

Technical Report

Flash Space Recovery and Repair of Arista DCS-7050QX Switch

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1. Objective

This report documents the complete process of recovering flash storage space, diagnosing the filesystem, identifying the root cause of the malfunction, and executing repair procedures on the **Arista DCS-7050QX-32-R** switch. The device initially showed **0 bytes free** on `/mnt/flash`, preventing EOS upgrades, generating logs, and affecting system stability.

2. Initial Symptoms

The switch presented the following issues:

- Inability to copy new EOS images.
- Internal processes failing due to insufficient flash space.
- Control-plane warnings related to low storage.

Initial verification:

```
DCS-7050QX-N#dir
Directory of flash:/

-rwx  461165576  Aug 13 2019  EOS-2GB-4.21.2.3F.swi
-rwx           33  Jun 23 2020  boot-config
drwx   4096  Nov 20 15:40  debug
drwx   4096  Nov 20 15:43  persist
drwx   4096  Nov 20 15:40  schedule
-rwx   22107  Oct 31 17:03  startup-config

1660600320 bytes total (0 bytes free)
```

3. Root Cause Analysis

After accessing the switch's Linux shell, a hidden file consuming approximately **440 MB** was discovered:

```
bash-4.3# ls -lAh /mnt/flash
-r-xr-x--- 1 root eosadmin 440M Jun 23 2020 .boot-image.swi
-rwxrwx--- 1 root eosadmin 440M Aug 13 2019 EOS-2GB-4.21.2.3F.swi
```

This indicates:

- One active EOS image.

- A second hidden fallback image (`.boot-image.swi`) no longer needed.

The hidden file occupied half of the total flash capacity and was unnecessary for modern EOS boot workflows, making it safe to remove.

4. Executed Repair Procedure

4.1 Accessing the Linux shell

```
enable
bash
sudo su
```

4.2 Identifying hidden and large files

```
ls -lAh /mnt/flash
ls -lh /mnt/flash/*.core 2>/dev/null
ls -lh /mnt/flash/*.tgz 2>/dev/null
ls -lh /mnt/flash/*.dump 2>/dev/null
ls -lh /mnt/flash/*.swi 2>/dev/null
```

4.3 Removing the hidden `.boot-image.swi`

This was the key corrective action, freeing more than **440 MB**.

```
rm -f /mnt/flash/.boot-image.swi
```

4.4 Cleaning secondary folders

```
rm -rf /mnt/flash/debug/*
rm -rf /mnt/flash/schedule/*
rm -rf /mnt/flash/.checkpoints/*
```

4.5 Final filesystem validation

```
df -h
ls -lh /mnt/flash
```

Final result:

704 MB of free space recovered in /mnt/flash.

5. Final System State

Final output from the CLI:

```
DCS-7050QX-N#dir
Directory of flash:/

-rwx 461165576 Aug 13 2019 EOS-2GB-4.21.2.3F.swi
-rwx      33 Jun 23 2020 boot-config
drwx  4096 Nov 20 15:40 debug
drwx  4096 Nov 20 15:43 persist
drwx  4096 Nov 20 15:40 schedule
-rwx  22107 Oct 31 17:03 startup-config

1660600320 bytes total (738131968 bytes free)
```

6. Conclusion

The root cause of the storage failure was the presence of a hidden fallback image (`.boot-image.swi`) consuming 440 MB of flash space. This file was not referenced in `boot-config` and was safe to delete. Its removal restored the switch to a healthy operational state, enabling EOS upgrades, log generation, and overall system stability. The Arista DCS-7050QX is now fully operational with more than **704 MB** free.