

ASR 5500 FSC is mislukt vanwege fouten in superCapaciteitssensor

Inhoud

[Inleiding](#)

[Probleem: Rapport van klanten van defecte FSC 16 met aangetaste HD-aanval](#)

[Problemen oplossen](#)

[Oplossing](#)

[Super Capacitor FSC bij schijven van één FSC](#)

Inleiding

Dit document beschrijft een specifieke hardwarekwestie op Fabric- en opslagkaart (FSC) op Cisco Aggregated Service Routers (ASR) 5500.

Probleem: Rapport van klanten van defecte FSC 16 met aangetaste HD-aanval

```
***** Show alarm outstanding verbose *****
```

```
Severity Object                Timestamp                Alarm ID
```

```
-----  
Alarm Details  
-----  
-----
```

```
Minor    Card 14                Sunday August 21 07:16:34 A    3610743104839221248
```

```
The Fabric & 2x200GB Storage Card in slot 14 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

```
Minor    Card 15                Sunday August 21 07:16:34 A    3610743104839221249
```

```
The Fabric & 2x200GB Storage Card in slot 15 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

```
Minor    Card 17                Sunday August 21 07:16:34 A    3610743104839221250
```

```
The Fabric & 2x200GB Storage Card in slot 17 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

```
***** show card table all *****
```

```
Slot          Card Type                Oper State    SPOF  Attach
```


Updated : Fri May 23 23:05:53 2014

Events : 0

Model : STEC Z16IZF2E-200UCU E4TC

Serial Number : STM000171E75

Size : 200GB (200049647616 bytes)

Disk hd16b

State : In-sync component

Created : Fri May 23 23:05:53 2014

Updated : Fri May 23 23:05:53 2014

Events : 0

Model : STEC Z16IZF2E-200UCU E4TC

Serial Number : STM000171E8B

Size : 200GB (200049647616 bytes)

Problemen oplossen

Deze fouten worden gemeld wanneer u de probleemoplossing met de meldingen start.

```
[local-60sec34.188] [hdctrl 132011 critical] [5/0/7135 <hdctrl:0> rl_fsm_mirror.c:5938] [software internal system critical-info syslog] hd16, FSC16 SAD17160089 failed from RAID 59a7ebf0:7f798af6:68869614:3210b2c6, MIO5 SAD1716021N.
```

```
[local-60sec34.188] [hdctrl 132016 error] [5/0/7135 <hdctrl:0> rl_fsm_mirror.c:3399] [software internal system critical-info syslog] Error detected on hd16a (STEC Z16IZF2E-200UCU E4TC STM000171E75), FSC16 SAD17160089: ioerr_cnt increased from 25 to 27
```

```
[local-60sec34.221] [alarmctrl 65201 info] [5/0/7072 <evlogd:0> alarmctrl.c:192] [software internal system critical-info syslog] Alarm condition: id 321befb92b220000 (Minor): The Fabric & 2x200GB Storage Card in slot 14 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

```
[local-60sec34.222] [alarmctrl 65201 info] [5/0/7072 <evlogd:0> alarmctrl.c:192] [software internal system critical-info syslog] Alarm condition: id 321befb92b220002 (Minor): The Fabric & 2x200GB Storage Card in slot 17 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

```
[local-60sec34.222] [alarmctrl 65201 info] [5/0/7072 <evlogd:0> alarmctrl.c:192] [software internal system critical-info syslog] Alarm condition: id 321befb92b220001 (Minor): The Fabric & 2x200GB Storage Card in slot 15 is a single point of failure. Another Fabric & 2x200GB Storage Card of the same type is needed.
```

Als u dit foutenlogboek ziet:

```
Aug 21 07:16:34 evlogd: [local-60sec34.188] [hdctrl 132016 error] [5/0/7135 <hdctrl:0> rl_fsm_mirror.c:3399] [software internal system critical-info syslog] Error detected on hd16a (STEC Z16IZF2E-200UCU E4TC STM000171E75), FSC16 SAD17160089: ioerr_cnt increased from 25 to 27
```

Het is altijd raadzaam om de slimme test uit te voeren en te controleren of dit probleem niet te maken heeft met een hoge temperatuur.

```
[local]# show hd smart hd16a
```

```
smartctl 6.1 2013-03-16 r3800 [x86_64-linux-2.6.38-staros-v3-hw-64] (local build)
```

```
Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org
```

```
=== START OF INFORMATION SECTION ===
```

```
Vendor:                STEC
Product:               Z16IZF2E-200UCU
Revision:              E4TC
User Capacity:         200,049,647,616 bytes [200 GB]
Logical block size:    512 bytes
LU is resource provisioned, LBPRZ=1
Rotation Rate:         Solid State Device
Form Factor:           2.5 inches
Logical Unit id:       0x5000a72030079304
Serial number:         STM000171E75
Device type:           disk
Transport protocol:    SAS
Local Time is:         Mon Aug 22 16:49:11 2016 AST
SMART support is:      Available - device has SMART capability.
SMART support is:      Enabled
Temperature Warning:   Enabled
```

