Problem determination and troubleshooting

Problem determination actions for the D3 chassis, SD530 V3, and SD550 V3

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Problem determination and troubleshooting overview

Perform the following actions to determine the cause of problems on the SD530 V3 and SD550 V3:
- Check the system health status on the XCC2 dashboard
- Check the system event log in XCC2
- Check the event log in UEFI
- Check the LEDs on the system
- If applicable, check the external LCD diagnostics handset

For more information about how to use XCC2, UEFI, or OneCLI to monitor system status and collect logs, refer to the following courses:
- ES51757B – Introducing ThinkSystem tools
- ES52374 – ThinkSystem tools for the ThinkSystem V3 platform
- ES41759C – ThinkSystem problem determination

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Chassis PSU troubleshooting

Due to the SMM-free design, users must log in to XCC2 on the master node (node 1) to monitor the status of the D3 chassis. Use the following guidelines to troubleshoot D3 chassis issues:

- Log in to the master node XCC2 and look for the PSU and midplane information under **Server Configuration → Chassis**
- To check the PSU status, collect the FFDC log from XCC2 – the service data does not contain PSU information
- The `ipmitool sdr elist | grep PSU` IPMI command can also be used to check PSU status

```
(XCC) [7] >ipmitool sdr elist
PSU Mismatch        | FBh | ok | 19.1 | Transition to OK
Power Supply 1      | DDh | ok | 10.1 | Presence detected
PSU1 Failure        | DEh | ok | 10.1 | Transition to OK
PSU1 PF Failure     | DFh | ok | 10.1 | Transition to OK
PSU1 IN Failure     | E0h | ok | 10.1 | Transition to OK
PSU1 AC In Pwr      | 86h | ok | 19.5 | 64 Watts
PSU1 DC Out Pwr     | 87h | ok | 19.5 | 48 Watts
Power Supply 2      | E1h | ok | 10.2 |
PSU2 Failure        | E2h | ok | 10.2 | Transition to OK
PSU2 PF Failure     | E3h | ok | 10.2 | Transition to OK
PSU2 IN Failure     | E4h | ok | 10.2 | Transition to OK
PSU2 AC In Pwr      | 88h | ok | 19.6 | 0 Watts
PSU2 DC Out Pwr     | 89h | ok | 19.6 | 0 Watts
Power Supply 3      | E5h | ok | 10.3 |
PSU3 Failure        | E6h | ok | 10.3 | Transition to OK
PSU3 PF Failure     | E7h | ok | 10.3 | Transition to OK
PSU3 IN Failure     | E8h | ok | 10.3 | Transition to OK
PSU3 AC In Pwr      | 8Ah | ok | 19.7 | 0 Watts
PSU3 DC Out Pwr     | 8Bh | ok | 19.7 | 0 Watts
```

PSU information in XCC

Power Supply: 1/3 Installed

Slot	Status	Part Number	Serial Number	Version	
Power Supply 1	Normal	SP57B19903	G1SZ2CX0019	0.00	⌄

FRU Number	CRPS	Manufacture ID	GREA
On Duration	N/A	Power Cycles	N/A
Rated Power	2700 W		

Chassis Firmware Update

PSU Firmware　　　　　　　　　　　　　　　　　　　　⬆ Update Firmware

Bay No.	Version	Manufacturer
1	0.00	GREAT WALL

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Midplane information in XCC

Chasis Information   ❓

UUID: 04257B7225D44380B9D0865158700037   Machine Type/Model: 1234567812
Serial Number: □□□□□□□□□□   PSoC Firmware Version: 2.5

PSoC Firmware   ⬆ Update Firmware

Version	Release Date	Manufacturer
2.5	2023-10-30	Lenovo

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Switching the master node

By default, node 1 is the master node. If node 1 fails or times out (default = 180 secs), control will switch to the next available node. After node 1 is fixed, the `ipmitool raw 0x3a 0xf5 0x01 0x01` IPMI command can be used to force a reallocation of the master to node 1.

