Product Alert 20

Product	StorNext® systems running Red Hat 4, Red Hat 5, SuSE 10, and SuSE 11
Summary	Possible data corruption due to Linux error handling
Date	March 2010

Overview

The appearance of SCSI "No Sense" messages in system logs can indicate possible data corruption on disk devices. Red Hat and SuSE Linux have integrated fixes to resolve this issue.

Note: This alert (revision B) has been updated and replaces revision A dated November 2009.

Symptoms

These messages are found in the Linux /var/log/messages file:

```
Apr 30 11:14:03 linc01a kernel: Info fld=0x0
Apr 30 11:14:03 linc01a kernel: sdi: Current: sense key: No
Sense
Apr 30 11:14:03 linc01a kernel:      Additional sense: No
additional sense information
```

For more information about the resolution, see Red Hat 5 CR 468088, Red Hat 4 CR 480666, SuSE 10 CR 440318, and SuSE 11 CR 440323.

Cause

The messages come from an error processing code path and indicate that an unexpected event has occurred. The system is in error processing, but Linux treats it as successful and sets the number of bytes transferred to the size of the buffer. This is legitimate if the code indicates RECOVERED_ERROR, but data corruption is possible when it indicates NO_SENSE.

Not all fibre channel errors map directly to SCSI error codes, so interaction between fibre channel and SCSI can result in ambiguity as to whether or not the transfer was successful in Linux

Solution

Upgrade to a StorNext-supported version of Linux which properly handles this error. This error is properly handled in Red Hat Enterprise Linux 4 Update 8 (RHEL 4.8), Red Hat Enterprise Linux 5 Update 4 (RHEL 5.4), SuSE Linux Enterprise Server 10 Service Pack 2 (SLES 10 SP2)*, SLES 10 SP3 and SLES 11.

HBA multipath customers: please verify with your HBA vendor that your current multipath driver is supported for any planned Linux OS version/update/service pack level. If your driver is not supported for your planned Linux OS version/update/service pack, the StorNext client or server may not be functional after your Linux upgrade. Please contact Quantum Support for further assistance.

The following table shows the support of Linux releases to StorNext versions that contain the Linux fix.

StorNext Version	RHEL 4 Update 8	RHEL 5 Update 4	SLES 10 SP2 *	SLES 10 SP3	SLES 11
StorNext 3.1.4	✓	✓	✓		
StorNext 3.5			✓		
StorNext 3.5.1	✓		✓		
StorNext 3.5.2	✓	✓	✓	✓	✓
StorNext 4.0	✓	✓	✓	✓	✓

* StorNext supports SLES 10 SP2 beginning with the 2.6.16.60-0.27 kernel level, but the Linux fix was not implemented until the 2.6.16.60-0.37 kernel level.

Contacting Quantum

More information about StorNext is available on the Quantum Service and Support website at www.quantum.com/ServiceandSupport. The Quantum Service and Support website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, contact the Quantum Technical Assistance Center:

North America	+1 800-284-5101 Option 5
EMEA	00800 9999 3822
Online Service and Support	www.quantum.com/OSR
World Wide Web	www.quantum.com/ServiceandSupport

(Local numbers for specific countries are listed on the Quantum Service and Support Website.)