

6.10 Replacing a SFA10K or SFA12K Controller

NOTE : This procedure does NOT apply to the E-platforms. Controller replacement on the E-platforms should be handled by DDN field engineers only.

If, during the course of a problem determination, authorized support channels determine that a controller is faulty and must be replaced, use the procedure below to perform a controller replacement:

1. Secure a copy of the firmware file of currently installed SFA OS firmware version.
It is best practice to obtain the firmware image file matching the currently installed version on the controller to be replaced. Firmware images can be requested from DDN Technical Support.

2. Verify the physical location of the controller to be replaced.

If the controller to be replaced is responsive to CLUI commands, log in to the controller via `ssh` and run the command `LOCATE CONTROLLER LOCAL`. This will blink the Locate LED on the controller (Figure 420) (Figure 421).

NOTE : If the controller is unresponsive, guidance from DDN Technical Support should be sought.

Figure 420. Locate LED on SFA10K Controller

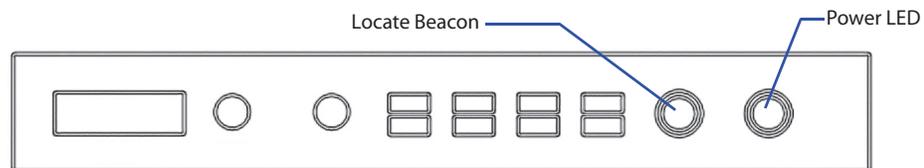
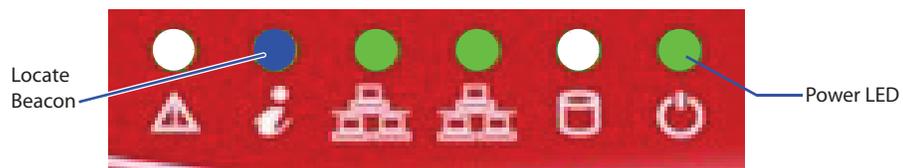


Figure 421. Locate LED on SFA12K Controller



The duration of the Locate LED blink period is configurable. By default, the duration is two minutes. If you need to increase the locate dwell time, refer to Section 4.12.1, "Locate Dwell Time" for information.

3. Optional: DDN recommends you create an event log entry to record the controller replacement service action.

Log in to the healthy controller and use the `MARK` command to create a user event log entry similar to the example below:

```
MARK CONTROLLER LOCAL TEXT "Controller replacement service action initiated"
```

Change the text in the above example as required.

4. Capture the subsystem configuration information prior to the service action.

It is best practice to capture and save the output of the following commands in order to obtain detailed configuration information on the subsystem prior to the service action. Also capture the same information on the healthy (peer) controller. If only one controller is responsive, only collect the status information from the healthy controller.

```

SHOW SUBSYSTEM SUMMARY
SHOW SUBSYSTEM SUMMARY ALL
APP SHOW HOST
APP SHOW PRESENTATION
APP SHOW INITIATOR
APP SHOW DISCOVERED_INITIATOR
UI SHOW NETWORK LOCAL 0
UI SHOW EMAIL
UI SHOW TEMP

```

5. Shut down the controller to be replaced.

If the controller to be replaced is operational, log in to the controller and issue the command **SHUTDOWN CONTROLLER LOCAL** to gracefully shut it down prior to replacement.

6. Verify that the controller has been shut down by checking the Power LED of the controller (Figure 420) (Figure 421) and its dedicated BBU.

7. Physically replace the failed controller:

- a) Note down the cabling scheme to the controller.
- b) Disconnect the cables from the controller.
- c) Remove the front bezel.
- d) Remove screws or disengage latches that secure the controller to the rack.
- e) Slide the controller out from the rack to the point that the slide rails click on each side and lock into place.
- f) Disengage the locking tab on the slide rails to release the controller side rails from the rack rails.
- g) Slide the controller forward until the controller side rails are disengaged from the rack rails. Place the controller on a sturdy table.
- h) Remove the side rails from the old unit and install them on the new controller.
- i) Slide the controller side rails into the rack rails by carefully aligning them and sliding the controller inward towards the rack until they click into the locked position.
- j) Reinstall the screws that secure the controller to the rack.
- k) Reinstall the front bezel.
- l) Reconnect the cables at the back.

8. Configure the IP address of the replacement controller.

After controller replacement, it is necessary to configure the IP address, SNMP, and email parameters to match the previous settings.

By default, the FRU replacement controller is configured with IP address 10.0.0.1, unless noted otherwise. The default IP addresses for complete FRU couplets are 10.0.0.1 for controller 0 and 10.0.1.1 for controller 1. The default subnet mask is class C (255.255.255.0).

Log in to the controller via its **serial port** and configure the network interface settings. Refer to Section 4.17.3, "[Change Network Interface Settings](#)" if you need instructions on how to change the settings.

9. Determine if a firmware update is required on the replacement controller.

If the firmware level on the replacement controller is the same as the version installed in the subsystem, it will directly become operational after power on and connectivity tests complete successfully.

If the firmware on the replacement controller has a different version, it will power up and boot into a offline MIR state: MIR_VERSION_MISMATCH. To clear the MIR state and bring the replacement controller online, a firmware update will be required. Refer to Section 6.7.2, "[Controller Firmware Update Procedure](#)" for instructions.

10. Power up the replacement controller and verify that it becomes correctly operational.

When matching firmware is installed on the replacement controller, it will attempt to join the SFA subsystem configuration and validate all cable connections.

If successful, all disks will be recognized by the replacement controller and it will become operational. Pools will be rebalanced and moved back to their preferred home RAID processors after a period of up to 10 minutes. It is recommended that an SFA support contact review the detailed configuration of the subsystem after controller replacement to validate all key aspects of the status.

11. Initialize the backup battery life remaining feature as described in Section 6.8.4.