Problem determination and troubleshooting

How to perform problem determination actions

Lenovo

Problem determination and troubleshooting overview

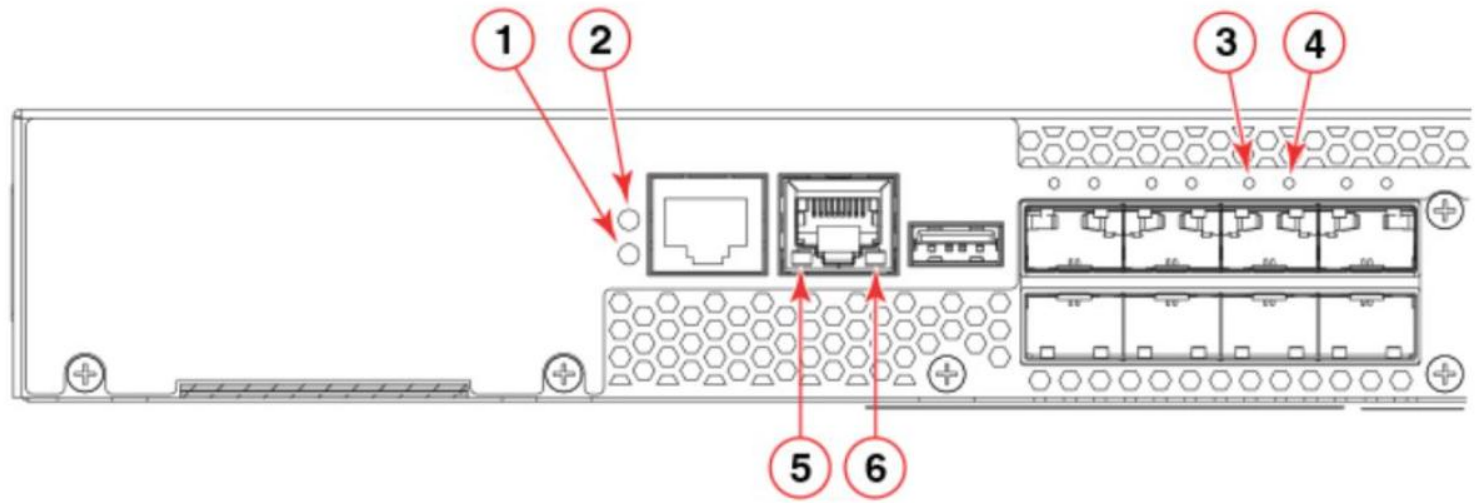
Work through the following actions to collect objective information for the DB710S:

- Check the status LEDs on each subsystem of the system.
- Use Fabric OS Web Tools or Fabric OS commands to check the hardware status.
- If necessary, use the `supportsave` and `supportshow` commands to collect switch information to send to Broadcom for problem escalation.
  - `supportshow`: basic logging which will show general events within the switch – not a deep log and is all text based
  - `supportsave`: in-depth logging with core and trace dumps as well as deeper statistics

Port-side LEDs

System activity and status can be determined through the activity of the LEDs on the switch. The LEDs have three possible states: no light, a steady light, and a blinking light. Blinking lights can be slow, fast, or flickering. The lights are green or amber.

1. System status LED
2. System power LED
3. SFP+ (upper) port 2 status LED
4. SFP+ (lower) port 6 status LED
5. Ethernet port link/speed LED
6. Ethernet port activity LED



System status LED

Use the following table to interpret the system status LED.

LED behavior	Description	Recommended action
No light	The system is off, or there is no power.	Verify that the system is on and has completed booting.
Steady green	The POST and initialization have completed. The system is on and functioning properly.	No action is required.
Steady amber (for more than 5 seconds – can take over a minute to complete the POST)	The system is going through the power-up process.	No action is required.
Steady amber (for more than a few minutes)	The system is in an unknown state, the boot failed, or the system is faulty. When the POST is complete and the switch has failed, the result might be a steady amber.	Work through the following steps: 1. Connect a serial cable to the system. 2. Reboot the system. 3. Check the failure indicated on the system console. 4. Contact the solution provider.
Blinking amber or green	Attention is required. Several variables can cause this status, including a single power supply failure, a fan failure, or one or more environmental ranges being exceeded.	Check the management interface and the error log for details on the cause of the status.

System power LED

Use the following table to interpret the system power LED.

LED behavior	Description	Recommended action
No light	The system is off, or there is an internal power supply failure.	Verify that the system is powered on, that the power cables are attached, and that the power source is live. If the system power LED is not green, the unit might be faulty.
Steady green	The system is on, and power supplies are functioning properly.	No action is required.

Management port LEDs

Use the following table to interpret the management port LED.

LED function	LED behavior	Hardware status
Link/Speed	Green LED is on	1000 Mb/s link
	LED is off	Link has no activity or link is down
Activity	Green LED is blinking	Presence of activity

FC Port (SFP+) status LEDs

Use the following table to interpret the FC port status LEDs.

LED behavior	Hardware status	Recommended action
No light	The port has no incoming power, or there is no light or signal carrier detected.	Verify that the power LED is on, and check the transceiver and cable.
	The device might be initializing.	Allow 60 seconds for initialization to complete.
	The connected device is configured in an offline state.	Verify the status of the connected device.
Steady green	The port is online (connected to an external device) but has no traffic.	No action is required.
Blinking green	The port is online with traffic flowing through the port.	No action is required.
Slow blinking green (on for 1 second then off for 1 second)	The port is online but is segmented because of a loopback cable or incompatible device connection.	Verify that the correct device is attached to the switch.
Fast blinking green (on for 1/4 second then off for 1/4 second)	The port is online, and an internal loopback diagnostic test is running.	No action is required.
Steady amber	The port is receiving light or a signal, but it is not online yet.	No action is required.

FC Port (SFP+) status LEDs

Use the following table to interpret the FC port status LEDs.

LED behavior	Hardware status	Recommended action
Blinking green	The port is online with traffic flowing through the port.	No action is required.
Slow blinking green (on for 1 second then off for 1 second)	The port is online but is segmented because of a loopback cable or incompatible device connection.	Verify that the correct device is attached to the switch.
Fast blinking green (on for 1/4 second then off for 1/4 second)	The port is online, and an internal loopback diagnostic test is running.	No action is required.
Steady amber	The port is receiving light or a signal, but it is not online yet.	No action is required.
Slow blinking amber (on for 2 seconds then off for 2 seconds)	The port is disabled because of diagnostics or the `portDisable` command.	Reset the port. The `portCfgPersistentDisable` command is persistent across reboots.
Fast blinking amber (on for 1/2 second then off for 1/2 second)	The transceiver or port is faulty.	Replace the transceiver or reset the port from the workstation.
Alternating green/amber	The port is beaconing.	No action is required.

Summary

This course enabled you to:

- Describe the features and specifications of the ThinkSystem DB710S Fibre Channel (FC) SAN Switch
- Describe the differences between the DB710S, DB720S, and DB730S models
- Describe the features of the SANnav management software
- Describe the features of the Fabric OS commands and Fabric Web Tools
- Describe the problem determination steps and explain how to troubleshoot issues with the DB710S FC SAN Switch