

Hardware replacement tips

Part replacement highlights

Lenovo

Checking the processor PSB fuse policy

Servicers must use OneCLI commands to check the platform security boot (PSB) fuse policy status of the system when working through the following procedures:

- Replacing one or more processors
- Replacing a processor board and RoT module at the same time

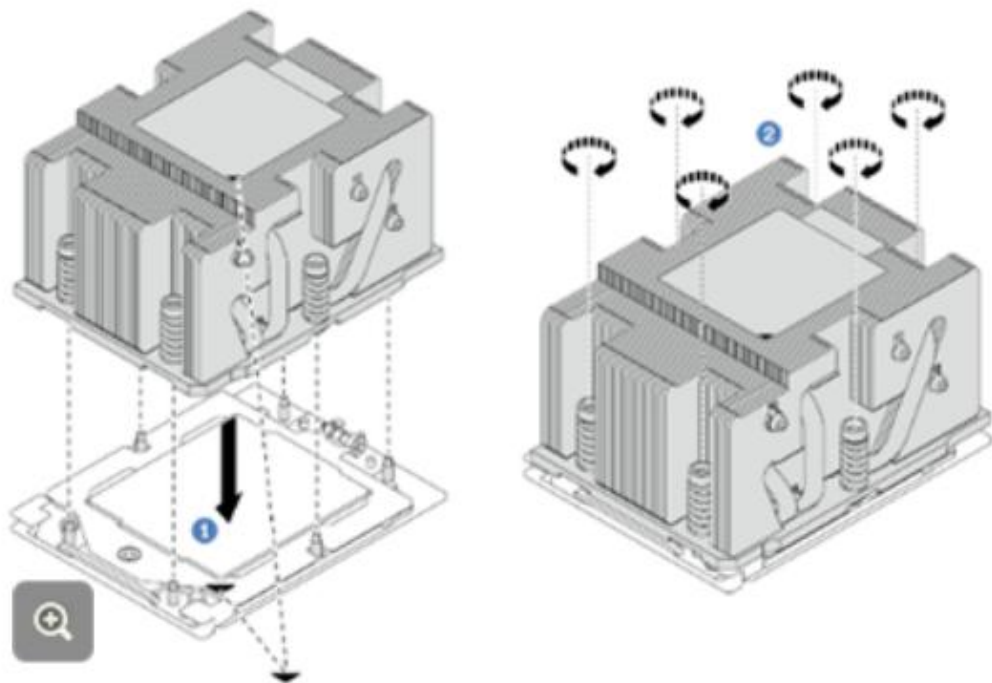
To understand how to use OneCLI commands to check the PSB fuse policy or to enable the PSB fuse policy, refer to the following GLOSSE article:

<https://glosse4lenovo.lenovo.com/wiki/glosse4lenovo/view/How%20To/System%20related/Service%20process%20for%20updating%20PSB%20fuse%20state/?srid=7xDIGmGP>

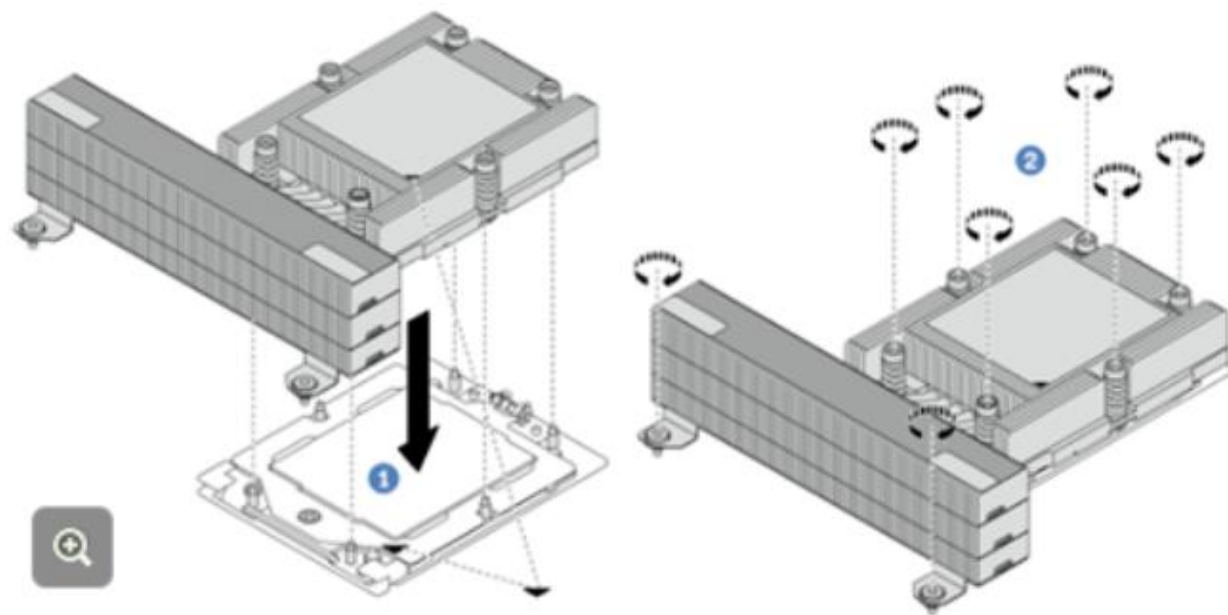
Replacing a heat sink

The SR665 V3 heat sink replacement procedure requires a Torx T20 torque screwdriver. The SR665 V3 heat sink, processor, and system board FRU are shipped with a Torx T20 bit. Follow the removal sequence instructions and torque settings shown on the heat sink label to remove or install the heat sink.

