

Smarter technology for all

Servicing the NVIDIA Mellanox SN5600

ES42661

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Lenovo

Prerequisites

Although there are no specific prerequisites for this course, you should have some knowledge of enterprise network architecture concepts and Linux operating systems.

Objectives

After completing the course, you will be able to:

- Describe the Mellanox SN5600 and its components
- Describe the features and specifications of the SN5600
- Describe Cumulus Linux concepts and management commands
- Describe the initial power-on procedures and configuration of the SN5600
- Describe the problem determination and troubleshooting procedures for the SN5600

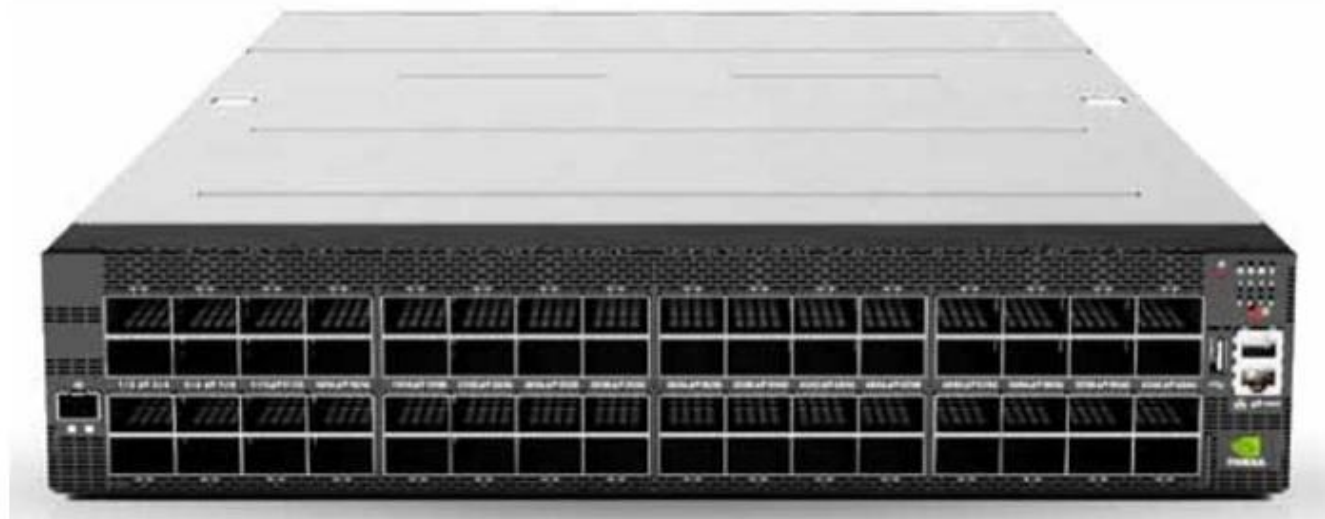
Product overview

Product description and front, rear, and inside views

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Product overview

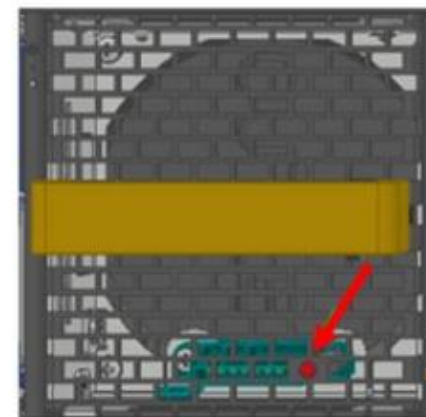
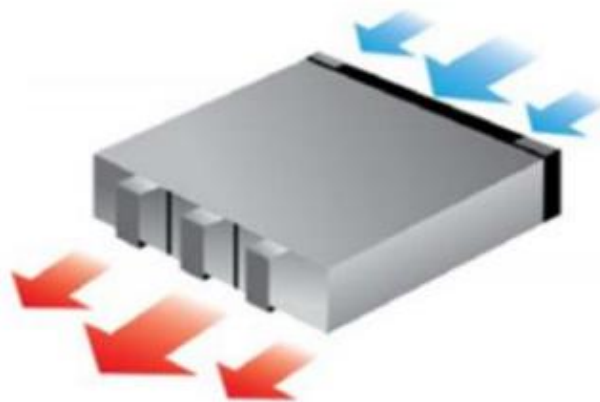
The NVIDIA SN5600 (machine type: 7D5FCTONWW) is a 2U Ethernet switch that uses the Cumulus operating system. The SN5600 is an NVIDIA Spectrum-4 switch with a 2.80 GHz Intel Xeon E-2276ME processor. It has 64 OSFP 800 GbE ports, which are fully splittable into up to 128 400 GbE ports or, with splitter cables, up to 256 10/25/50/100/200 GbE ports for a maximum throughput of 51.2 Tbps. The SN5600 has been added to the Lenovo EveryScale OVX solution for NVIDIA Omniverse.



