume with hot spare and a SATA IM data volume. Launch csmitest and execute CSMI_GET_LOCATION for the SATA IM volume.

8 **Description of Change:**

The code has been modified to check hot spare drive type in the case of different types of volumes.

9 **Issue:** The CSMI_SAS_GET_RAID_CONFIG ioctl displays incorrect drive information when SAS/SATA IM volume with two Hot Spares is configured on the same adapter.

10 **Reported by:** Test Lab

11 **To Reproduce:** Use NetWare driver version 4.01.15.2 with 0.23.10 IR firmware and Bios 6.17.02. Create a SAS IM data volume with two hot spares and a SATA IM data volume. Launch csmitest and execute CSMI_SAS_GET_RAID_CONFIG for the devices option.

12 **Description of Change:**

The code has been modified to report correct drive information when SAS/SATA IM RAID volume with two hot spares is configured.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.15.2

06/21/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 9 Support Pack 5 or higher is required for Netware 6.5.
- 10 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.
- 11 Supports MPI headers version 1.05.12
- 12 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 3 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.14.15:

General Changes

Functionality

- 1 Transport Layer Retry (TLR) functionality added for SAS Tape Drives. This is to facilitate enabling of TLR functionality for SAS Tape Drives by sending Vendor unique CDB.

Defect Fixes

- 13 **Issue:** When the IM volume comprising of SAS drives is rebuilding, 7 DTS sessions are performing heavy I/O to Netware volumes and at the same time the operator types in “scan for new devices” command several times. At times, these operations cause a firmware fault and the system hangs.
- 14 **Reported by:** Test Lab
- 15 **To Reproduce:** Use NetWare driver version 4.01.14.15 with 1.20.32 IR firmware and SAS3442E card hooked into MSA50 drive enclosure. System is Intel dual processor. Boot drive is on SAS IM volume; create an IM data volume with hot spare from SAS drives. Build 6 Netware volumes on data IM volume. Invoke 7 DTS processes to stress out Netware volumes. Pull Primary drive of data volume to start resync of IM volume. After resynchronization starts, finally execute “scan for new devices” command repeatedly. Once data volume is rebuild to optimal, repeat this sequence until system goes into fault and the system hangs.
- 16 **Description of Change:**

The code to perform diagnostic reset of IOC is modified such that,

 - All interrupts are disabled before issuing a IOC message unit reset
 - All interrupts are cleared before issuing a hard reset sequence.
 - The diagnostic register is disabled by writing 0xFFFFFFFF to write sequence register.
 - The bit MPI_DIAG_PREVENT_IOC_BOOT is not set/cleared during diagnostic reset operation.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.14.15

06/14/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 13 Support Pack 5 or higher is required for Netware 6.5.
- 14 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.
- 15 Supports MPI headers version 1.05.12
- 16 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 4 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.14.14:

General Changes

Functionality

None

Defect Fixes

17 **Issue:** The event acknowledgement was not being sent for the SAS Device Change event in CaIntrReplyEvent() function.

18 **Reported by:** Test Lab

19 **Description of Change:** The code has been modified to send an acknowledgement for the SAS Device Change event.

20 **Issue:** The bits ADP_BIT_IOC_RESET_ACTIVE and ADP_BIT_IOC_HARD_RESET_ACTIVE was not being cleared while returning from the CaResetViaDiagnosticPort() function in case of any failure.

21 **Reported by:** Test Lab

22 **Description of Change:** The code has been modified to clear the bits ADP_BIT_IOC_RESET_ACTIVE and ADP_BIT_IOC_HARD_RESET_ACTIVE when CaResetViaDiagnosticPort() function returns with failure.

23 MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.14.14

06/05/2007

Compatibility:

1064 A3

1068 A0

1068 B0

1064E

1068E

Special Notes for this build:

- 17 Support Pack 5 or higher is required for Netware 6.5.
- 18 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.
- 19 Supports MPI headers version 1.05.12
- 20 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 5 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.14.13:

General Changes

Functionality

None

Defect Fixes

24 **Issue:** RQM#308895: Hang occurs, when IM volume comprising of SAS drives is being rebuilt and 7 DTS sessions sending heavy I/O to Netware volumes at the same time and operator types in “scan for new devices” command several times.

25 **Reported by:** Test Lab

26 **To Reproduce:** Use NetWare driver version 4.01.14.13 with 1.20.32 IR firmware and SAS3442E card hooked into MSA50 drive enclosure. System is Intel dual processor. Boot drive is on SAS IM volume; create an IM data volume with hot spare from SAS drives. Build 6 Netware volumes on data IM volume. Invoke 7 DTS processes to stress out Netware volumes. Pull Primary drive of data volume to start resync of IM volume. After resynchronization starts, finally execute “scan for new devices” command repeatedly. Once data volume is rebuilt to optimal, repeat this sequence until system goes into hung state.