Installing a standard heat sink

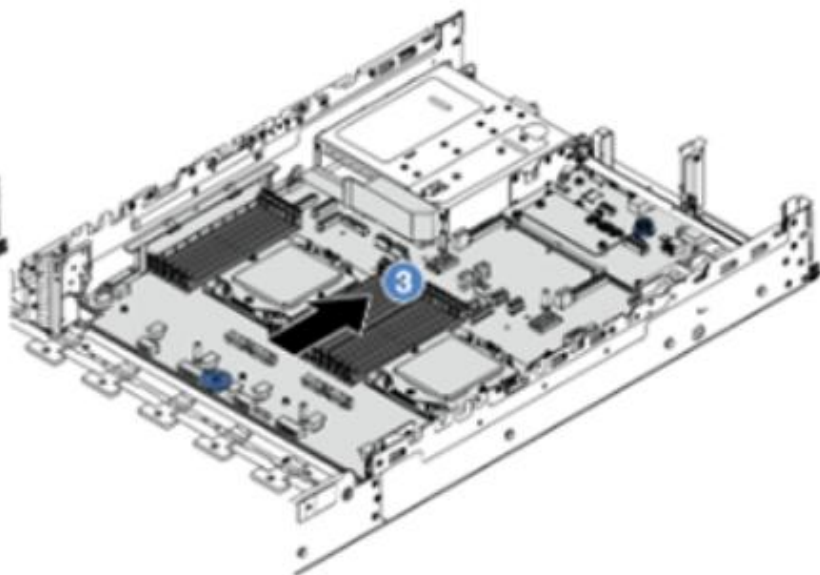
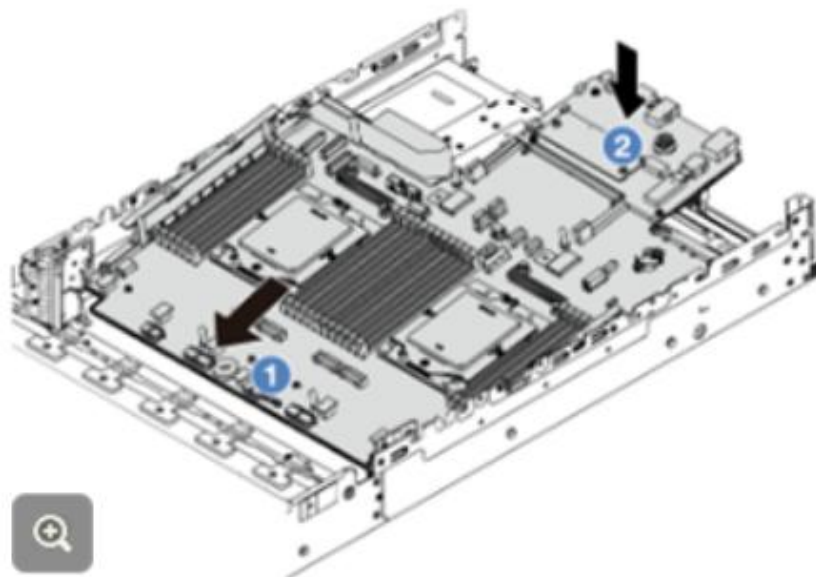


Installing a performance heat sink



Electrostatic discharge gloves

To avoid damaging sensitive electronic boards, servicers must wear electrostatic discharge gloves when replacing a system I/O board or processor board.



Replacing a firmware and RoT module

After replacing a firmware and RoT security module (RoT module), servicers must update the UEFI and LXPM firmware to the latest supported version before starting the system. If this does not happen, the system will not be able to recognize the correct firmware and will not start normally. As a result, the user will not be able to access the system OS.

Use one of the following methods to update the UEFI and LXPM firmware on the system after replacing the RoT module:

- OneCLI commands
- A USB boot kit with UEFI firmware and LXPM firmware packages
 - For more information on how to create a USB boot kit, refer to the following GLOSSE article:
[How to create USB boot kit with OneCLI for RoT replacement in the field](#)

For the complete procedures, refer to the following GLOSSE tip page:

[How to do RoT Module FW update on ThinkSystem V3 machines](#)