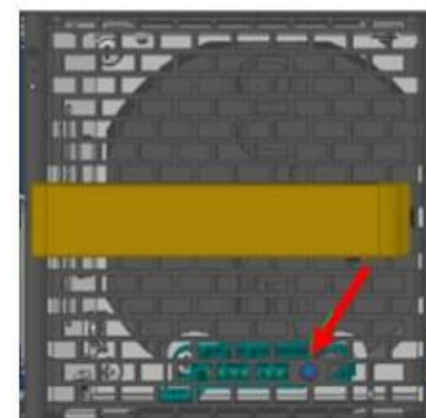
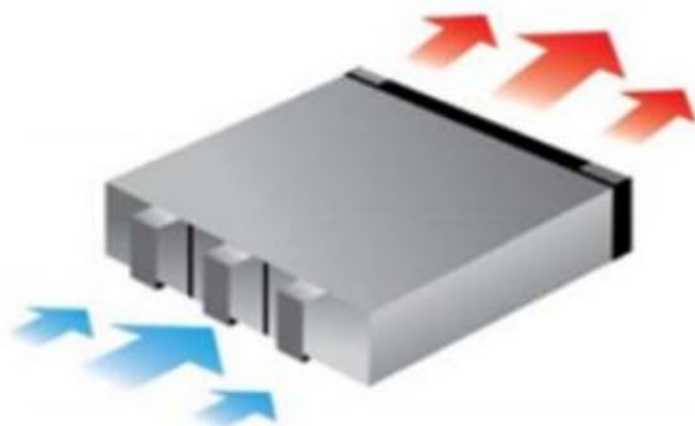
Airflow

The SN5600 is available with two airflow patterns:

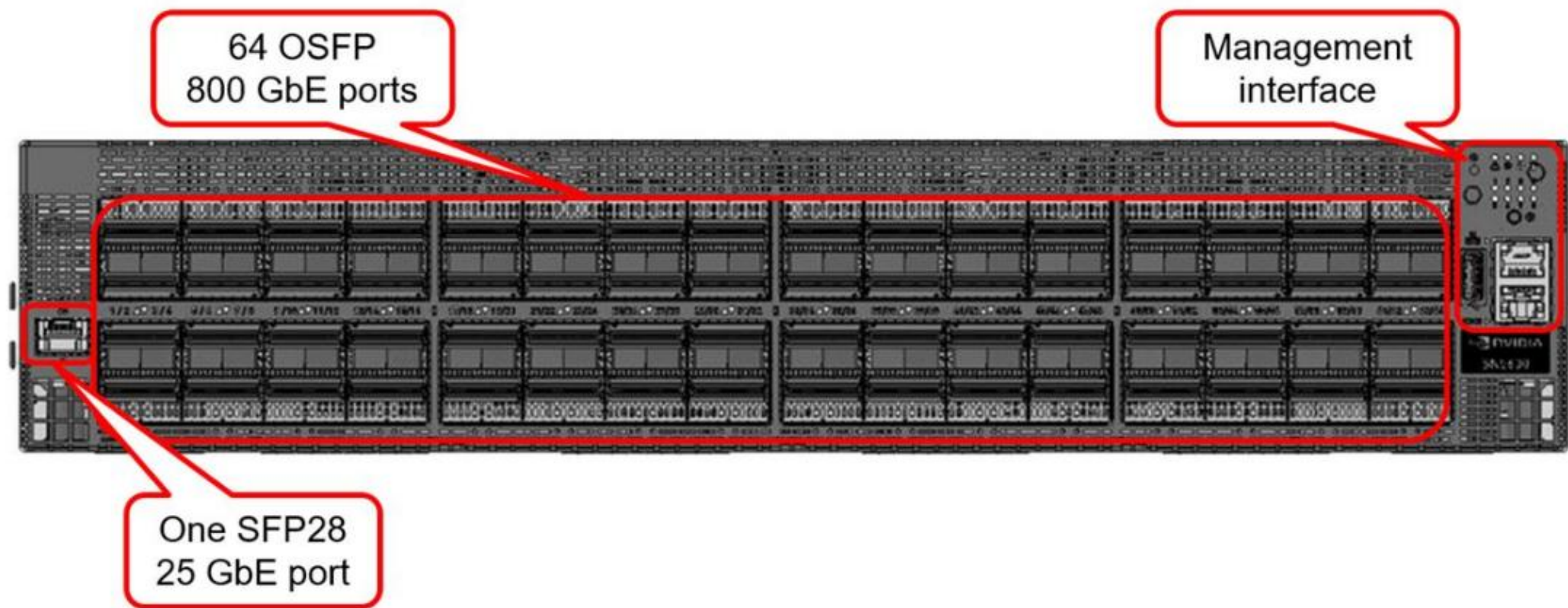
- Connector (front) side inlet to power side outlet – indicated by red dots on the power inlet side.