27 **Description of Change:** The code has been modified such that it does not perform DV check on an unoccupied slot.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.14.13

06/04/2007

Compatibility:

1064 A3

1068 A0

1068 B0

1064E

1068E

Special Notes for this build:

- 21 Support Pack 5 or higher is required for Netware 6.5.
- 22 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.
- 23 Supports MPI headers version 1.05.12
- 24 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 6 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13.06:

General Changes

Functionality

None

Defect Fixes

28 Issue: RQM#308895: Hang occurs, when IM volume comprising of SAS drives is being rebuilt and 7 DTS sessions sending heavy I/O to Netware volumes at the same time and operator types in “scan for new devices” command several times.

29 Reported by: OEM

30 To Reproduce: Use NetWare driver version 4.01.13.06 with 1.20.32 IR firmware and SAS3442E card hooked into MSA50 drive enclosure. System is Intel dual processor. Boot drive is on SAS IM volume; create an IM data volume with hot spare from SAS drives. Build 6 Netware volumes on data IM volume. Invoke 7 DTS processes to stress out Netware volumes. Pull Primary drive of data volume to start resync of IM volume. After resynchronization starts, finally execute “scan for new devices” command repeatedly. Once data volume is rebuilt to optimal, repeat this sequence until system goes into fault and data volumes gets deactivated.

31 Description of Change:

- Scan Inquiry time out limit

During rebuild operation of IM volumes, the response to scan inquiry request takes more time. Hence, the timeout has been modified to avoid this from occurring.

- HACB time out limit

During rebuild operation of IM volumes, the I/O requests take more time to complete. Hence, the timeout limit has been modified to avoid this from occurring.

- Domain Validation

Domain validation is not applicable to SAS devices. Hence, changes have been made to avoid DV for SAS devices.

- SEP Devices

SEP device is being classified as a normal device. Device handle is being allocated for every scan operation instead of once. IOC Page 4 is being

retrieved for SEP devices instead of SAS enclosure page. Hence, changes have been made to fix all these SEP device issues.

- Infinite loops

In the code review, there were four infinite loops detected which have been replaced with for loops. The driver execution will loop through it for a particular condition to be achieved and it will report an error in case of failure.

- Error recovery in case of HACB timeout scenario

In case of the HACB timeout, Task Management/Target Reset based error handling (instead of directly resetting the adapter) is added into the code. Also in relationship of dealing with faults, interrupt handling code is improved.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.13.06

04/09/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 25 Support Pack 5 or higher is required for Netware 6.5.
- 26 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.
- 27 Supports MPI headers version 1.05.12
- 28 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 7 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13.05:

General Changes

Functionality

None

Defect Fixes

32 **Issue:** RQM#304662: error reporting location info of drives in a RAID volume while CSMI_SAS_GET_LOCATION_INFO IOCTL is issued.

33 **Reported by:** Test lab

34 **To Reproduce:** Use NetWare driver version 4.01.13.05 with 1.20.32.00 IR firmware and 6.14.07 BIOS.

36 **Description of Change:** The CsmiGetLocation function in the file HacbZero.c has been modified to check the state of missing drives and calculate correct no of location identifiers available in a RAID volume accordingly. Also code has been modified to report correct location info when there are more than one RAID volumes on an

adapter.**MPT SCSI NetWare Driver Release**

Notes

LSIMPTNW

Version 04.01.13.05

03/29/2007

Compatibility:

1064 A3

1068 A0

1068 B0

1064E

1068E

Special Notes for this build:

29 Support Pack 5 or higher is required for Netware 6.5.

- 30 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.
- 31 Supports MPI headers version 1.05.12
- 32 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 8 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13.04:

General Changes

Functionality

None

Defect Fixes

37 **Issue:** RQM#308895: Hang occurs when IM volume comprised of SATA drives is being rebuilt, 5 DTS sessions sending heavy I/O to Netware volumes, and operator types in “scan for new devices” command several times.

38 **Reported by:** OEM

39 **To Reproduce:** Use NetWare driver version 4.01.13.04 with 1.20.31 IR firmware and SAS3442E card hooked into MSA50 drive enclosure. System is Intel dual processor. Boot drive is on SAS IM volume and build IM data volume with hot spare from SATA drives. Build 3 Netware volumes on IM volumes. Pull secondary drive of data volume to start resync of IM volume. After resynchronization starts invoke 5 DTS processes to stress out Netware volumes. Finally execute “scan for new devices” command repeatedly until system hangs.