Updating VPD

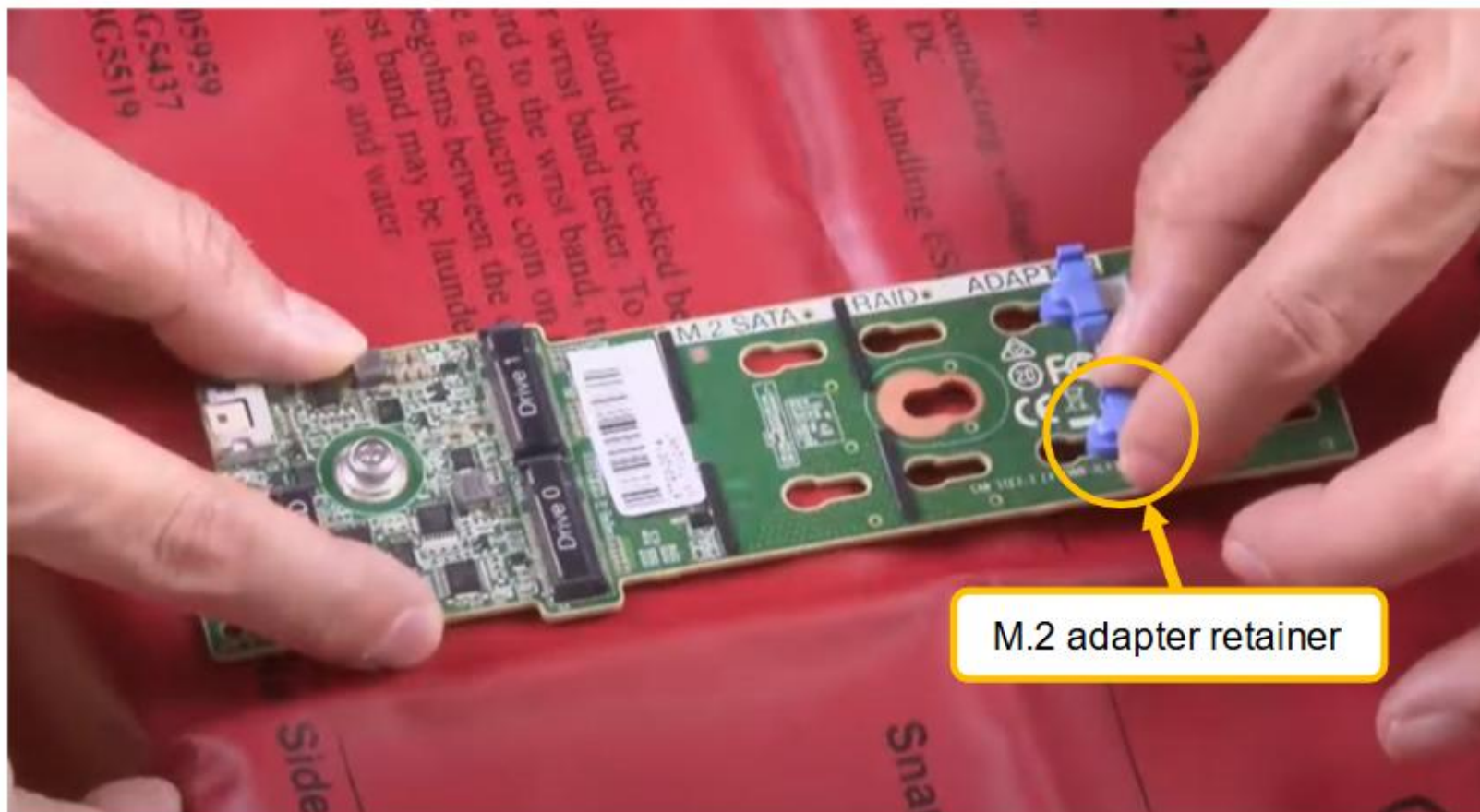
After replacing a processor board, service personnel must update the VPD on the system board. The SR665 V3 VPD update procedure is the same as that used with Intel-based ThinkSystem models (using the `onecli config set OneCLI` command).

Servicers can also use the XCC tool (for servicers only – not available for customers) to update VPD on a SR665 V3 server.

For more information, refer to the LXCE OneCLI common task section of course [ES51757C Introducing ThinkSystem tools](#), or the Update the Vital Product Data (VPD) section of the ThinkSystem SR665 V3 User Guide on [Lenovo Support](#).

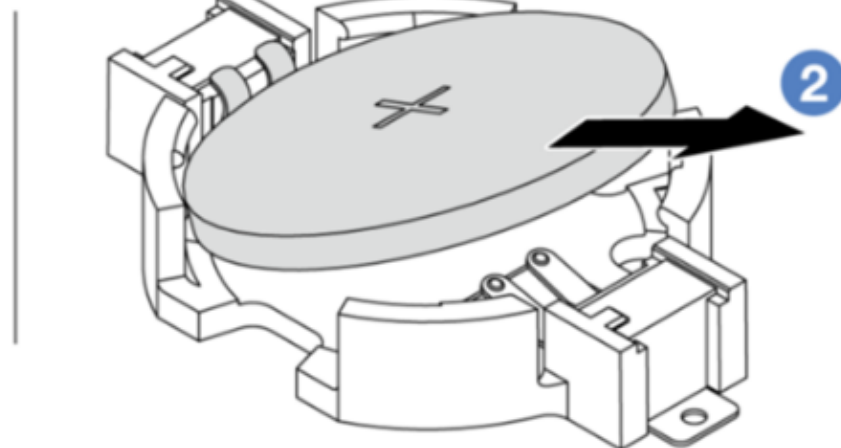
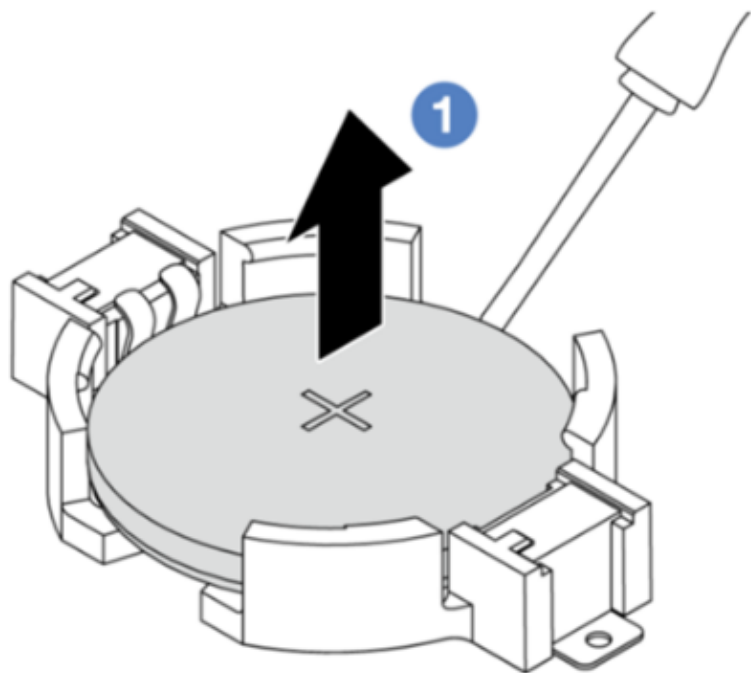
M.2 drive replacement

To replace M.2 drives and the M.2 adapter, you might need to adjust the retainer on the adapter.



