HP 631FLR-SFP28

HPE Ethernet 10/25Gb 2-Port 631FLR-SFP28 Adapter User Manual

Model: 631FLR-SFP28

1. INTRODUCTION

The HPE Ethernet 10/25Gb 2-Port 631FLR-SFP28 Adapter is designed to enhance network bandwidth and reduce vulnerability while optimizing costs. This adapter supports both 10G (SFP+) and 25G (SFP28) speeds, offering a significant increase in Ethernet performance. It integrates security features such as digitally signed firmware authentication via a Root of Trust architecture, Secure Boot, and a Device-level Firewall to protect against cyberattacks. This manual provides essential information for the proper installation, operation, and maintenance of your adapter.

Figure 1: HPE Ethernet 10/25Gb 2-Port 631FLR-SFP28 Adapter. This image displays the network adapter card, highlighting its two SFP28 ports and PCIe interface.

2. SETUP

2.1 Unpacking and Inspection

Carefully unpack the adapter and inspect it for any signs of damage. The package should contain the HPE Ethernet 10/25Gb 2-Port 631FLR-SFP28 Adapter.

2.2 Hardware Installation

1. Power down your server or desktop computer and disconnect all power cables.
2. Open the computer case to access the internal components.
3. Locate an available PCIe expansion slot. The 631FLR-SFP28 adapter requires a PCIe x8 or x16 slot.
4. Remove the corresponding slot cover from the computer chassis.

5. Carefully insert the adapter into the PCIe slot, ensuring it is fully seated. Secure the adapter with the retention bracket or screw.

6. Close the computer case and reconnect all power cables.

2.3 Driver Installation

After hardware installation, power on your computer. The operating system may automatically detect and install generic drivers. For optimal performance and access to all features, it is recommended to download and install the latest drivers from the official Hewlett Packard Enterprise (HPE) support website. Refer to the driver installation guide provided on the HPE website for detailed instructions specific to your operating system.

2.4 Network Connection

Connect appropriate SFP+ (for 10Gb) or SFP28 (for 25Gb) transceivers and fiber optic cables to the adapter's ports. Ensure that the cables are securely connected to both the adapter and your network switch or router.

3. OPERATING INSTRUCTIONS

3.1 Verifying Operation

Once the drivers are installed, verify the adapter's operation:

- Check the LED indicators on the adapter. Typically, a solid green or amber LED indicates a link, and a blinking LED indicates activity. Refer to the adapter's technical documentation for specific LED behavior.
- In your operating system's Device Manager (Windows) or network configuration tools (Linux/macOS), confirm that the adapter is recognized and functioning correctly.
- Test network connectivity by pinging other devices on your network or accessing network resources.

3.2 Network Configuration

Configure the network settings (IP address, subnet mask, gateway, DNS) for the new network interface through your operating system's network settings. Consult your network administrator or operating system documentation for specific configuration details.

3.3 Advanced Features

The HPE 631FLR-SFP28 Adapter supports several advanced features to optimize network performance and efficiency:

- **Single Root I/O Virtualization (SR-IOV):** Allows a single PCIe physical function to be shared among multiple virtual machines (VMs), improving I/O performance in virtualized environments.
- **Remote Direct Memory Access (RDMA) over Converged Ethernet (RoCE v2):** Enables direct memory access between servers without involving the CPU, reducing latency and CPU utilization for applications like Live Migration and Microsoft SMB Direct.
- **Tunnel Offloads (VXLAN and NVGRE):** Offloads packet processing for virtual network overlays, reducing CPU overhead and improving throughput.
- **Data Plane Development Kit (DPDK):** Accelerates packet processing for high-performance networking applications.

Refer to the HPE documentation and your operating system's guides for configuring and utilizing these advanced features.

4. MAINTENANCE

4.1 Firmware Updates

Regularly check the HPE support website for firmware updates. Keeping the adapter's firmware up-to-date ensures optimal performance, security, and compatibility with the latest operating systems and network technologies. Firmware updates often

include security patches and performance enhancements.

4.2 Cleaning

Periodically inspect the adapter for dust accumulation, especially around the ports and heatsinks. If necessary, gently clean the adapter using compressed air. Ensure the computer is powered off and disconnected from power before cleaning.

4.3 Environmental Considerations

Ensure the operating environment maintains appropriate temperature and humidity levels as specified by the server or desktop manufacturer. Excessive heat or moisture can negatively impact the adapter's lifespan and performance.

5. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

5.1 No Link or Connectivity Issues

- **Check Cables:** Ensure all fiber optic cables are securely connected to both the adapter and the network switch/router.
- **Verify Transceivers:** Confirm that the SFP+/SFP28 transceivers are correctly inserted and compatible with both the adapter and the network equipment.
- **LED Indicators:** Observe the adapter's LED indicators. If no link LED is lit, there might be a physical connection issue or a problem with the network port on the switch.
- **Driver Status:** Check the driver status in your operating system's Device Manager. Reinstall drivers if necessary.
- **Network Configuration:** Verify IP address, subnet mask, and gateway settings.

5.2 Slow Performance

- **Driver Updates:** Ensure the latest drivers and firmware are installed.
- **Network Congestion:** Check for network congestion on your switch or router.
- **System Resources:** Ensure the host system has sufficient CPU, memory, and PCIe bandwidth.
- **Cable Quality:** Inspect fiber optic cables for damage or excessive bends.

5.3 Adapter Not Detected

- **Reseat Adapter:** Power off the computer, open the case, and reseat the adapter firmly in its PCIe slot.
- **Try Another Slot:** If available, try installing the adapter in a different PCIe slot.
- **BIOS/UEFI Settings:** Check your system's BIOS/UEFI settings to ensure PCIe slots are enabled and configured correctly.

If issues persist, consult the HPE support website or contact technical support.

6. SPECIFICATIONS

Feature	Detail
Brand	HP (Hewlett Packard Enterprise)
Model Number	631FLR-SFP28
Hardware Interface	Ethernet
Data Link Protocol	Ethernet
Data Transfer Rate	10/25 Gigabit Per Second (100000 Megabits Per Second)

Feature	Detail
Ports	2 x SFP28
Compatible Devices	Desktop (Server)
Item Weight	9.6 ounces (approx. 272 grams)
Product Dimensions (LxWxH)	2.4 x 9.8 x 8.5 inches (approx. 6.1 x 24.9 x 21.6 cm)
UPC	889296607908
First Available Date	July 19, 2017

7. WARRANTY AND SUPPORT

This HPE product is covered by a standard limited warranty. For detailed information regarding warranty terms, conditions, and duration, please refer to the warranty statement included with your product or visit the official Hewlett Packard Enterprise (HPE) website.

For technical support, driver downloads, firmware updates, and additional documentation, please visit the HPE support portal:

HPE Support Website: https://www.hpe.com/support

When contacting support, please have your product model number (631FLR-SFP28) and any relevant system information ready.