```
=== START OF READ SMART DATA SECTION ===
```

SMART Health Status: OK

SS Media used endurance indicator: 0%

Current Drive Temperature: 52 C

Drive Trip Temperature: 75 C

local]SAE-G168A-1# show hd smart hd16b

smartctl 6.1 2013-03-16 r3800 [x86_64-linux-2.6.38-staros-v3-hw-64] (local build)

Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org

=== START OF INFORMATION SECTION ===

Vendor: XXXX

Product: Z16IZF2E-200UCU

Revision: E4TC

User Capacity: 200,049,647,616 bytes [200 GB]

Logical block size: 512 bytes

LU is resource provisioned, LBPRZ=1

Rotation Rate: Solid State Device

Form Factor: 2.5 inches

Logical Unit id: 0x5000a7203007932c

Serial number: STM000171E8B

Device type: disk

Transport protocol: SAS

Local Time is: Mon Aug 22 16:49:21 2016 AST

SMART support is: Available - device has SMART capability.

SMART support is: Enabled

Temperature Warning: Enabled

=== START OF READ SMART DATA SECTION ===

SMART Health Status: OK

SS Media used endurance indicator: 0%

Current Drive Temperature: 50 C

Drive Trip Temperature: 75 C

Omdat de slimme test niet geschikt is, kunt u de test afsluiten zonder dat er sprake is van een hoge temperatuur.

Oplossing

Super Capacitor FSC bij schijven van één FSC

Soms beweegt één of beide aandrijving op één FSC naar **Ongeldige** staat van de **Verdeling of van het beeld**.

Dit zou kunnen gebeuren als Super Capacitor mislukt is, wat zich in het station van één FSC bevindt. Deze storing kan niet worden hersteld, omdat het een permanente storing is waarbij het station wordt vervangen of de FSC.

Neem contact op met Cisco TAC voor verdere assistentie.

Als dit wordt gezien bij elke motor, is er een supercondensator-storing op die motor.

Deze logbestanden worden gezien in de debug-logbestanden van actieve Management I/O-kaart (MIO).

```
2016-Aug-21+07:16:34.038 card 5-cpu0: [974499.606697] sd 0:0:2:0: [sde] Unhandled sense code^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.611565] sd 0:0:2:0: [sde] Result: hostbyte=DID_OK  
driverbyte=DRIVER_SENSE^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.618877] sd 0:0:2:0: [sde] Sense Key : Data  
Protect [current] ^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.625214] sd 0:0:2:0: [sde] Add. Sense: Write  
protected^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.630840] sd 0:0:2:0: [sde] CDB: Write(10): 2a 00 00  
00 08 08 00 00 08 00^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.638173] end_request: I/O error, dev sde, sector  
2056^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.643558] md: super_written gets error=-5,  
uptodate=0^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.648872] md/raid:md0: Disk failure on md16,  
disabling device.^M
```

```
2016-Aug-21+07:16:34.139 card 5-cpu0: [974499.648873] md/raid:md0: Operation continuing on 3  
devices.^M
```

```
2016-Aug-21+07:16:34.238 card 5-cpu0: [974499.712047] sd 0:0:2:0: [sde] Sense Key : Recovered  
Error [current] ^M
```

2016-Aug-21+07:16:34.238 card 5-cpu0: [974499.718637] sd 0:0:2:0: [sde] <<vendor>> ASC=0x80
ASCQ=0x0ASC=0x80 ASCQ=0x0^M

2016-Aug-21+07:21:37.112 card 5-cpu0: [974802.605115] sd 0:0:2:0: [sde] Sense Key : Recovered
Error [current] ^M

2016-Aug-21+07:21:37.112 card 5-cpu0: [974802.611712] sd 0:0:2:0: [sde] <<vendor>> ASC=0x80
ASCQ=0x0ASC=0x80 ASCQ=0x0^M

2016-Aug-21+07:26:37.099 card 5-cpu0: [975102.612464] sd 0:0:2:0: [sde] Sense Key : Recovered
Error [current] ^M

Controleer bepaalde foutmeldingen in

1. Debug console-uitgangen van actieve MIO-kaart
2. Debug hdctrl mapping
3. Debug-geschiedenis

Dit bevestigt het falen van de supercondensator.

```
**** debug console card <Active MIO card> cpu 0 tail 10000 only ****
```

```
[sde] <> ASC=0x80 ASCQ=0x0ASC=0x80 ASCQ=0x0
```

```
***** debug hdctrl history *****  
Thursday March 31 02:29:03 EDT 2016
```

```
Primary HDCTRL:  
2016-Mar-31+02:13:38.632 move fsm=hd15#6 src=DISK_CHECK dst=DISK_FAILED arg=disk I/O error #  
hdctrl/hdctrl_fsm_disk.c : 4354 @ disk_fsm_enter()
```

Below is the mapping of the disks to device name:

```
***** debug hdctrl mapping ***** Local card (5): Disk Device Number SCSI Size ----- --  
----- ----- hd14a sdb 8:16 0:0:0:0 186 GB hd15a sdd 8:48 0:0:1:0 186 GB hd16a sde  
8:64 0:0:2:0 186 GB hd17a sdg 8:96 0:0:3:0 186 GB hd14b sda 8:0 1:0:0:0 186 GB hd15b sdc 8:32  
1:0:1:0 186 GB hd16b sdf 8:80 1:0:2:0 186 GB hd17b sdh 8:112 1:0:3:0 186 GB
```

Below highlited logs indicating a failure of the super capacitor on the solid state drive of FSC
card disk 16a.

```
hd16a <==>sde  
-----
```

```
2016-Aug-21+07:21:37.112 card 5-cpu0: [974802.611712] sd 0:0:2:0: [sde] <<vendor>> ASC=0x80  
ASCQ=0x0ASC=0x80 ASCQ=0x0^M
```

```
2016-Aug-21+07:26:37.099 card 5-cpu0: [975102.612464] sd 0:0:2:0: [sde] Sense Key : Recovered  
Error [current] ^M
```