Removing a CMOS battery

To remove a CMOS battery from the SR665 V3 system board, use a flat blade screwdriver to lever the battery from the socket. Do not use a finger to tilt or push the battery, as it might damage the battery socket. Any damage to the battery socket might result in the entire processor board needing to be replaced.



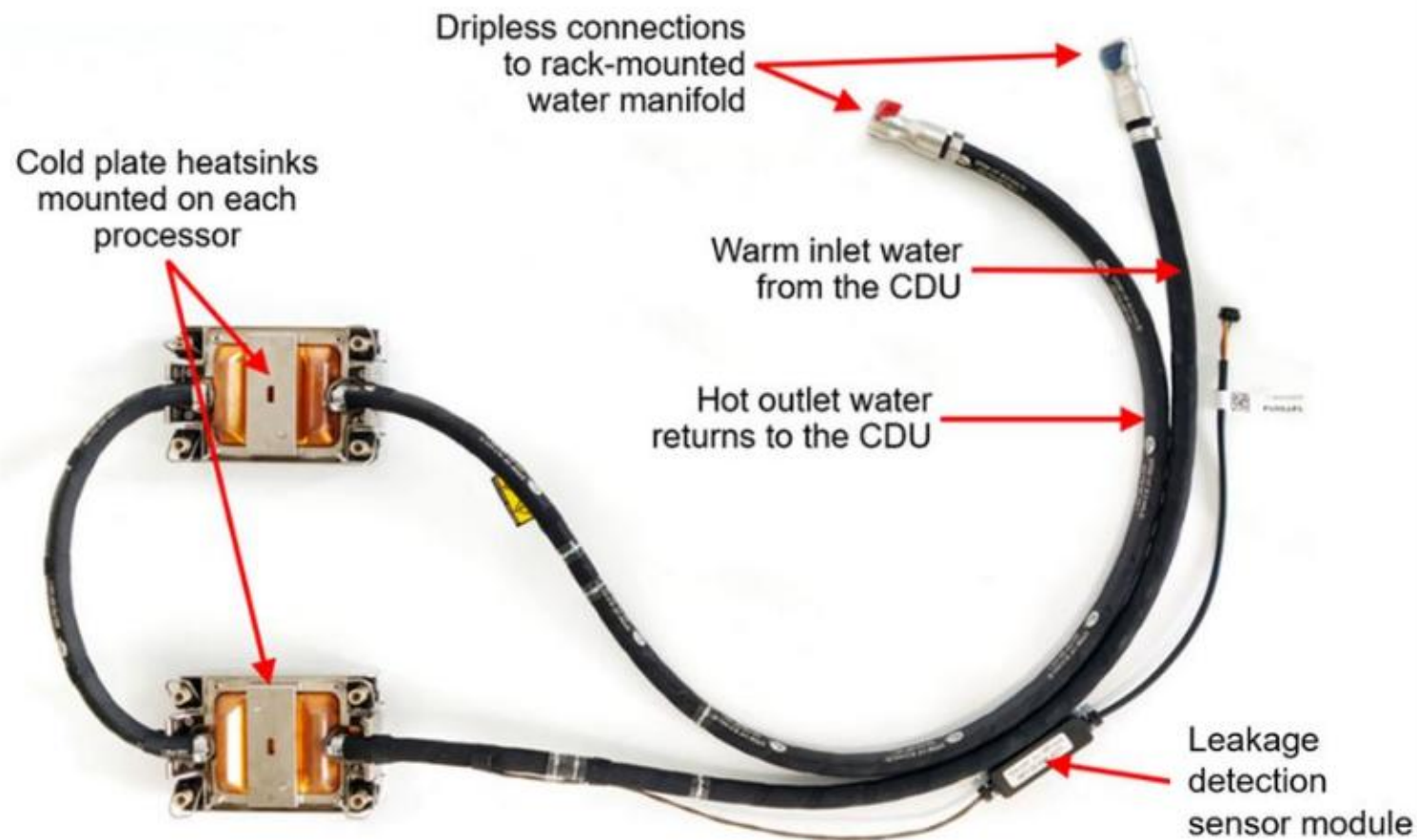
Open-loop liquid cooling on the SR665 V3

The SR665 V3 supports advanced direct-water cooling (DWC) capabilities with the Lenovo Neptune Processor DWC Module (DWCM). This module implements a liquid cooling solution with an open loop and coolant distribution units to allow heat from the processors to be removed from the rack and the data center. The liquid used in the loop is a mixture of water and ethylene glycol (EGW).



