Problem determination and troubleshooting

How to perform problem determination actions on the SR645

Problem determination and troubleshooting overview

Perform the following actions to determine the cause of problems on the SR645:

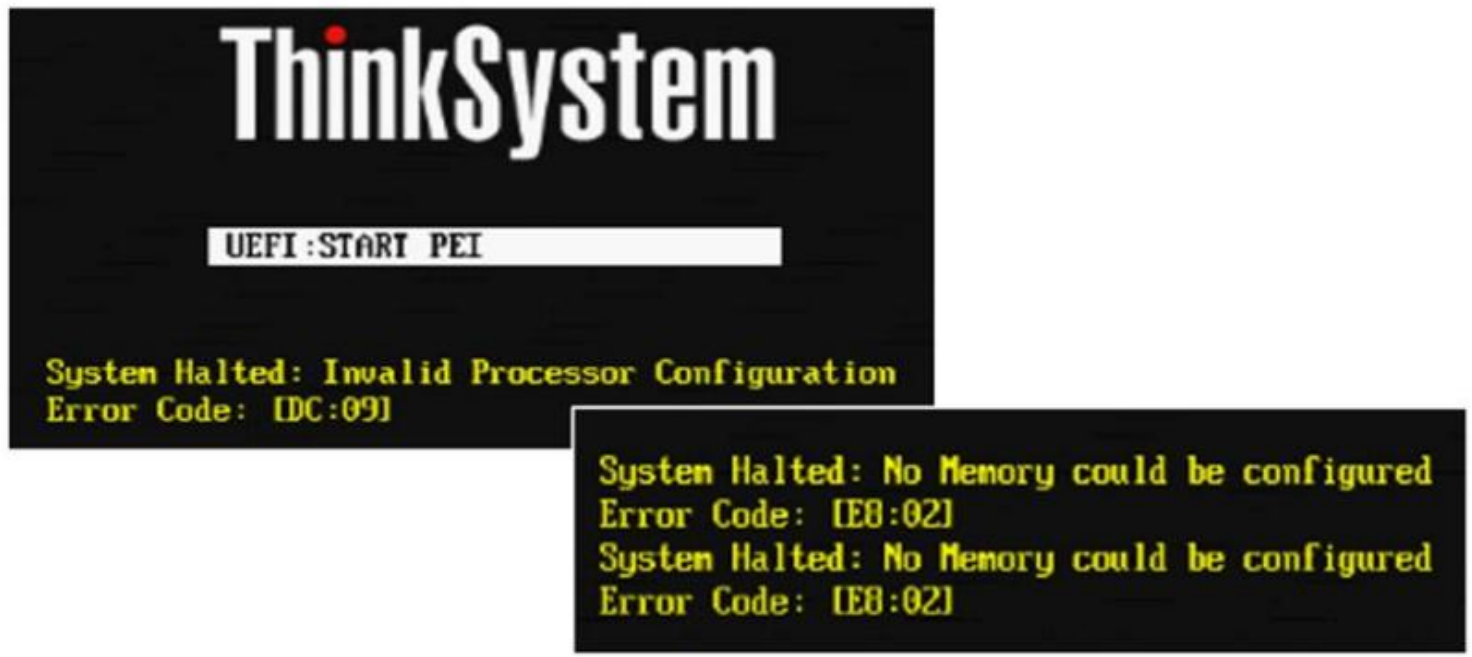
- Check the system health status on the XCC dashboard
- Check the system event log in XCC
- Check the event log in UEFI
- Check the LEDs on the system
- Check optional LCD diagnostic panel/handset
- If necessary, use XCC to collect service data, or use OneCLI to collect FFDC logs for further escalation

For more information about how to use XCC, UEFI, or OneCLI to monitor system status and collect logs, refer to the following courses:

- ES51757 – Introducing ThinkSystem tools
  https://lenovoedu.lenovo.com/course/view.php?idnumber=ES51757
- ES41759 – ThinkSystem problem determination
  https://lenovoedu.lenovo.com/course/view.php?idnumber=ES41759

POST error messages

Unlike Intel-based ThinkSystem models, the SR645 cannot display CPU and DIMM error or mismatch POST messages. Use the XCC dashboard to verify the SR645 CPU or DIMM status.



These POST error messages are not available on the SR645

LED descriptions

Use the LEDs on the front operator information panel, the rear side of the server, or the system board for hardware status monitoring and problem determination. For more information about the SR645 LEDs, refer to *ThinkSystem SR645 Maintenance Manual – Server components* section on the Lenovo Support Web site.

