Replacing an ESM/IOM CRU in the CSM200 Drive Module

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Revision History

Version and Date	Description of Changes
51571-00, Rev. A, May 2011	Initial release of the document.

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Replacing an ESM/IOM CRU in the CSM200 Drive Module

Use the following procedure to replace an environmental services monitor (ESM/IOM) CRU in the CSM200 drive module. Gather antistatic protection and a replacement ESM/IOM for this procedure.

IMPORTANT Trays in the storage array can be connected to the standard AC power source or the optional DC power source (–48 VDC). For DC-powered trays, you must disconnect the two-pole 20-amp circuit breaker before turning off any power switches. If the CSM200 drive module is connected to the 6580/6780 controller module, the DC power option is not available for either tray.

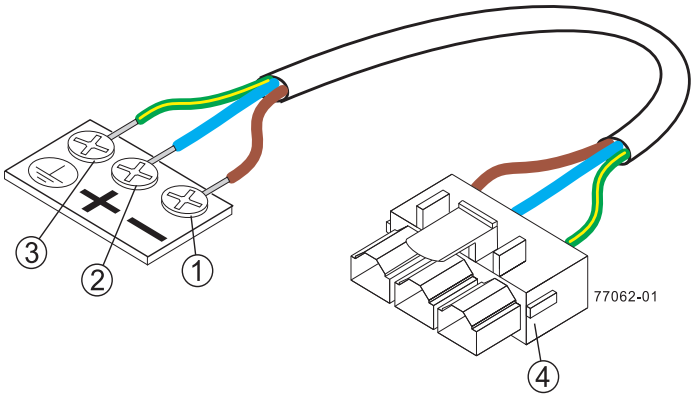
ATTENTION **Possible hardware damage** – To prevent electrostatic discharge damage to the tray, use proper antistatic protection when handling tray components.

1. If possible, use the storage management software to create, save, and print a new storage array profile.
2. Did the Recovery Guru direct you to replace a failed ESM/IOM?
   - **Yes** – Go to step 3.
   - **No** – Run the Recovery Guru to identify the failed component, and go to step 3.
3. Put on antistatic protection.
4. If applicable, turn off the audible alarm by pressing the Alarm Mute button on the front of the drive module.
5. Unpack the new ESM/IOM, and verify that it is the same type of ESM/IOM as the one you are replacing. If it is not, contact your Sun Customer Care Center representative.
6. Stop all I/O activity to the drive module.
7. Check the ESM/IOM Fault LEDs to locate the failed ESM/IOM. If a fault is detected, the amber ESM/IOM Fault LED is on.
8. Determine whether the blue ESM/IOM Service Action Allowed LED is on. Do not remove the ESM/IOM if the blue LED is off.
9. Label the cables that are attached to the ESM/IOM that you are replacing so that you can connect them correctly later.

10 To turn off the power to the drive module with the failed ESM/IOM, choose one of these actions:

- **The drive module is connected to the standard AC power source** – Go to step 20.
- **The drive module is connected to the optional DC power source** – Go to step 11.

WARNING (W12) **Risk of electrical shock** – This unit has more than one power source. To remove all power from the unit, all DC MAINS must be disconnected by removing all power connectors (item 4 below) from the power supplies.



1 Supply (Negative), Brown Wire, –48 VDC
2 Return (Positive), Blue Wire
3 Ground, Green and Yellow Wire
4 DC Power Connector

CAUTION (C05) **Electrical grounding hazard** – This equipment is designed to permit the connection of the DC supply circuit to the earthing conductor at the equipment.

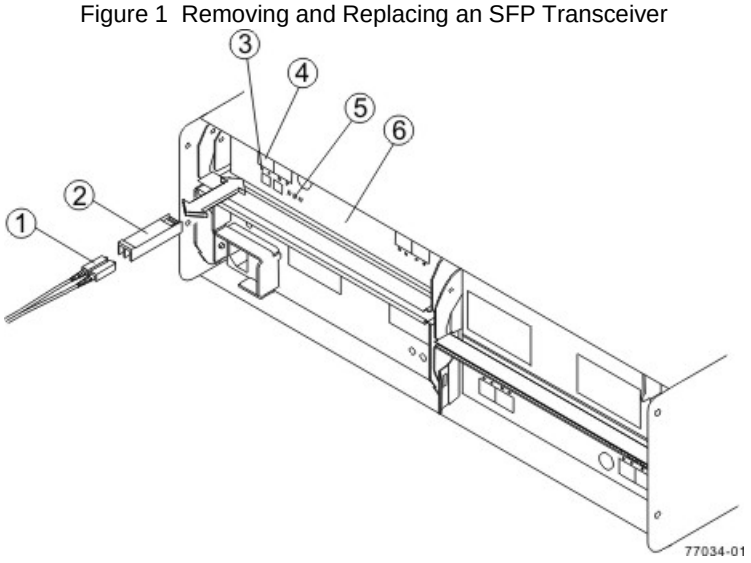
11 Disconnect the two-pole 20-amp DC circuit breaker.