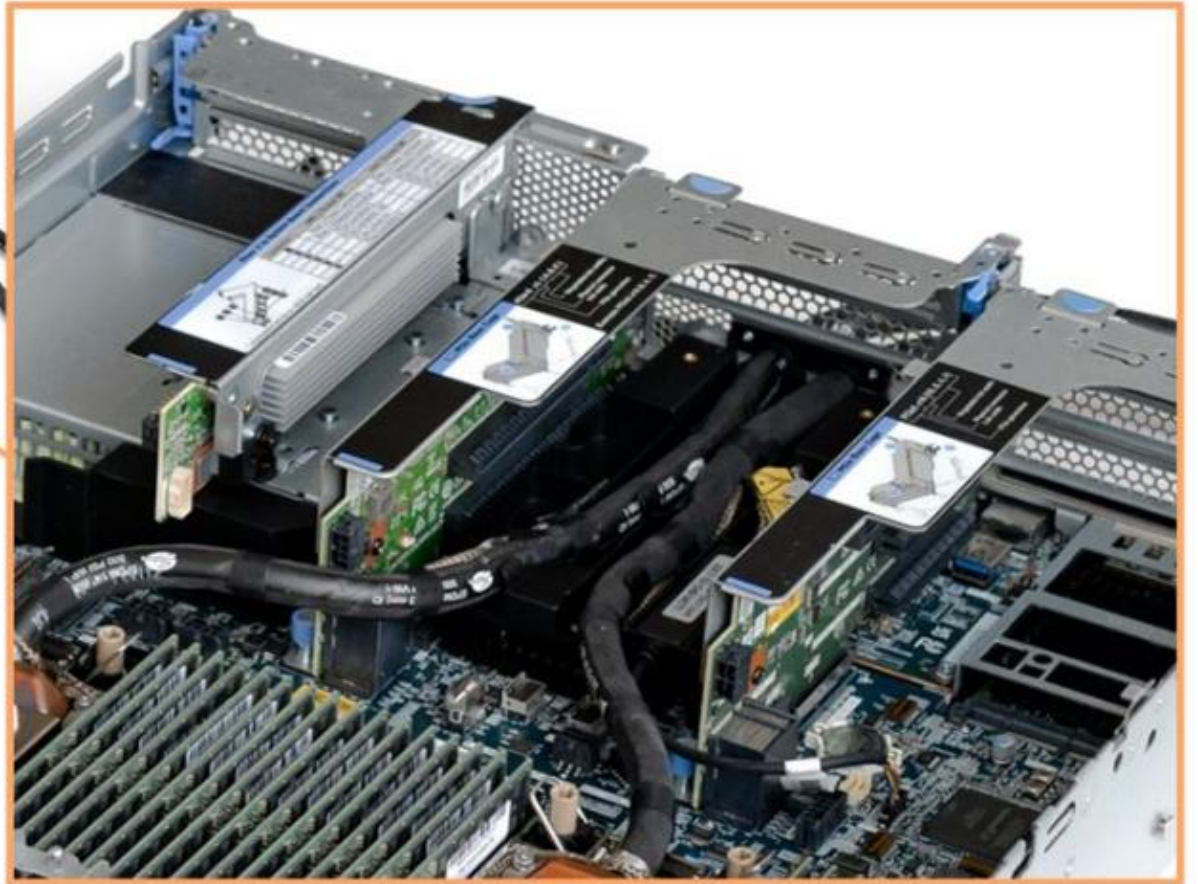
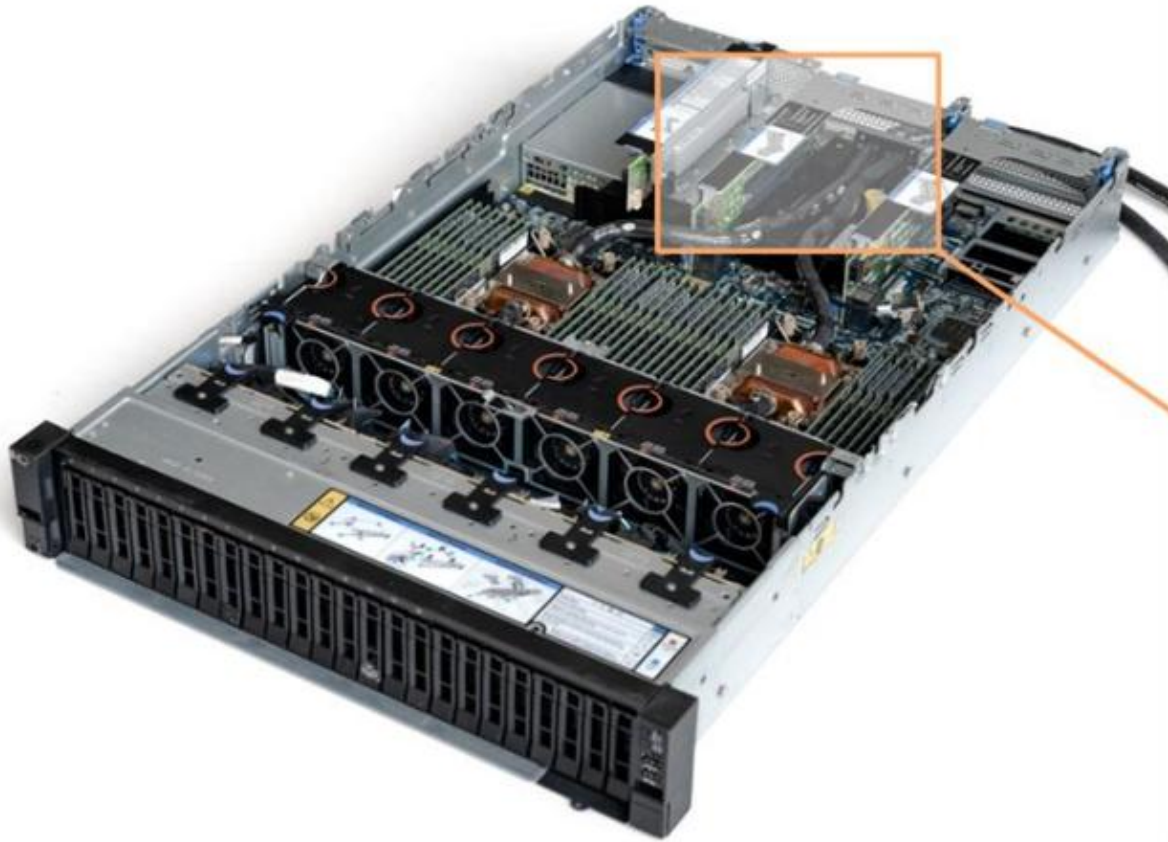
Direct Water Cooling Module