40 **Description of Change:** When doing Inquiry command during scan of the bus the wrong timeout value was used. Use timeout defined for inquiries which doubles the time before timeout.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.13.04

03/20/2007

Compatibility:

1064 A3

1068 A0

1068 B0

1064E

1068E

Special Notes for this build:

- 33 Support Pack 5 or higher is required for Netware 6.5.
- 34 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.
- 35 Supports MPI headers version 1.05.12
- 36 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 9 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13.03:

General Changes

Functionality

None

Defect Fixes

41 **Issue:** Related to RQM#304662: CSMI_SAS_GET_LOCATION_INFO ioctl

Reported by: OEM

To Reproduce: Use NetWare driver version 4.01.13 with 1.16.33 IR firmware and 6.10.05 BIOS.

Description of Change: The CsmiGetLocation function in the file HacbZero.c was modified to read IOC Page 5, in order to get Hot Spare Info.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.13.03

03/08/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 37 Support Pack 5 or higher is required for Netware 6.5.
- 38 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.
- 39 Supports MPI headers version 1.05.12
- 40 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 10 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13.01:

General Changes

Functionality

None

Defect Fixes

42 Issue: Issue related to processing of MPI_EVENT_EXT_BUS_RESET event

Reported by: OEM

To Reproduce: Use NetWare driver version 4.01.13 with 1.16.33 IR firmware and 6.10.05 BIOS.

Description of Change: It was observed that the function AEN_ProcessEvent() was not getting called when servicing the interrupt under the case MPI_EVENT_EXT_BUS_RESET. Thus, the call to AEN_ProcessEvent() was added. Also, added a debug statement to let the debugger know that the external bus is getting reset. Code change at CalNtr.c::CalNtrReplyEvent() line #919.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.13.01

03/01/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 41 Support Pack 5 or higher is required for Netware 6.5.
- 42 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.
- 43 Supports MPI headers version 1.05.12
- 44 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 11 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.13:

General Changes

Functionality

None

Defect Fixes

43 Issue: Related to RQM# 313904/5, Error in issuing CC_CSMI_SAS_SSP_PASSTHRU (SATA, SAS) IOCTL for RAID configuration.

Reported by: Test Lab

To Reproduce: Use 4.01.13 driver with 1.16.33 IR firmware and 6.10.05 BIOS.

Description of Change: The problem was in the function CA_IsHardwareInterrupting in the file Calntr.c. The functionality to determine if an IOC hardware interrupt is active for the specified IOC was not getting executed, when the Adapter operational status was Hardware Facts Request complete.

The fix for this was

- 1 The check for Adapter operational status not equal to Hardware Facts Request complete was removed from the function CA_IsHardwareInterrupting.
- 2 The same check was introduced in function ADAPTER_IrqService in the file Adplr.c, based on which the CA_IsHardwareInterrupting function is then called to determine if an IOC hardware interrupt is active for the specified IOC.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.13

02/12/2007

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 45 Support Pack 5 or higher is required for Netware 6.5.
- 46 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.
- 47 Supports MPI headers version 1.05.12
- 48 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 12 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.12:

General Changes

Functionality

None

Defect Fixes

44 **Issue:** Related to RQM# 301636, CC_CSMI_SAS_GET_CONNECTOR_INFO IOCTL hangs the system.

Reported by: Test Lab

To Reproduce: Use 4.01.12 driver with 1.16.30 IR firmware and 6.10.00 BIOS.

Description of Change: CC_CSMI_SAS_GET_CONNECTOR_INFO ioctl was not implemented in the driver. The change has been made to implement CSMI_SAS_GET_CONNECTOR_INFO. The connectorInfo structure is filled with default values and HacbCompletion command is performed.

1 **Issue:** Related to RQM# 308182, Netware driver throws Warning messages inconsistently while running stress/rebuilding.

Reported by: Test Lab

To Reproduce: Use 4.01.12 driver with 1.16.30 IR firmware and 6.10.00 BIOS. **Description of Change:** In the driver version 4.01.12, there is no specific operation being performed for the event MPI_EVENT_INTEGRATED_RAID in the function CalNtrReplyEvent in the file CalNtr.c. The fix is to start the thread to process the raid event (ProcessRaidEvent).

2 **Issue:** RQM#304662, incorrect value being reported for bay prefix field under CSMI_SAS_GET_LOCATION ioctl.

Reported by: Test Lab

To Reproduce: Use 4.01.12 driver with 0.20.09.0 IR firmware and 6.13.05.0 BIOS.

Description of Change: Though no valid value is filled in for the bBayPrefix field, the flag CSMI_SAS_LOCATE_BAY_PREFIX_VALID is being reported as valid. The fix is to remove the line of code that sets the flag CSMI_SAS_LOCATE_BAY_PREFIX_VALID.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.12

12/08/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 49 Support Pack 5 or higher is required for Netware 6.5.
- 50 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.
- 51 Supports MPI headers version 1.05.12
- 52 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 13 "List storage adapters" command does not display updated info when device removed. Workaround: Use "List Devices" command or "Scan For New Devices" command to update info for "List storage adapters" command.