* 0x01 refers to node1

```
(XCC) [/] >ipmitool raw 0x3a 0xf5 0x01 0x01
00
(XCC) [/] >
```

Note: An output of `00` means successful, `01` indicates a failure, and `02` means another node has already taken over – you should log in to that node to check the PSU status.

Server LED descriptions

Use the LEDs on the front operator panel, power supply, or the system board for hardware status monitoring and problem determination. For more information about the server LEDs, refer to the Problem determination sections of the ThinkSystem SD530 V3 and SD550 V3 User Guides on Lenovo Docs.

Front operator panel LEDs

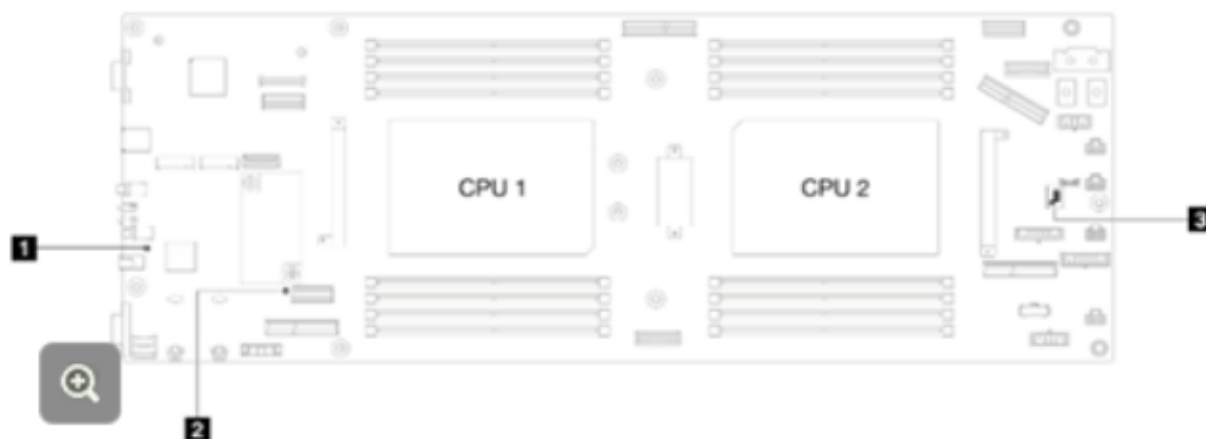The front operator panel of the node provides controls, connectors, and LEDs.

Figure 168. Front operator panel buttons and LEDs

Table 30. Front operator panel buttons and LEDs

1 "Power button with power status LED (green)" on page 258	**3** "System Error LED (yellow)" on page 258
2 "System ID LED (blue)" on page 258	**4** "NMI button" on page 258

System status LED on the processor board

The SD530 V3 and SD550 V3 have LEDs on the system board that can be used to indicate system status. Press the power button to light the LEDs on the system board when the power source has been removed from the server.

No	LED	Description
1	System power LED (yellow)	**Off:** No power supply is properly installed, or the LED itself has failed. **Flashing rapidly (four times per second):** The node is turned off and is not ready to be turned on. The power button is disabled. This will last approximately 5 to 10 seconds.. **Flashing slowly (once per second):** The node is turned off and is ready to be turned on. You can press the power button to turn on the node. **Lit:** The node is turned on.
2	ME heartbeat LED	**Blinking:** PCH ME is functioning **On or Off:** PCH ME is malfunctioning
3	XCC heartbeat LED	**Blinking slowly:** XCC is functioning. **Blinking rapidly and constantly:** XCC is initializing or malfunctioning. **Off or always on:** XCC is malfunctioning or not working

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LCD diagnostic panel

The SD530 V3 and SD550 V3 support the external LCD diagnostic handset. The panel can be used to quickly access system information, such as active errors, system health status, firmware version, network connection status, and health information. A demo video is available on the course landing pages.

External Diagnostics Handset