With the DWCM, all heat generated by the processors is removed from the server using water. This means that the server fans and data center air conditioning units only need to remove the heat generated by the other components. This results in lower air conditioning costs and enables the use of slower fans, which means lower overall power consumption.



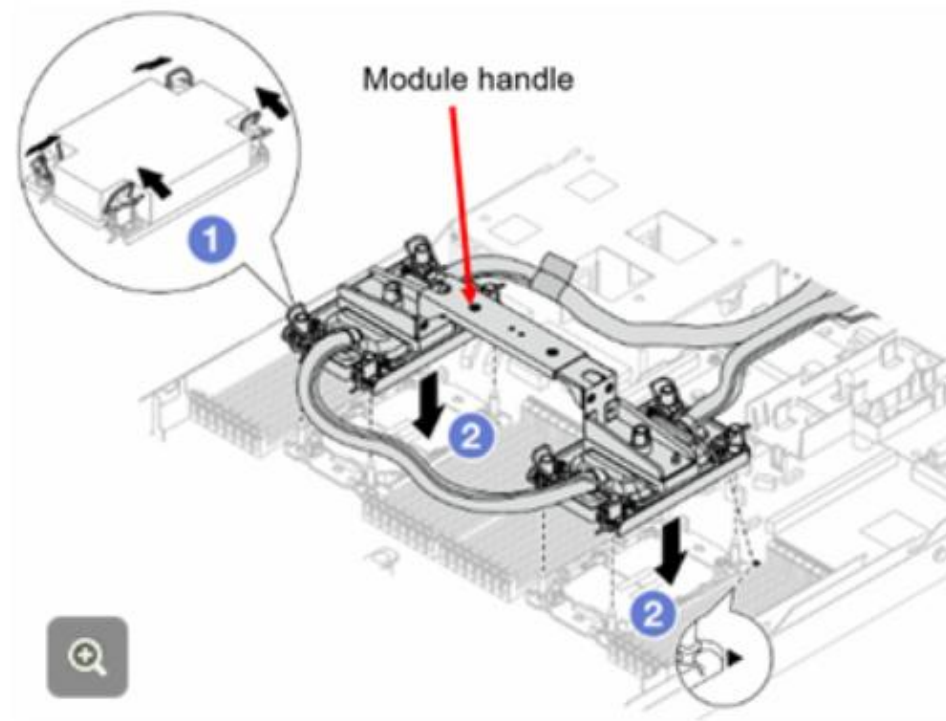
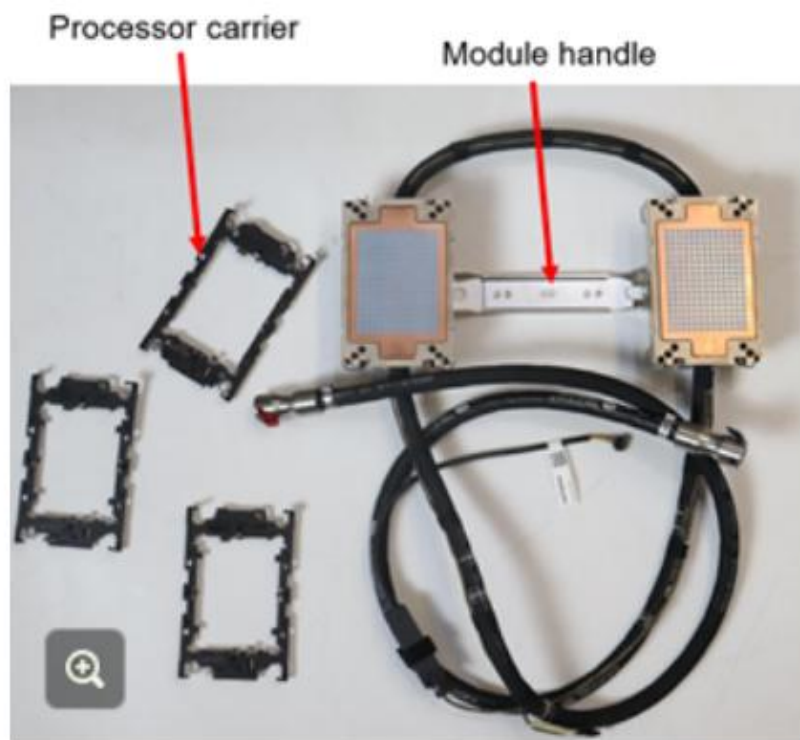
Removing a DWCM riser cage from the SR665 V3

The DWCM riser cage has to be removed from the SR665 V3 before a module is installed or replaced.



