Product Alert 44

Product	StorNext® releases prior to 4.2.2
Summary	Before upgrading from a StorNext release prior to 4.2.2 to 4.2.2 or later, the file system may need a special `cvfsck` binary executed to repair some of the inodes.
Date	July 2013

Overview

Prior to upgrading to StorNext 4.2.2 or later, check if the file system Super Block **FS_STATUS_FL_SCAN_NEEDED** bit is set. If it is set, repair the inodes before the performing the upgrade.

Note: If the system was successfully upgraded to 4.2.2 or later there is no danger of encountering this problem.

For more information, contact the Quantum Technical Assistance Center and reference CR 42726.

Symptoms

Upgrading to StorNext 4.2.2 or later can result in a file system panic due to an unexpected state in one or more inodes. Immediately after the newly upgraded file system is started, if the inode problem exists in the metadata, the FSM will panic with the following message:

```
(**FATAL**) PANIC: /usr/cvfs/bin/fsm ASSERT failed"(ip->i_idinode.idi_flags &
InodeFlagPendFree) == 0"
```


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The reason for the failure is that changes to StorNext 4.2.2 and later inode cleanup process allows free list scans to detect previously undetected inodes. Some of those older inodes can be in an unexpected state, which will require repair before using.

Systems using StorNext file systems prior to 4.2.2 can end up in a bad state if:

1. The inode pending threads had work to perform when the fsm was stopped, either administratively or abruptly

OR

2. The inode free list was clobbered by running `cvfsck -C`.

Solution

Prior to upgrading to StorNext 4.2.2 or later a `cvfsdb` binary will need to be run to detect any inodes that are in a bad state. To tell if the file system in StorNext systems prior to 4.2.2 will encounter this problem run the following command before upgrading the file system:

```
#echo "show sb" | cvfsdb <file system name> | grep FsStatus
```

The command will show the output:

```
sb_FsStatus             = 0xXXXXX
```

The only indication that a system is affected is if the 0x20 bit is set. If this bit is set, the file system will encounter the (FS_STATUS_FL_SCAN_NEEDED) state and the file system will need to have a special `cvfsck` binary run prior to upgrading.

Contact Quantum Support for access to the special `cvfsck` binary.

Workaround

Once the problem occurs, there is no workaround. The file system will need to be repaired with the special `cvfsck` binary from Quantum.

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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:

United States	800-284-5101 Option 5 (toll free)
EMEA	00800 7826 8888 (toll free) 49 6131 3241 1164
Online Service and Support	www.quantum.com/OSR
World Wide Web	www.quantum.com/ServiceandSupport

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