- Power (rear) side inlet to connector side outlet – indicated by blue dots on the power inlet side.

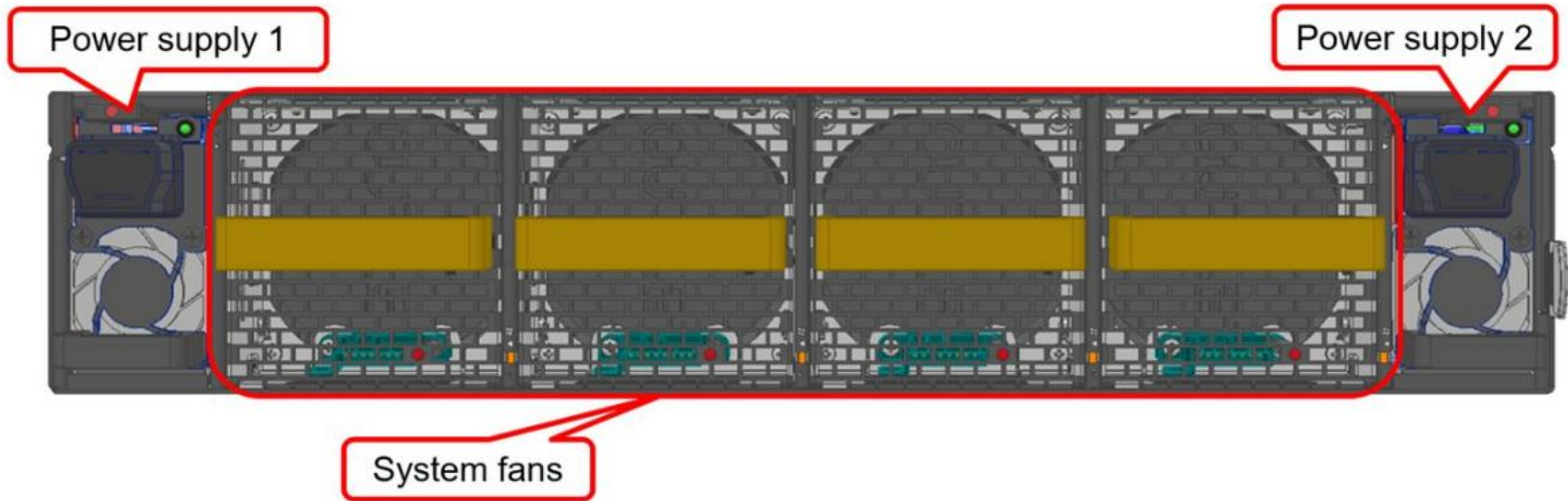


Front view



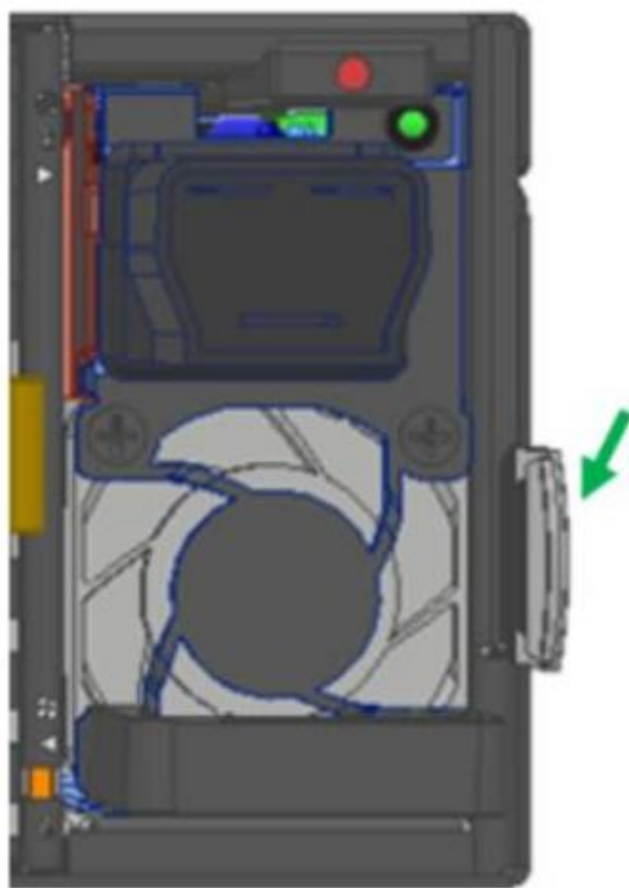
Rear view

There are two hot-swappable power supplies and four hot-swappable system fans at the rear of the switch.



Inventory information

The system's inventory parameters (such as the serial number, part number, and GUID address) are printed on the inventory pull-out tab on the right side of the rear panel.



SN5600 dust caps

The SN5600 is shipped with 64 dust caps. For airflow reasons, the caps must be used with empty ports.



Note: The OSFP800 dust cap FRU number is 03NC629; the part number is SC37B92971.

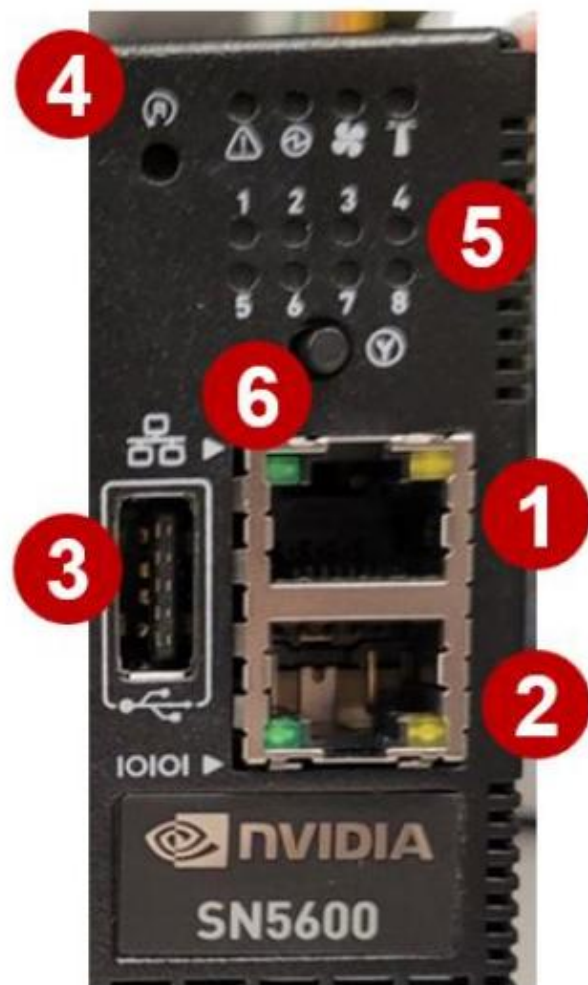
SN5600 interfaces

The SN5600 has the following interfaces:

- RS232 console port
- Management port
- USB port
- Reset button
- Status and port LEDs – refer to the Status and port LEDs page in the [Problem determination and troubleshooting](#) section of this course for more information
 - System status LED
 - Fan status LEDs
 - Power supply unit LEDs
 - Unit Identifier (UID) LEDs
- Lane select LEDs and power button

SN5600 interface overview

Click the buttons to see more information



1.  10/100/1000 Mb RJ45 Ethernet management interface

The RJ45 Ethernet management port provides access for remote management and is configured with auto-negotiation capabilities by default. Management port network attributes (such as the IP address) need to be pre-configured via the RS232 serial console port or by DHCP.