Replacing a DWCM with installed processors

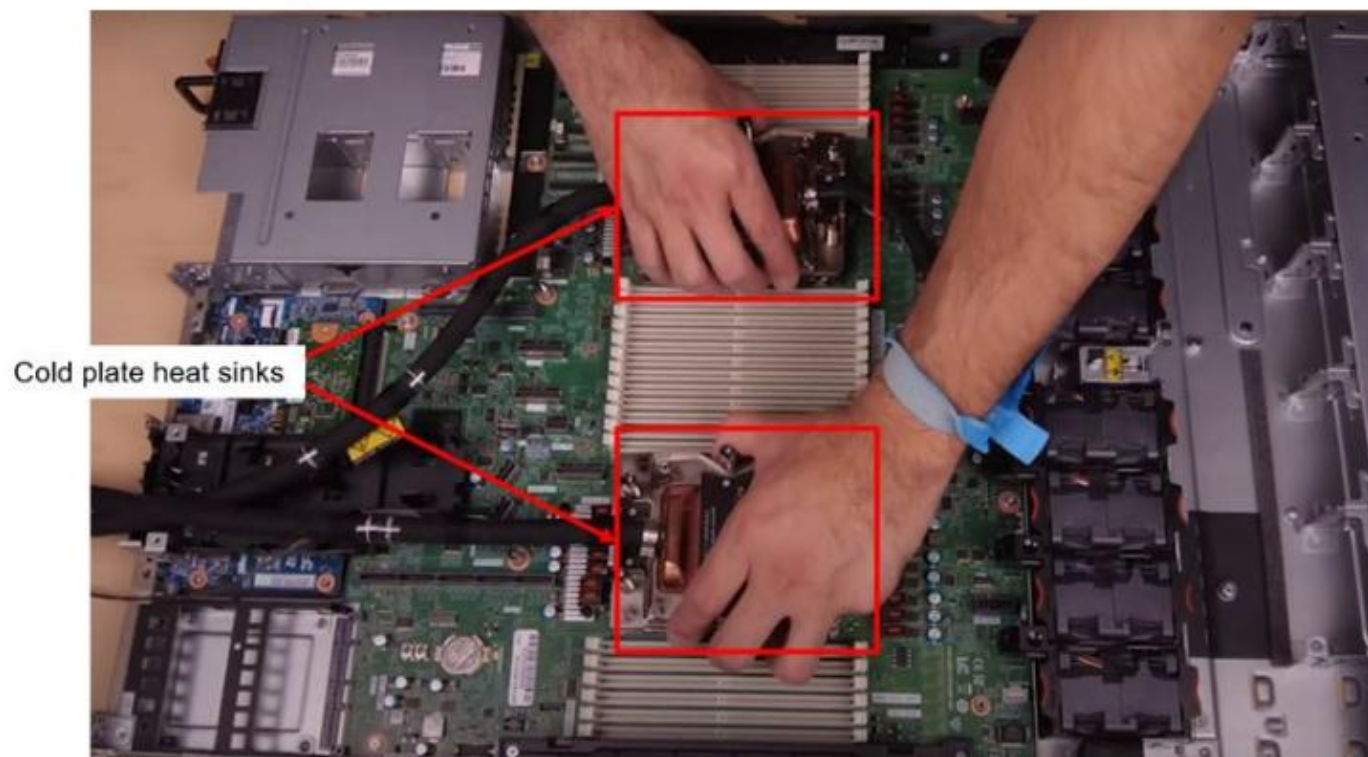
To replace a DWCM, install the existing processors on the new DWCM, and then use the module handle shipped with the new component to move the new DWCM to the processor sockets. Then, fully fasten the Torx T20 nuts on the heat sinks. The torque required to fully tighten the fasteners is 1.25 to 1.45 Newton-meters or 11 to 13 inch-pounds.



Note: If the client retains the handle, it must be used throughout the replacement process. A new handle cannot be issued separately.

Replacing a processor connected to a DWCM

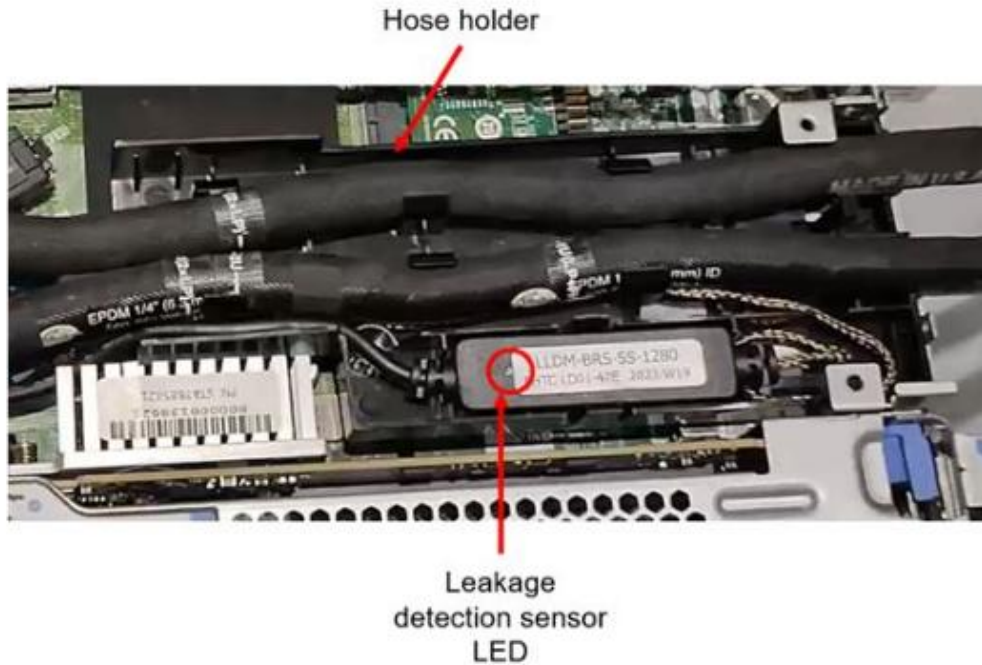
Install the new processor on the existing DWCM, and then use both hands to hold the cold plate heat sinks and install the DWCM onto the processor socket. Fully fasten the Torx T20 nuts on the heat sinks. The torque required to fully tighten the fasteners is 1.25 to 1.45 Newton-meters or 11 to 13 inch-pounds.