Major Changes From Version 04.01.11:

General Changes

Functionality

None

Defect Fixes

45 **Issue:** Unload Instance tests in Novell certification tests failed.

Reported by: Test Lab

To Reproduce: Use 4.01.11 driver with 1.18.00 IT firmware and 6.12.00 BIOS. Setup TestCon environment and run Unload Instance Test.

Description of Change: On Interrupt Service Routine thread check if driver load initialization is doing a port enable. If so, do not look for interrupts on adapter which is loading.

46 **Issue:** Abend occurs when running Fixed Disk Fault test in Novell certification tests.

Reported by: LSI Test Lab

To Reproduce: Use 4.01.11 driver with 1.18.00 IT firmware and 6.12.00 BIOS on 3442e cards. Setup TestCon environment and run Fixed Disk fault test. Abend occurs within this test.

47 **Description of Change:** When driver gets Device not responding event from firmware it now only sends up notification to OS. OS is expected to do cleanup of devices after getting notification.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.11

12/05/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 53 Support Pack 5 or higher is required for Netware 6.5.
- 54 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.
- 55 Supports MPI headers version 1.05.12
- 56 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 14 For environment where multiple LSI SAS PCI Express adapters in system. Instance unload of the lsimptnw.ham driver to bring a single adapter offline causes a subsequent load with adapter slot specified to fail. Recommend not using instance unload of lsimptnw.ham driver. **Workaround:** Enter "load lsimptnw.ham" command without SLOT command line option from system console or reboot system.

Major Changes From Version 04.01.10:

General Changes

Functionality

None

Defect Fixes

48 **Issue:** Unload tests in Novell certification tests failed.

Reported by: Developer

To Reproduce: Use 4.01.10 driver with 1.18.00 IT firmware and 6.12.00 BIOS. Setup TestCon environment and run Unload Test.

Description of Change: Change a loop to a finite number of iterations when checking if Event Notification replies received.

49 **Issue:** Abend occurs when running Fixed Disk Fault test in Novell certification tests.

Reported by: LSI Test Lab

To Reproduce: Use 4.01.10 driver with 1.18.00 IT firmware and 6.12.00 BIOS on 3442e cards. Setup TestCon environment and run Fixed Disk fault test. Abend occurs within this test.

50 **Description of Change:** Field used for CSMI loctls within IO Request structure was not initialized properly when Task abort sent. Since CSMI does not utilize this task management call this field is now set to null.

51 **Issue:** Fix for I/O error messages being displayed when devices added or removed.

Reported by: Developer

To Reproduce: Use 4.01.10 driver with 1.18.00 IT firmware and 6.12.00 BIOS on 3442e cards. Setup TestCon environment and run Fixed Disk fault test. If no messages do other TestCon test suites and repeat Fixed Disk fault test.

Description of Change: When new device added a scan for all devices is done by OS. During this scan a timeout of the internal inquiry command occurred and the timeout logic called IOR_Abort routine when IOR was already released back to pool for re-use. Change was to check whether IOR was valid before calling IOR_Abort routine.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.10

11/30/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 57 Support Pack 5 or higher is required for Netware 6.5.
- 58 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.
- 59 Supports MPI headers version 1.05.12
- 60 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

Major Changes From Version 04.01.09:

General Changes

Functionality

None

Defect Fixes

52 Issue: Hang/ Keyboard lockup experienced when executing the Fixed Disk Fault Test on Novell Test Console certification software.

Reported by: LSI Test Lab

To Reproduce: Use 4.01.09 driver with 1.18.00 IT firmware and 6.12.00 BIOS. Setup TestCon environment and run Fixed Disk Fault Test. Hang happens immediately after removing disk(after being prompted by test).

Description of Change: The asynchronous event was being handled totally in the interrupt code thread. The event processing caused a block of the execution which is not allowed in an interrupt thread. The code now initiates a new thread that allows blocking of thread execution to handle the processing of this event. The new blocking thread allows waiting for the firmware to respond to a task abort issued to clean up any active I/Os on the device that is no longer responding. In addition the logic which handled event replies was enhanced to handle events from SAS firmware which set the continuation flag. Continuation flag indicates the firmware is still using the request frame which was sent to turn on event notification. The driver is not to use it until firmware sends an event which has the continuation flag off. In addition implemented locking mechanism in new thread so that it doesn't conflict with the another thread which Scans the bus. The Scan Bus thread was being called when new device event occurs.

53 **Issue:** Instance unload tests failed in Novell Test Console when using PCI Express SAS HBAs.

