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PROFESSIONAL SERVICES TECH NOTE # 053

Solve cluster failover issues

The Concept

NetApp recommends testing cluster failover on a regular basis, especially after performing system maintenance. Sometimes, you may find cluster failover refuses to function. These are the six most likely causes for failure.

Examples

The first step is to run the **cf status** command and to check the system log for any messages beginning with a 'cf.' error code. All the information you will need to further diagnose takeover issues is in the cluster monitor log:

```
fas1> priv set advanced
fas1*> cf monitor all
```

1. **Cause:** Takeover of partner has been disabled:

Symptoms: takeoverByPartner 0x2041 <NVRAM_DOWN, CLUSTER_DISABLE, TAKEOVER_ON_PANIC>

Solution: Type **cf enable**

2. **Cause:** Takeover of partner is disabled due to interconnect error:

Symptoms: partner 'fas2', Interconnect not present

or partner 'fas2', VIA Interconnect is down (link 0 down, link 1 down)

or partner 'unknown', VIA Interconnect is down (link 0 down, link 1 down)

Solution: Verify the interconnect cables are connected and not cross-linked.

3. **Cause:** Takeover of partner is disabled due to partner mailbox disks inaccessible or invalid:

Symptoms: mailbox disks:

Disk 8a.20 is a local mailbox disk

Disk 8a.19 is a local mailbox disk

No partner disks attached!

or mailbox disks:

Disk 4a.17 is a primary mailbox disk

Disk 4a.29 is a primary mailbox disk

Disk ?.? is a partner mailbox disk

Disk ?.? is a partner mailbox disk

Solution: Verify the partner shelves are powered on and then verify the cable connections using the **shelfchk** command or WireGauge tool.

4. **Cause:** Takeover of partner is disabled due to cf license missing:

Symptoms: Clustered failover is now unlicensed

cf: option 'monitor' requires that cluster licensing is enabled

Solution: Obtain cf license from NOW website and reenter. You will need to reboot both systems to pair them and to enable cluster failover functionality.

5. **Cause:** Takeover of partner is disabled due to unsynchronized log:

Symptoms: When you attempt a takeover, this error message will appear on the console. You will also see the following error in the system log:

```
<date/time stamp> [fas1: statd:ALERT]: Cluster is licensed but takeover of  
partner is disabled due to reason : unsynchronized log
```

Solution: Verify the interconnect cables are connected and not cross-linked. Sometimes unplugging and reseating both interconnect cables will force the logs to re-synchronize .

6. **Cause:** Takeover/Giveback is cancelled due to active sessions

Symptoms: When you attempt a takeover, this error message will appear on the console. You will also see an error like this in the system log:

```
<date-time stamp> [fas1 (takeover): cf.rsrc.givebackveto:error]: Cluster  
monitor: snapmirror: giveback cancelled due to active state
```

Solution: Wait for them to finish or cancel any active runnings CIFS, SnapMirror or NDMP sessions. You can sometimes use **cf takeover -f | cf giveback -f** to bypass systems operations preventing the failover/giveback (i.e., active CIFS, SnapMirror, SnapVault sessions).

Do **NOT** use the *forcetakeover* | *forcegiveback* options because they can lead to data corruption.

More Information

Extended information for diagnosing and solving these issues can be found in this Knowledge Base article:

<https://now.netapp.com/Knowledgebase/solutionarea.asp?id=kb53388>

Failover event cause-and-effect table in the Data ONTAP Active-Active Configuration Guide:

<http://now.netapp.com/NOW/knowledge/docs/ontap/rel732/html/ontap/aaconfig/GUID-90BB6005-F5B4-40C8-BF51-F9B74536B20F.html>

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