Note: If the client retains the handle, it must be used throughout the replacement process. A new handle cannot be issued separately.

Leakage detection sensor module

The leakage detection sensor module is used to detect coolant leakages in the system. When the module is installed in the hose holder, the leakage detection sensor LED should face up.



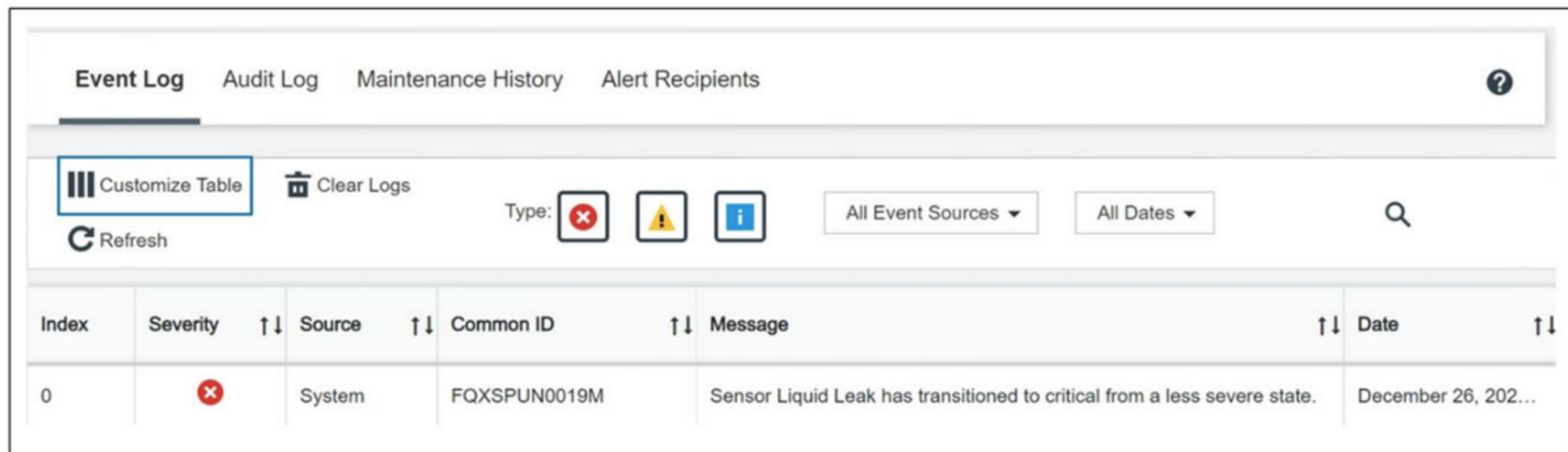
Leakage detection sensor LED		
Status	Description	Action
Solid green	No coolant leakage detected	No action required
Blinking green	Abnormal status detected	Replace the DWCM

Using XCC to identify a coolant leak

If the amber LED on the front operator panel is lit, check the XCC event log.

A coolant leakage event will have an XCC ID of **FQXSPUN0019M**, and there will be a message stating: **Sensor Liquid Leak has transitioned to critical from a less severe state.**

Refer to this [Lenovo Docs page](#) for details.



The screenshot displays the XCC Event Log interface. At the top, there are tabs for 'Event Log', 'Audit Log', 'Maintenance History', and 'Alert Recipients'. Below the tabs, there is a toolbar with a 'Customize Table' button (highlighted with a blue box), a 'Clear Logs' button, a 'Refresh' button, and a 'Type:' filter with three icons: a red 'x' (error), a yellow triangle (warning), and a blue 'i' (info). There are also dropdown menus for 'All Event Sources' and 'All Dates', and a search icon. The main area is a table with the following columns: Index, Severity, Source, Common ID, Message, and Date. The table contains one entry with Index 0, Severity marked with a red 'x', Source 'System', Common ID 'FQXSPUN0019M', Message 'Sensor Liquid Leak has transitioned to critical from a less severe state.', and Date 'December 26, 202...'.

Index	Severity	Source	Common ID	Message	Date
0		System	FQXSPUN0019M	Sensor Liquid Leak has transitioned to critical from a less severe state.	December 26, 202...

Summary

This course enabled you to:

- Describe the ThinkSystem SR665 V3 server and components
- List the SR665 V3 server specifications
- Describe the SR665 V3 server configurations and diagrams
- Describe the SR665 V3 server management tools
- Describe the problem determination steps and explain how to troubleshoot issues with the SR665 V3