Reported by: LSI Test Lab

To Reproduce: Use 4.01.09 driver with 1.18.00 IT firmware and 6.12.00 BIOS on 3442e cards. Setup TestCon environment and run Instance unload tests. Test suite fails.

Description of Change: During unload the driver acquires the adapter hardware lock. In the same thread it tried to acquire it again when turning off event notification in the firmware. Since execution stops until the lock releases this caused the system to hang until spin lock fails. Change was made so that if thread acquired the lock already it did not try to acquire it again in same thread of execution.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.09

11/10/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 61 Support Pack 5 or higher is required for Netware 6.5.
- 62 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.
- 63 Supports MPI headers version 1.05.12
- 64 For SAS disk drive type devices, driver is built to handle Targets(0-63) and LUNs(0-31) .

Current Errata:

- 15 For environment where multiple LSI SAS PCI Express adapters in system. Instance unload of the lsimptnw.ham driver to bring a single adapter offline causes a subsequent load with adapter slot specified to fail. Recommend not using instance unload of lsimptnw.ham driver. **Workaround:** Enter "load lsimptnw.ham" command without SLOT command line option from system console or reboot system.

Major Changes From Version 04.01.08:

General Changes

Functionality

- 1 Asynchronous Event Notification support added for Devices appearing and Devices Disappearing events. This is to facilitate support for when failover or failback occurs for connected RAID array controllers.

Defect Fixes

None

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.08

9/29/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 65 Support Pack 5 or higher is required for Netware 6.5.
- 66 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.
- 67 Supports MPI headers version 1.05.12
- 68 For SAS disk drive type devices, driver is built to handle up to 64 Targets(0-63) and 32 LUNs(0-31) per target if enough system memory available.

Current Errata:

- 16 Driver does not automatically recognize SAS or SATA devices that have been added or removed during runtime. To workaround, user must manually execute a "scan for new devices" command at the system console after device configuration has changed.

Major Changes From Version 04.01.07:

General Changes

Functionality

Defect Fixes

54 **Issue:** Page Fault Abend occurs on boot when hooked to Engenio RAID box which has multiple luns configured. Following message displayed:
SERVER-5.70-4631 [nmID=1001C]

WARNING! Server experienced a critical error. The offending process was suspended or recovered. However, services hosted by this server may have been affected.

Reported by: OEM

To Reproduce: Use 1068 SAS card with Netware driver 4.01.05, BIOS 6.08.05 and IR firmware 1.15.00 . Hook up to Engenio RAID box and configure multiple LUNs . Use 1030 SCSI chip with drive connected and install Netware OS to SCSI drive. Boot Netware and abend should occur during boot.

Description of Change: The SCAN_ReportLunsSet routine which handled the ReportLUNs reply was fixed to handle the fields correctly.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.07

9/20/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 69 Support Pack 4 or higher is required for Netware 6.5.
- 70 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.
- 71 Supports MPI headers version 1.05.12

Current Errata:

- 17 Driver does not automatically recognize SAS or SATA devices that have been added or removed during runtime. To workaround, user must manually execute a "scan for new devices" command at the system console after device configuration has changed.

Major Changes From Version 04.01.06:

General Changes

Functionality

Defect Fixes

55 **Issue:** RQM#297465. System beeps for nearly a minute while rebooting or shutting down the system.

Reported by: OEM

To Reproduce: Use SAS card with Netware driver 4.01.05, BIOS 6.08.00 and IR firmware 1.15.00 with Sputnik nvdata. 1068 A0 . Boot Netware. Then from system console do a shutdown command.

Description of Change: When exiting to real mode ,driver now checks if card is SAS and if adapter has been initialized previously. If both are True driver will do a fast restore of chip configuration for BIOS. The change for system beeps put into release 4.01.06 was backed out due to it not addressing the root cause of issue.

56 **Issue:** RQM#304220. System hangs for some time while loading Netware driver for Sputnik card.

Reported by: OEM

To Reproduce: Use SAS card with Netware driver 4.01.05, BIOS 6.08.00 and IR firmware 1.15.00 with Sputnik Nvdata. Use OEM system with 8 drives off of backplane. 2 drive Raid 1 volume with hot spare. 3 drive RAID 0 volume. And 2 unconfigured drives. Make sure cpqshd.cdm module is loaded from startup.ncf file.

57 **Description of Change:** Sas chips no longer force full restore when switching from Protected mode to Real Mode and vice versa. Full restore still done during driver load. Fast restore will attempt to reconfigure chip without resetting chip or telling firmware to discover the configuration.

58 **Issue:** RQM#301635. CsmiSasSMPPassthrough causesabend.

