



Product Alert 34

Product	All current versions of StorNext® Storage Manager, which includes: <ul style="list-style-type: none">• 4.0• 3.5.0 through 3.5.2• 3.1.0 through 3.1.4• All releases prior to 3.1.0
Summary	A store policy time out may cause loss of some data stored on Storage Disk (sdisk) or Deduplicated Disk (ddisk, applicable to StorNext 3.x only). Note: References to sdisk in this document also apply to ddisk.
Date	April 2010

Overview

This behavior may occur when I/O bandwidth is unable to keep up with demand for an extended period of time (more than twelve hours). Data stored on tape is not affected by this issue.

Possible reasons for this issue include:

- Increased load exceeds configured capacity. For example, file systems are configured to store/retrieve 5TB/day but sustained demand increases to 10TB/day
- Non-optimal configuration of file systems, stripe groups or disks/LUNs
- RAID issues. For example, loss of drives require blocks to be reconstructed using parity.
- Using non-standard StorNext Storage Manager settings

For more information, contact the Quantum Technical Assistance Center and reference CR 31014.

Cause

"fspolicy" StorNext tasks will time out if they do not complete within twelve hours. This is a very rare situation, because most policy tasks complete much sooner than this. Stores that are still running when an fspolicy timeout occurs will be retried, which may cause the related file(s) on sdisk/ddisk to be deleted. This may result in data loss if another (good) copy of the file has not been stored and the original file is truncated.

Symptoms

You can identify this issue by messages such as the following in `/usr/adic/TSM/logs/tac_00*`:

```
Feb 19 02:44:12 mdc1.quantum.com sntsm fspolicy[2176]:  
E1201(8)<204971854>: mda5pol2767: Policy has been running longer  
than 43200 seconds, Aborting.
```

Note: In the above example, 43200 seconds is twelve hours.

The preceding "Aborting" message may be followed by messages such as the ones below, although these messages may occur for other reasons:

```
Feb 19 02:47:12 mdc1.quantum.com sntsm fs_cpyresp[8818]:  
E1200(7)<204971854>: mda3rsp2307: activefl delete filed, MSR rc: -  
418
```

```
Feb 19 02:47:12 mdc1.quantum.com sntsm fs_cpyresp[8818]:  
E1200(7)<204971854>: mda3rsp2309: FILEnm: NA key: 1510 ino: 188362  
gen: 0 - Failed to return copy status, cpy: 1 seg: 2
```

Another possible symptom is that sdisk file systems may be "taken offline" if a large number of errors such as those shown above occur. (Again, the following message may be logged for reasons unrelated to an fspolicy timeout.) For example:

```
Feb 19 02:47:12 mdc1.quantum.com sntsm fs_resource[8833]:  
E0000(1)<20053764>: msc9rel1604: SRVCLLOG RCOMP: 12 RINST: TSM  
VCOMP: 58 VINST: Storage_Disk_1 VPINST: UNKNOWN EVENT: 71 TEXT:  
Storage disk Storage_Disk_1 has exceeded its failure threshold and  
is being taken offline.
```

Workarounds

This section contains suggestions for working around this issue.

Increase the timeout setting to ensure timeouts do not occur. The only risk is that in the unlikely event that an fspolicy task truly stops running, it will not be detected.

Add the following (represents approximately 4 years) to `/usr/adic/TSM/config/fs_sysparm_override`:

```
POL_STORE_RESP_ABORT_TIME=123456789;
```

An optional change which will reduce the likelihood of an fspolicy slowdown is to increase the point at which StorNext Storage Manager splits up files being stored on sdisk into segments. If there are many files that are larger than 9GB and if NFS mounted file systems are not used as sdisks, add the following to `/usr/adic/TSM/config/fs_sysparm_override`:

```
MED_SEG_OVER_SDISK=95027200000;
```

A best practice is to stop and restart TSM after `/usr/adic/TSM/config/fs_sysparm_override` is changed.

Another optional change is to increase the number of I/O streams per storage disk file system. (The default number of I/O streams in the StorNext GUI is two). This will help ensure that store operations are not "starved" by retrieve operations.

Note: Increasing the number of streams could negatively impact performance, especially if there is a large difference in the speed of the sdisk file system(s) compared to the "managed" file system(s).

Here is an example of changing the number of streams for `Storage_Disk_1`:

```
# fsdiskcfg -m -s 4 Storage_Disk_1
```

Note: You can also use the StorNext GUI to make this change.

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.)