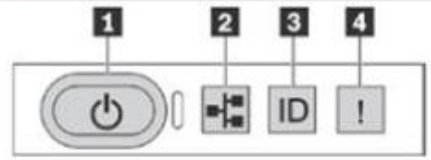


Figure 7. Operator information panel

Table 7. Components on the operator information panel

1 Power button with power status LED	2 Network activity LED (for OCP 3.0 Ethernet adapter)
3 System ID button with system ID LED	4 System error LED

1 Power button with power status LED

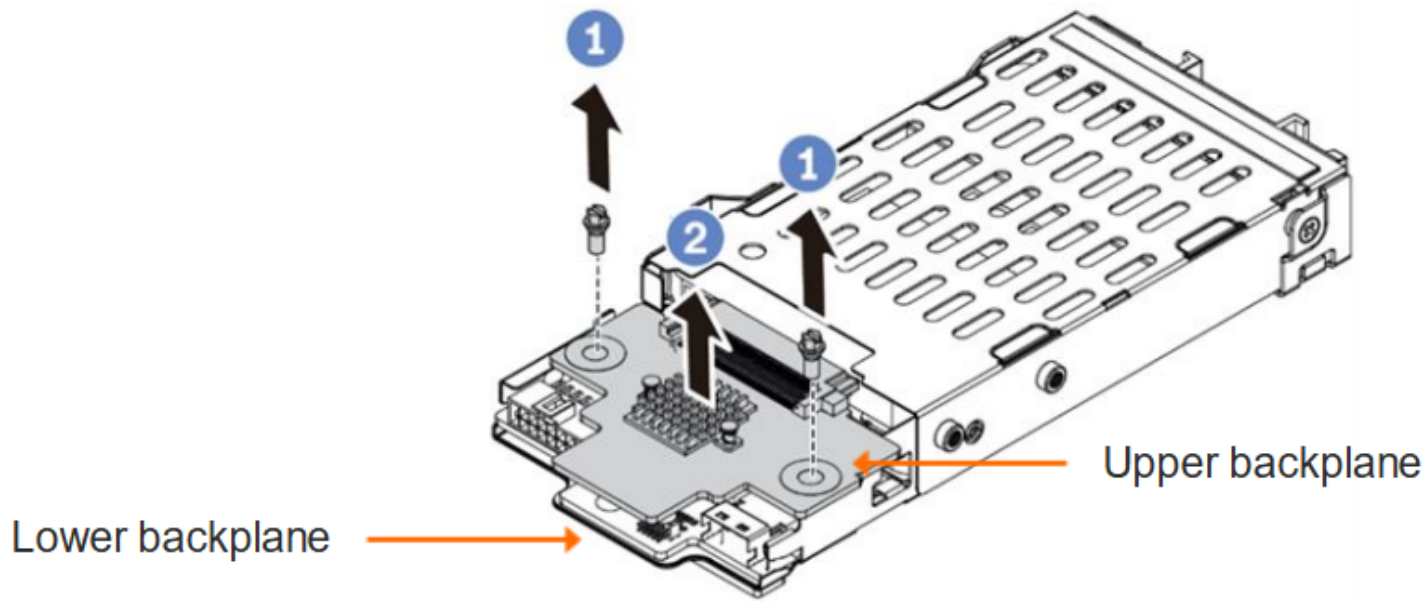
You can press the power button to power on the server when you finish setting up the server. You also can hold the power button for several seconds to power off the server if you cannot shut down the server from the operating system. The power status LED helps you to determine the current power status.

Status	Color	Description
Solid on	Green	The server is on and running.
Slow blinking (about one flash per second)	Green	The server is off and is ready to be powered on (standby state).
Fast blinking (about four flashes per second)	Green	The server is off, but the XClarity Controller is initializing, and the server is not ready to be powered on.
Off	None	There is no ac power applied to the server.

Troubleshooting rear 7 mm drive issues

If XCC reports that one or both of the rear 7 mm drives has failed, work through the following procedure:

1. Remove and reinstall the failed 7 mm drive(s)
2. If the problem persists, replace the failed 7 mm drive(s)
3. If the problem persists, replace the lower 7 mm drive backplane
4. If the problem persists, replace the upper 7 mm drive backplane
5. If the problem persists, collect the FFDC service data and escalate to the next level of support



Hardware replacement tips

- The heatsink replacement procedure requires a Torx #T20 screwdriver. The SR645 heatsink, processor, and system board FRU are shipped with a Torx #T20 bit.
- The design of the SR645 is different to that of AMD-based 1-socket ThinkSystem servers (the SR635 and SR655), and the power distribution board and fan board are integrated into the system board.
- To replace M.2 drives and the M.2 adapter, you might need to adjust the retainer on the adapter to fit the M.2 drives.
- After replacing the system board, service personnel must update the VPD on the system board. The SR645 VPD update procedure is the same as that for Intel-based ThinkSystem models (using OneCLI's `onecli config set` command). For more information, refer to ES51757 Introducing ThinkSystem tools – *LXCE OneCLI common task* section.

Summary

This course enabled you to:

- Describe the Lenovo ThinkSystem SR645 server and components
- List the SR645 server specifications
- Describe the SR645 server configurations and diagrams
- Describe the SR645 server management tools
- Describe the problem determination steps and explain how to troubleshoot issues with the SR645