Reported by: OEM

To Reproduce: Use SAS card with Netware driver 4.01.05, BIOS 6.08.00 and IR firmware 1.15.00 . Create Raid 1 with spare and install OS. A couple of unconfigured SAS and SATA drives are present. Invoke the CsmiSasSMPPassthrough ioctl via csmitest. System will abend.

Description of Change: Pointer to Hacb is now being setup in the Io Request(OR) structure.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.06

6/15/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 72 Support Pack 4 or higher is required for Netware 6.5.
- 73 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.
- 74 Supports MPI headers version 1.05.12

Current Errata:

- 18 Driver does not automatically recognize SAS or SATA devices that have been added or removed during runtime. To workaround, user must manually execute a "scan for new devices" command at the system console after device configuration has changed.

Major Changes From Version 04.01.05:

General Changes

Functionality

Defect Fixes

59 **Issue:** Related to RQM#297465. System beeps for nearly a minute while rebooting or shutting down the system. **Reported by:** OEM

To Reproduce: Use SAS card with Netware driver 4.01.05, BIOS 6.07.01 and IR firmware 1.10.00. Boot Netware. Then from system console do a unload lsimptnw.ham command. Also can do a shutdown command.

Description of Change: In unload logic, after adapter I/O's are quiesced put the thread to sleep for a few clock ticks so other threads can take control and turn off speaker.

60 **Issue:** cospt#1939. Wrong sync speed is being displayed for drives attached to expanders.

Reported by: Test Lab

To Reproduce: Use SAS card with Netware driver 4.01.05, BIOS 6.07.01 and IR firmware 1.10.00. Attach an expander to card with crossover cable. Then hook expander to SAS drive with regular SAS cable. Boot Netware and then do a List Devices command from System console. Look at what speed is displayed for drive.

Description of Change: Add code when setting up speed of device to check if device is directly attached. If not, then get speed from Expander 1 Config page instead of SAS Phy Config page.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.05

5/24/2006

Compatibility:

1064 A3

1068 A0

1068 B0
1064E
1068E

Special Notes for this build:

75 Support Pack 4 or higher is required for Netware 6.5.

76 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.

77 Supports MPI headers version 1.05.12

Current Errata:

19 Driver does not automatically recognize SAS or SATA devices that have been added or removed during runtime. To workaround, user must manually execute a "scan for new devices" command at the system console after device configuration has changed.

Major Changes From Version 04.01.04:

General Changes

Functionality

Defect Fixes

- 61 **Issue:** RQM#289906. Missing status of a configured or a spare drive does not show any phy and logical drive information in Agent page.
Reported by: OEM
To Reproduce: Use SAS card with Netware driver 4.01.04, BIOS 6.07.01 and IR firmware 1.10.00. Create a Raid-1 volume with hot spare from 3 SAS drives. Boot Netware. Then remove the hot spare drive. Run `csmitest -f debugfile`. Enable debug and then select option 6 to do Get Raid Config Info ioctl.
Description of Change: Get Raid Config ioctl does not try to read SAS Device Page 0 if drive is not present. It returns as much information as is available from firmware config pages when drives are missing. Changed Get Raid Info ioctl to only return number of active volumes not counting those that are inactive. So Get Raid Config ioctl only displays info about active volumes.
- 62 **Issue:** cospt#1945. Running Option 11 with the CSMITest tool is causing an abend with a SATA drive attached.
Reported by: Test Lab
To Reproduce: Use SAS card with Netware driver 4.01.04, BIOS 6.07.01 and IR firmware 1.10.00. Attach a SATA drive. From System Console run `csmitest` and select option 11.
Description of Change: Csmi STP Passthrough ioctl was not setting up all the info needed for the Interrupt Service routine to handle the STP Passthrough reply.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.04

4/27/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 78 Support Pack 4 or higher is required for Netware 6.5.
- 79 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.
- 80 Supports MPI headers version 1.05.12

Current Errata:

- 20 Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- 21 Driver does not automatically recognize SAS or SATA devices that have been added or removed during runtime. To workaround, user must manually execute a "scan for new devices" command at the system console after device configuration has changed.

Major Changes From Version 04.01.03:

General Changes

Functionality

Defect Fixes

63 **Issue:** cospt#289428. Server hangs up with key board lock up if LSIMPTNW.HAM driver tried upgrade of driver on existing OS.

Reported by: OEM

To Reproduce: Use SAS card with Netware driver 4.00.05, BIOS 6.06.07 and IR firmware 1.10.00. Set up OS installed on boot device controlled by the SAS controller. Boot up and go to GUI. In File Browser copy over newer version of LSIMPTNW.HAM and LSIMPTNW.DDI to C: \nwserver \drivers directory. Go to System Console and unload lsimptnw.ham . Then load lsimptnw.ham and hang should occur.