SN5600 interface overview

Click the buttons to see more information

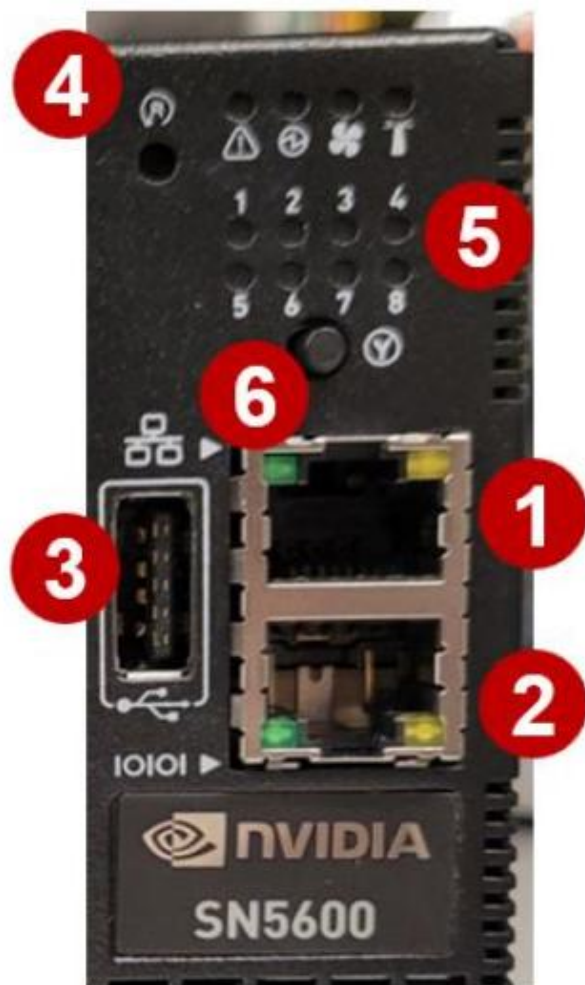


2. **IOIOI** RS232 Console port (RJ45)

This console port is used for initial configuration and debugging. Upon first installation of the system, you need to connect a PC to this interface and configure the network parameters for remote connections.

SN5600 interface overview

Click the buttons to see more information



3. USB port

The USB interface is USB 3.0 compliant and can be used by the operating system to connect to an external disk for software upgrades or file management. The connector complies with the USB 3.0 type A standard and does not support USB 1.0.

SN5600 interface overview

Click the buttons to see more information



4. Reset button

To reset the system (and the admin password), use a flat tool to push the reset button for at least 15 seconds. Do not use a sharp pointed object such as a needle to press the reset button.

SN5600 interface overview

Click the buttons to see more information

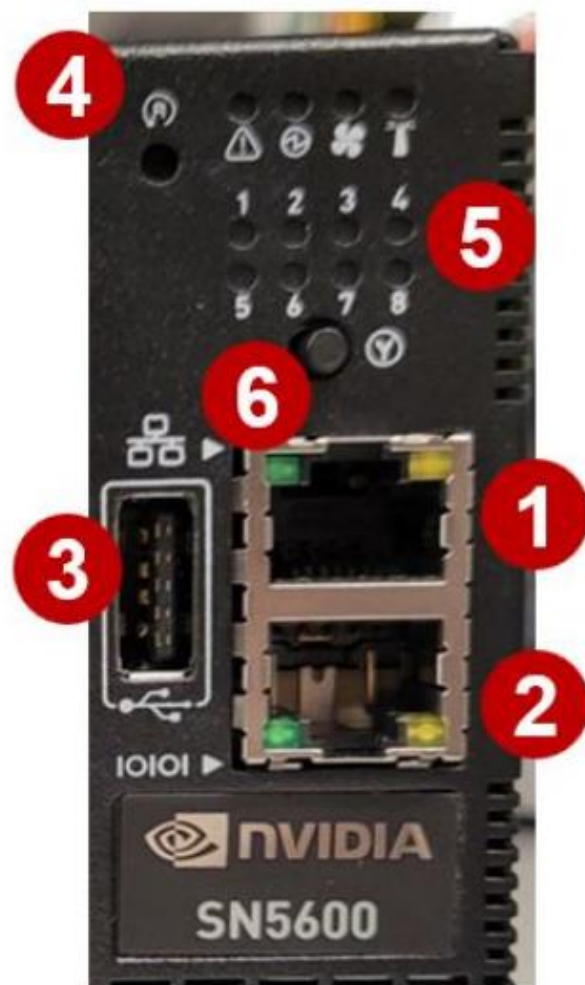


5. Status and Port LEDs

Refer to the Status and port LEDs page in the [Problem determination and troubleshooting](#) section of this course for more information

SN5600 interface overview

Click the buttons to see more information



6. Lane select LEDs and power button

Each OSFP module can be used as eight 1X ports, two 4X ports, or four 2X ports. Each OSFP module has one dedicated bi-color LED to provide link information for more than one port. The lane select button can be used to select one of eight indication states. Each time the button is pressed, the next state in the sequence will be selected. The current state can be identified by the LED splitting state indication LEDs.