Run system panic diagnostics

ONTAP Systems

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Running diagnostics after your storage system suffers a system panic can help you to identify the possible cause of the panic.

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, you receive the following default response:

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

5. Identify the cause of the system panic 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	There are no hardware problems and your storage system returns to the prompt. a. Clear the status logs by entering the following command: `sldiag device clearstatus` b. Verify that the log is cleared by entering the following command: `sldiag device status` The following default response is displayed: `SLDIAG: No log messages are present.` c. Exit Maintenance mode by entering the following command: `halt` d. Enter the following command at the Loader prompt to boot the storage system: `boot_ontap` You have completed system-level diagnostics.
Resulted in some test failures	Determine the cause of the problem. a. Exit Maintenance mode by entering the following command: `halt` b. Perform a clean shutdown and disconnect the power supplies. c. Verify that you have observed all the considerations identified for running system-level diagnostics, that cables are securely connected, and that hardware components are properly installed in the storage system. d. Reconnect the power supplies and power on the storage system. e. Repeat Steps 1 through 5 of *Running system panic diagnostics*.

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

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