Description of Change: When OS tells SAS driver to go into Real Mode so BIOS can take over, the driver now does a full Real Mode restore so that an IOC Init will be done with Reply Fifo Host Signaling address set to what BIOS requires.

64 **Issue:** CSMI Get Phy Info ioctl does not fill in the attached device type correctly.

Reported by: Developer

To Reproduce: Use SAS card with Netware driver 4.01.03, BIOS 6.06.07 and IR firmware 1.10.00. Hook up a couple of SAS drives to the SAS controller. Boot up Netware. Go to system console Execute CsmiTest.nlm with log option and pick option to Get Phy info.

Description of Change: In CsmiGetPhyInfo() routine, when filling in the attached device type, use the AttachedDeviceInfo field from SAS Phy 0 Config Page instead of ControllerPhyDeviceInfo field from SAS IO Unit 0 Config Page.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.03

4/12/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 81 Support Pack 4 or higher is required for Netware 6.5.
- 82 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.
- 83 Supports MPI headers version 1.05.12

Current Errata:

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

Major Changes From Version 04.01.02:

General Changes

Functionality

Defect Fixes

65 **Issue:** cospt#1938/RQM 294620. Netware Scan all command deactivates the SYS volume.

Reported by: Test Lab/OEM

To Reproduce: Use SAS card with Netware driver 4.01.00. Create an IM volume and install Netware OS. After OS comes up try to run "SCAN ALL" command.

Description of Change: In scanning logic, the NEXUS_ConvertSequenceToNexus routine will no longer wrap around 1 ID too early. The issue was causing ID to wrap too early which caused a problem with the state machine controlling the scan. As a result the driver no longer tells the OS that there are two devices at the same ID. Telling the OS a device existed at the same ID/lun caused the OS to display the deactivation message.

66 **Issue:** RQM 291639 Data lost if a logical volume raid-1 with spare status changes to degraded.

Reported by: OEM

To Reproduce: Create 2 IM volumes 1 with a hot spare and 1 without on 1068. Using driver 4.01.00. Install OS to volume with Hot Spare. Keep three drives unconfigured. After the OS comes up create 2 NSSMU volumes vol1 and Vol2 in the 2 unconfigured drives respectively. Hot remove a drive in IM with spare. Run Scan for new devices and observed that status changes to resynchronization. Remove one more hard drive from the same volume and volume status changes to degraded. Reboot the server and after OS comes up a message has displayed as the device deactivated by driver due to device failure. Then Pool P1 is being deactivated. As the device has deactivated so the volume Vol1 associated with the device has no longer there and all the data of the volume vol1 was lost.

Description of Change: Same as fix for RQM 294620 above. This keeps OS from deactivating the volume unnecessarily.

67 **Issue:** RQM 293499. Significant characters are truncated from the drive serial number while trailing blanks are left alone.

Reported by: OEM

To Reproduce: Use SAS card with Netware driver 4.01.00. Configure a RAID 1 volume with SATA drives and RAID 1 volume with SAS drives. Issue Get RAID Config and look at the drive serial numbers. Use SSP to read the serial number page directly and compare to data from 2 above.

Description of Change: In Get RAID Configuration CSMI ioctl code check first 4 bytes of ExtDiskIdentifier field in Raid Physical Disk 0 page. If equal to "ATA ", get 20 byte serial number from offset ExtDiskIdentifier+4. Otherwise get 16 byte serial number from DiskIdentifier field.

68 **Issue:** Abend occurred running Asynchronous Event Notification tests.

Reported by: Test Lab

To Reproduce: Use IR f/w 1.10, 4.06.06 BIOS and 4.01.00 driver. Run AEN tests in TestCon.

Description of Change: In Task Management Reply Interrupt routine it has access to the Csmi Hacb which now is put into Interrupt context structure. It needed this to set up status info for the return of a CSMI Task Mgmt ioctl.

69 **Issue:** RQM 290508 One unconfigured drive creates an extra FAT file system.

Reported by: OEM

To Reproduce: Create IM volume with 2 drives and IS volume with 3 drives. Keep 2 drives as unconfigured. Install OS. Once OS is up type command "Volume". Observed an extra volume named D: was created which is a replica of C:\ and contains all the information of c:\ . Press NSSMU and try to initialize the drive by pressing F3 but it shows Partition Configured and unconfigured space as 0kb. The other unconfigured hard drive works fine.

Description of Change: On scan a duplicate device structure was getting created if IR volume was at ID 0. Extra device structure was eliminated.

70 **Issue:** RQM 288280 CSMI_SAS_GETSEND_SSP_PASSTHRU does not work with IR Volumes.

Reported by: OEM

To Reproduce: Use Driver 4.01.02 and create IM volume with 2 drives. Boot up Netware, go to System Console and load CsmiTest.nlm . Then pick the SEND SSP PassThrough option.

