Product Bulletin 40

Product	All versions of StorNext® up to and including 3.1.3 and 3.5.1
Summary	Running "Health Check" may cause system instability
Date	September 2009

Overview

Health Check is a StorNext subsystem that looks for a specific set of possible problems. By default, Health Check is run weekly based on a configuration defined by `/usr/adic/TSM/exec/fsschedule`. Health Check may also be run manually using the StorNext GUI, as described in the StorNext User's Guide.

A problem has been identified which may occur when running Health Check on systems that have more than four paths to any logical unit (LUN). The problem may manifest in different ways.

The problem may occur in all versions of StorNext up to and including 3.1.3 and 3.5.1.

For more information, contact the Quantum Technical Assistance Center and reference CR 28167.

Symptoms

One or more of the following symptoms may occur (applicable only to systems having managed file systems):

- Executables running on behalf of Health Check may core dump
- HA failovers have been reported at the same time that Health Check runs
- One instance of a system crash has been reported

To determine whether a system is at risk, run one or both of the following commands:

```
# /usr/cvfs/bin/cvlabel -ls
```

AND/OR

```
# /usr/cvfs/bin/cvlabel -ls | sort -t ":" -k 3
```

> **Note**: The output from the second command is more easily interpreted on most systems. (A few systems may sort using a field other than the disk label.)

Running these commands displays the labels of all "disk" LUNs. Any LUN or serial number for which there are **more than four** occurrences indicates the system is at risk.

For example, the following shows an at-risk system having six paths to a LUN named "disk005."

```
/dev/sde   [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
/dev/sdo   [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
/dev/sdy   [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
/dev/sdai  [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
/dev/sdew  [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
/dev/sdfg  [HSV210  6110] SNFS "disk005"  Controller#:
'default' Serial#: 'C10000C00001FE0000' Sectors: 194170880.
SectorSize: 512.  Maximum sectors: 194285535.
```

Solution

Fixes are planned for versions 3.1.4 and 3.5.2. In the meantime, use one of the workarounds described below.

Workarounds

Until this issue is fixed, two workarounds are available. Choose whichever workaround is most appropriate for your environment.

- Workaround 1: Do not run the part of Health Check that may induce the problem. This involves commenting out (adding "#" in the first column) the following lines from `/usr/adic/TSM/config/filelist`:

```
health_check : 0 : Config     : fsCheckAffinities           : 0
health_check : 0 : Config     : fsCheckTsmFilesystemsConfig : 0
```

  This configuration change may result in a (harmless) failure when Health Check is run manually using the StorNext GUI. The symptom is that the "Config" Health Check test will return a "Fail" result.

Note: If you upgrade StorNext to a version that does not contain the fix, (for example, if you upgrade from 3.1.2 to 3.1.3), this workaround (Workaround 1) must be applied again because "`filelist`" is replaced by each upgrade.

- Workaround 2: Reconfigure the SAN such that there are no more than four paths to any LUN.

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.)