Product Alert 41

Product	StorNext® releases 4.0.1, 4.0.1.1, 4.0.1.1 LCRs, 4.1 and 4.1.1
Summary	Do not change or remove source replication policies in Storage Manager environments while files are being stored.
Date	May 2011

Overview

The problem is initially detected when the StorNext scheduled store policies fail. For example, the "fsschedule" output will display the following:

```
daily_backup_profile spolicy   daily    YYYYYYY  18:00 - 19:00   Dec
2,2010 00:18  Policy error: See system logs for details.
```

A store policy may fail due to many different causes. However, analysis of the TSM tac logs will show the failures are due to Linter 903 errors. The reason for the Linter 903 errors is that more than one file has the same file key, which is not allowed by StorNext.

Because the files are not stored, they remain as store candidates. Thus each new store policy will try to store these files and fail with the same error. Therefore, you will find multiple entries in the TSM tac log for each file. This will continue until the problem is repaired.

For more information, contact the Quantum Technical Assistance Center and reference CR 32885.

Symptoms

Following is an example of the entries you'll find in the TSM tac logs.

The key indicator of this particular failure is the existence of multiple entries for the same file key but with different names and inodes.

Initially there will more than one entry for the same file key, see the "key:" entry, stating that the file was added to the store request. Only 4 entries are shown but in fact there were 537 different files with this particular file key.

```
Nov 28 18:54:13 ABE-N-50002 sntsm fspolicy[6723]:
E1202(9)<2033203223>:mda4str2548:  FILEnm: China 08 051.JPG key:
45270 ino: 5142437 gen: 0 - adding to store request

Nov 28 18:54:13 ABE-N-50002 sntsm fspolicy[6723]:
E1202(9)<2033203223>:mda4str2548:  FILEnm: China 08 052.JPG key:
45270 ino: 5142438 gen: 0 - adding to store request

Nov 28 18:54:13 ABE-N-50002 sntsm fspolicy[6723]:
E1202(9)<2033203223>:mda4str2548:  FILEnm: China 08 053.JPG key:
45270 ino: 5142439 gen: 0 - adding to store request

Nov 28 18:54:13 ABE-N-50002 sntsm fspolicy[6723]:
E1202(9)<2033203223>:mda4str2548:  FILEnm: China 08 054.JPG key:
45270 ino: 5142440 gen: 0 - adding to store request
```

Next, there will log entries stating the files were successfully stored to media.

```
Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1202(9)<2033203223>:mdm3utl1771:  {2}: END copy of File 'key:45270
seg:1' Move_status:1(GOOD_MS)

Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1202(9)<2033203223>:mdm3utl1771:  {3}: END copy of File 'key:45270
seg:1' Move_status:1(GOOD_MS)

Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1202(9)<2033203223>:mdm3utl1771:  {4}: END copy of File 'key:45270
seg:1' Move_status:1(GOOD_MS)

Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1202(9)<2033203223>:mdm3utl1771:  {5}: END copy of File 'key:45270
seg:1' Move_status:1(GOOD_MS)
```

Those will be followed by these log entries that identify the Linter 903 error on this file key.

```
Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1202(9)<2033203223>:dbapi_main2087:  {300}: rdb1filecomp.c:427
execute: (%s=3) [INSERT INTO
FILECOMP%s(MLDBN,MCDBN,SLEN,FILE_KEY,MEDIANDX,VERSION,MODTIME,ADDDATE
,ENDTIME,MFSN,MPART,
MATA,CLSTR,SEG,CPYID,TOTSEG,MEDTYPE,STAT,MEDGEN,CKSUM)
VALUES(?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?,?)]
FILECOMP(MLDBN=718320 MCDBN=12327 SLEN=701626 FILE_KEY=45270
MEDIANDX=216 VERSION=1 MODTIME=1288461214 ADDDATE=1290967253
ENDTIME=2147483647 MFSN=187 MPART=0 MATA=0 CLSTR=187 SEG=1 CPYID=1
TOTSEG=1 MEDTYPE='^Q' STAT=' ' MEDGEN=0
CKSUM={14EF111B4423F6B3289CC4E4F07CC37D})

Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1200(7)<2033203223>:rdb1filecomp429:  {300}: DATABASE ERROR: Unable
to add entry to filecomp3 table.  status = 903
```

```
Nov 28 19:00:53 ABE-N-50002 sntsm fs_fmoverp[15562]:
E1200(7)<2033203223>:mdm3dba2151:  {300}: mdm3dba_fc_add_rec: Unable
to add entry to filecomp3 table
```

And finally, you'll find these log entries for the response status. Notice the same file key, "key:…" field, is used but different inodes. See the "ino:…" field.

```
Nov 28 19:03:33 ABE-N-50002 sntsm fs_cpyresp[15984]:
E1200(7)<2033203223>:mda3rsp2421:  FILEnm: NA key: 45270 ino: 5142437
gen: 0 - Failed to return copy status, cpy: 1 seg: 1

Nov 28 19:03:33 ABE-N-50002 sntsm fs_cpyresp[15984]:
E1200(7)<2033203223>:mda3rsp2421:  FILEnm: NA key: 45270 ino: 5142438
gen: 0 - Failed to return copy status, cpy: 1 seg: 1

Nov 28 19:03:33 ABE-N-50002 sntsm fs_cpyresp[15984]:
E1200(7)<2033203223>:mda3rsp2421:  FILEnm: NA key: 45270 ino: 5142439
gen: 0 - Failed to return copy status, cpy: 1 seg: 1

Nov 28 19:03:33 ABE-N-50002 sntsm fs_cpyresp[15984]:
E1200(7)<2033203223>:mda3rsp2421:  FILEnm: NA key: 45270 ino: 5142440
gen: 0 - Failed to return copy status, cpy: 1 seg: 1
```

Solution

This issue will be addressed in a future StorNext release that is expected to be available sometime in late Q2 or early Q3 of 2011.

Workaround

Once the problem occurs, there is no workaround. To prevent the problem from occurring in the future, do not modify a replication policy while there are store candidates for the affected directories.

This means you should not delete a source directory from a replication policy or delete a replication policy until all files contained in the source directory (or directories) have been stored by StorNext.

This can be checked by running the showc command. When the showc command shows 0 store candidates for the file system that contains the source directory (or directories), the replication policy can be modified or deleted. An example of this command is showc -p | grep <source_dir>.

If you are still concerned that stores might occur, you can use the fsschedlock command to disable store requests.

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 1
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.)