Description of Change: Check if the device to be operated on is a RAID Physical Device or Hot Spare and if so send request down as a RAID SCSI IO Passthrough instead of a SCSI IO Passthru.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.02

3/27/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 84 Support Pack 4 or higher is required for Netware 6.5.
- 85 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.
- 86 Supports MPI headers version 1.05.12

Current Errata:

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

Major Changes From Version 04.01.01.01:

General Changes

Functionality

Defect Fixes

71 **Issue:** cospt#1944. System hang occurred when running TestCon certification tests for the Asynchronous Event Notification(AEN) tests.

Reported by: Test Lab

To Reproduce: Use SAS card with Netware driver 4.01.01. Run AEN tests in TestCon.

Description of Change: In routine handling interrupts, added code to recognize SAS_DEVICE_STATUS_CHANGE. If a device was added then the driver will do a bus scan of adapter which will then notify OS of the added device. If a device is removed, the driver removes the associated structures and notifies the OS. In both cases the devices which exist after the change are displayed on the logger screen.

MPT SCSI NetWare Driver Release Notes

LSIMPTNW

Version 04.01.01.01

3/17/2006

Compatibility:

1064 A3
1068 A0
1068 B0
1064E
1068E

Special Notes for this build:

- 87 Support Pack 4 or higher is required for Netware 6.5.
- 88 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.
- 89 Supports MPI headers version 1.05.12

Current Errata:

- 24 Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- 25 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 04.01.01:

General Changes

Functionality

Defect Fixes

72 Issue: RQM 288280. CSMI command CC_CSMI_SAS_SSP_PASSTHRU doesn't get any response from driver. Application hangs after sending command.

Reported by: OEM

To Reproduce: Using csmitest version 2.01-03 using SAS card with Netware driver 4.00.05. In csmitest.nlm specify option 10.

Description of Change: In routine handling CC_CSMI_SAS_SSP_PASSTHRU ioctl, the CSMI passthru logic wasn't setting up the SCSI IO message correctly. In addition the csmitest was sending down passthru commands with invalid parameters such as cdb length and data direction for some of the commands. For the test cases the driver overrides invalid data.

NOTE: The expectation is that the csmitest tool will be changed to send correct information in passthru commands.

73 Issue: RQM 29508. One unconfigured drive creates an extra FAT file system. OEM says this is a case of SSP_PASSTHRU failing.

Reported by: OEM

To Reproduce: See RQM 29508.

Description of Change: CSMI SAS SSP PASSTHRU ioctl fixed. See RQM 288280 above for fix description.

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:

90 Support Pack 4 or higher is required for Netware 6.5.

91 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.

92 Supports MPI headers version 1.05.12

Current Errata:

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

27 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

74 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.

75 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.

76 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.

77 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:

- 93 Support Pack 4 or higher is required for Netware 6.5.
- 94 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.
- 95 Supports MPI headers version 1.05.12

Current Errata:

- 28 Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- 29 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

- 1 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:

- 96 Support Pack 4 or higher is required for Netware 6.5.
- 97 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.
- 98 Supports MPI headers version 1.05.12

Current Errata:

- 30 Phy Enable/Disable feature in Phy Control CSMI ioctl will not be functional until implemented in firmware.
- 31 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

- 2 SAS support added to a OEM specific loctls to allow driver to be compatible with CPQSHD.CDM .
- 3 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

78 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:

99 Support Pack 3 or higher is required for Netware 6.5.

100 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.

101 Supports MPI headers version 1.05.12

Current Errata:

32 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

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

Defect Fixes

79 **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:

102 Support Pack 3 or higher is required for Netware 6.5.

103 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.

104 Supports MPI headers version 1.05.12

Current Errata:

33 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

80 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:

105 Support Pack 3 or higher is required for Netware 6.5.

106 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.

107 Supports MPI headers version 1.05.12

Current Errata:

34 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

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

Defect Fixes

- 81 **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:

- 108 Support Pack 3 or higher is required for Netware 6.5.
- 109 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.
- 110 Supports MPI headers version 1.05.12

Current Errata:

- 1 Netware is not reporting degraded Integrated Raid Volume status during runtime. Degraded status shown during bootup.
- 111 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 is not in this release.

Major Changes From Version 04.00.00:

General Changes

Functionality

112 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:

- 113 GCA Release
- 114 Support Pack 3 or higher is required for Netware 6.5.
- 115 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.
- 116 Requires Firmware release 0.04.14 or later
- 117 Requires BIOS release 6.03.00 or later

Current Errata:

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

- 118 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 is not in this release.

Major Changes From Version 03.99.06:

General Changes

Functionality

Remove Beta banner for GCA build.

Defect Fixes

None

- ***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.

1 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.

2 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.

1 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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