12 Turn off both of the DC Power switches on all DC-powered trays in the storage array.

ATTENTION **Potential degraded performance** – To prevent degraded performance, do not twist, fold, pinch, or step on fiber-optic cables. Do not bend the fiber-optic cables tighter than a 5-cm (2-in.) radius.

13 Disconnect the host interface cables and any SFP transceivers from the failed ESM/IOM in the DC-powered drive module (Figure 1).

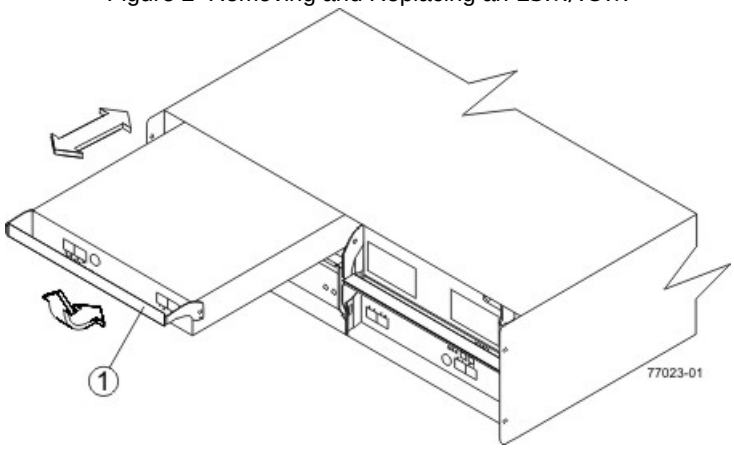
Figure 1 Removing and Replacing an SFP Transceiver



1 Fiber-Optic Cable
2 SFP Transceiver
3 ESM/IOM Bypass LED
4 Host Interface Connector
5 ESM/IOM Service Action Required LED
6 ESM/IOM CRU

14 To remove the failed ESM/IOM in the DC-powered drive module, pull up and out on the latch (Figure 2).

Figure 2 Removing and Replacing an ESM/IOM



1 Latch

15 Slide the new ESM/IOM in the DC-powered drive module into the empty slot, and close the latch.

16 Reconnect the SFP transceivers and the host interface cables to the new ESM/IOM in the DC-powered drive module.

17 Connect the two-pole 20-amp DC circuit breaker.

18 Turn on both of the Power switches on all of the DC-powered drive modules in the storage array, and wait for the drives to spin up.

19 Turn on both of the Power switches on the DC-powered array module in the storage array, and go to step 26.

20 Turn off both AC Power switches on the AC-powered drive module with the failed ESM/IOM.

ATTENTION **Potential degraded performance** – To prevent degraded performance, do not twist, fold, pinch, or step on fiber-optic cables. Do not bend the fiber-optic cables tighter than a 5-cm (2-in.) radius.

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21 Disconnect the host interface cables and any SFP transceivers from the failed ESM/IOM in the AC-powered drive module.

22 To remove the failed ESM/IOM in the AC-powered drive module, pull up and out on the latch (Figure 2 on page 3).

23 Slide the new ESM/IOM in the AC-powered drive module into the empty slot, and close the latch.

24 Reconnect the SFP transceivers and the host interface cables to the new ESM/IOM in the AC-powered drive module.

25 Turn on the AC Power switches on the new ESM/IOM in the AC-powered drive module, and wait for the drives to spin up.

26 Based on the status of the LEDs, choose one of these actions:

- **One or more green LEDs are on and the ESM/IOM Service Action Required LED is off** – Go to step 28.
- **All green LEDs are off or the ESM/IOM Service Action Required LED is on** – Verify that the ESM/IOM is installed correctly and that all host interface cables are secure. If the ESM/IOM is not installed correctly, reinstall the ESM/IOM (starting with step 10), and go to step 28.

27 Did reinstalling the ESM/IOM correct the problem?

- **Yes** – Go to step 28.
- **No** – If the problem is not resolved, contact your Sun Customer Care Center representative.

28 Complete any remaining Recovery Guru procedures, if needed.

29 Using the LEDs and the storage management software, check the status of all of the trays in the storage array.

30 Does any component have a Needs Attention status?

- **Yes** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem is not resolved, contact your Sun Customer Care Center representative.
- **No** – Go to step 31.

31 Remove the antistatic protection.

32 Create, save, and print a new storage array profile.

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