



# **Run slow system response diagnostics**

## **ONTAP Systems**

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# Run slow system response diagnostics

Running diagnostics can help you identify the causes of slow system response times.

1. At the storage system prompt, switch to the LOADER prompt: `halt`
2. Enter the following command at the LOADER prompt: `boot_diags`



You must run this command from the LOADER prompt for system-level diagnostics to function properly. The `boot_diags` command starts special drivers designed specifically for system-level diagnostics.

3. Run diagnostics on all the devices by entering the following command: `sldiag device run`
4. View the status of the test by entering the following command: `sldiag device status`

Your storage system provides the following output while the tests are still running:

```
There are still test(s) being processed.
```

After all the tests are complete, the following response appears by default:

```
*> <SLDIAG:_ALL_TESTS_COMPLETED>
```

5. Identify the cause of the system sluggishness by entering the following command: `sldiag device status -long -state failed`

The following example shows how the full status of the failures is displayed in a test run without the appropriate hardware:

```
*> **sldiag device status -long -state failed**

TEST START -----
DEVTYPE: nvram_ib
NAME: external loopback test
START DATE: Sat Jan  3 23:10:55 GMT 2009

STATUS: Completed
ib3a: could not set loopback mode, test failed
END DATE: Sat Jan  3 23:11:04 GMT 2009

LOOP: 1/1
TEST END -----

TEST START -----
DEVTYPE: fcal
```

```
NAME: Fcal Loopback Test
START DATE: Sat Jan  3 23:10:56 GMT 2009

STATUS: Completed
Starting test on Fcal Adapter: 0b
Started gathering adapter info.
Adapter get adapter info OK
Adapter fc_data_link_rate: 1Gib
Adapter name: QLogic 2532
Adapter firmware rev: 4.5.2
Adapter hardware rev: 2

Started adapter get WWN string test.
Adapter get WWN string OK wwn_str: 5:00a:098300:035309

Started adapter interrupt test
Adapter interrupt test OK

Started adapter reset test.
Adapter reset OK

Started Adapter Get Connection State Test.
Connection State: 5
Loop on FC Adapter 0b is OPEN

Started adapter Retry LIP test
Adapter Retry LIP OK

ERROR: failed to init adaptor port for IOCTL call

ioctl_status.class_type = 0x1

ioctl_status.subclass = 0x3

ioctl_status.info = 0x0
  Started INTERNAL LOOPBACK:
INTERNAL LOOPBACK    OK
Error Count: 2  Run Time: 70 secs
>>>> ERROR, please ensure the port has a shelf or plug.
END DATE: Sat Jan  3 23:12:07 GMT 2009

LOOP: 1/1
TEST END -----
```

If the system-level diagnostics tests...	Then...
Were completed without any failures	<p>There are no hardware problems and your storage system returns to the prompt.</p> <ol style="list-style-type: none"> <li>Clear the status logs by entering the following command: <code>sldiag device clearstatus</code></li> <li>Verify that the log is cleared by entering the following command: <code>sldiag device status</code></li> </ol> <p>The following default response is displayed:</p> <div data-bbox="670 552 1484 653" style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #f9f9f9;"> <p>SLDIAG: No log messages are present.</p> </div> <ol style="list-style-type: none"> <li>Exit Maintenance mode by entering the following command: <code>halt</code></li> <li>Enter the following command at the Loader prompt to boot the storage system: <code>boot_ontap</code> You have completed system-level diagnostics.</li> </ol>
Resulted in some test failures	<p>Determine the cause of the problem.</p> <ol style="list-style-type: none"> <li>Exit Maintenance mode by entering the following command: <code>halt</code></li> <li>Perform a clean shutdown and disconnect the power supplies.</li> <li>Verify that you observed all the requirements for running system-level diagnostics, that cables are securely connected, and that hardware components are properly installed in the storage system.</li> <li>Reconnect the power supplies and power on the storage system.</li> <li>Repeat Steps 1 through 5 of <i>Running slow system response diagnostics</i>.</li> </ol>

If the system-level diagnostics tests...	Then...
Resulted in the same test failures	<p>Technical support might recommend modifying the default settings on some of the tests to help identify the problem.</p> <ol style="list-style-type: none"> <li>Modify the selection state of a specific device or type of device on your storage system by entering the following command: <code>sldiag device modify [-dev devtype mb slot_slotnum_] [-name device] [-selection enable disable default only]</code>   <code>-selection enable disable default only</code> allows you to enable, disable, accept the default selection of a specified device type or named device, or only enable the specified device or named device by disabling all others first.</li> <li>Verify that the tests were modified by entering the following command: <code>sldiag option show</code></li> <li>Repeat Steps 3 through 5 of <i>Running slow system response diagnostics</i>.</li> <li>After you identify and resolve the problem, reset the tests to their default states by repeating substeps 1 and 2.</li> <li>Repeat Steps 1 through 5 of <i>Running slow system response diagnostics</i>.</li> </ol>

If the failures persist after repeating the steps, you need to replace the hardware.

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