

Cisco Catalyst 4948E-F and 4948E Ethernet Switches

Q. What is the difference between the Cisco Catalyst 4948E and the Cisco Catalyst 4948E-F?

- A.** The Cisco Catalyst 4948E and 4948E-F switches are identical in their performance and scalability. The only difference is airflow direction: The Cisco Catalyst 4948E provides front-to-back airflow, and the Cisco Catalyst 4948E-F provides back-to-front airflow (Figures 1 through 3). Note that the Cisco Catalyst 4900 Series Switches refer to the port side as the switch front.

Figure 1. Cisco Catalyst 4948E and 4948E-F Front Panel



Figure 2. Cisco Catalyst 4948E Rear Panel



Figure 3. Cisco Catalyst 4948E-F Rear Panel



Q. When should a front-to-back, compared to a back-to-front, air-cooled switch be deployed?

- A.** Hot-aisle and cold-aisle deployment remains the widely adopted best practice for data center cabinet layouts today. Networking switches and computing servers mounted in a single cabinet need to maintain the separation of the inlet cold air and the exhaust hot air for efficient use of cooling resources. The Cisco Catalyst 4948E and 4948E-F switches provide the option of front-to-back airflow (Cisco Catalyst 4948E) and back-to-front airflow (Cisco Catalyst 4948E-F) in top-of-rack (RoR) switch deployments. Table 1 summarizes the deployment scenarios for the Cisco Catalyst 4948E and 4948E-F to help you decide which switch to use.

Table 1. Deployment Decision Factors and Switch Selection

Switch Choice	Decision Factors
Cisco Catalyst 4948E	<ul style="list-style-type: none"> Server-to-switch cable patch panel facing the cold aisle Network ports face the cold aisle Upgrading from traditional front-connected ToR switches
Cisco Catalyst 4948E-F	<ul style="list-style-type: none"> Server-to-switch cable patch panel facing the hot aisle Network ports face the hot aisle Server-to-switch connectivity is without the patch panel

Figures 4 and 5 show data center server-to-switch connectivity scenarios for the Cisco Catalyst 4948E and 4948E-F.

Figure 4. Cold-Aisle and Hot-Aisle Isolation Using Back-to-Front Airflow with Cisco Catalyst 4948E-F

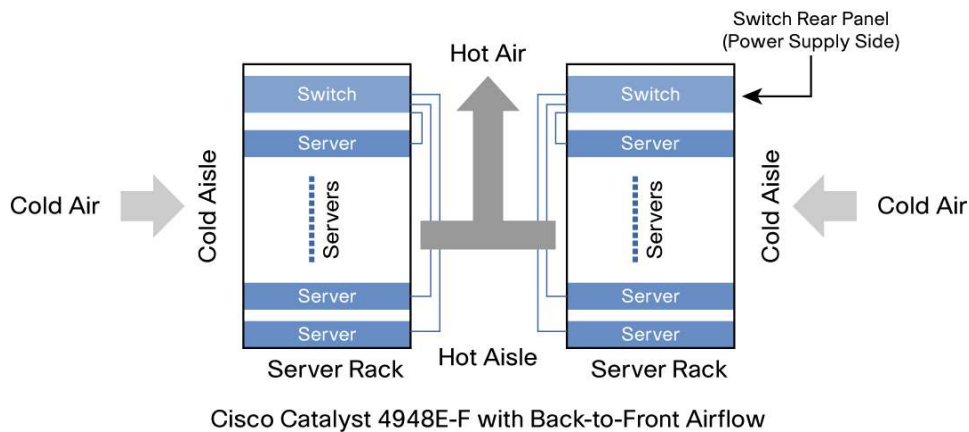
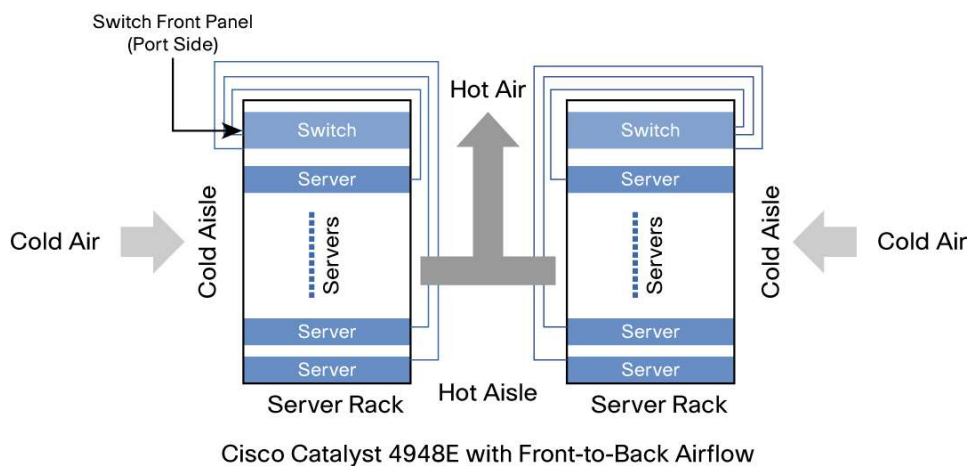


Figure 5. Cold-Aisle and Hot-Aisle Isolation Using Front-to-Back Airflow with Cisco Catalyst 4948E



Q. What is true front-to-back and back-to-front cooling?

A. The Cisco Catalyst 4948E and 4948E-F provide strict front-to-back or back-to-front cooling with no vents on the side or top of the switch.

Q. Can Cisco Catalyst 4948E be upgrade to Cisco Catalyst 4948E-F?

A. No, these two switches are different orderable SKUs and cannot be upgraded from one switch to another at customer premises.

Q. What is the operating temperature range for Cisco Catalyst 4948E and 4948E-F?

A. Both switches have an extended operating range from 0-40c to allow for deployment in passive cooling environments.

Q. Are the power supplies and fan tray interchangeable between the Cisco Catalyst 4948E and 4948E-F?

A. No, each switch has unique power supply and fan tray and cannot be interchanged.

Q. Do the Cisco Catalyst 4948E and 4948E-F support DC power supply options?

A. Currently the Cisco Catalyst 4948E supports a DC power supply. A DC power option on the Cisco Catalyst 4948E-F will be added in a future release.

- Q. Does Cisco Catalyst 4948E support mix of AC and DC power supply in the same switch?**
A. Yes, customers can choose this configuration for AC to DC failover resiliency.
- Q. Is there an inlet duct vendor for the Cisco Catalyst 4948E-F that has been certified by Cisco?**
A. The Cisco Catalyst 4948E-F is certified to work with the Panduit CDE2 air duct. The Panduit solution is optimized for 24- to 30-inch (610- to 762-mm) rack-mount applications. For more information, see http://www.panduit.com/groups/MPM-BR/documents/SpecificationSheet/CMSCONT_039358.pdf.
- Q. Will the Panduit CDE2 install in standard cabinets and racks?**
A. Yes, provided that the cabinets and racks are EIA compliant.
- Q. Does the Panduit CDE2 offer fan and power supply hot-swap capability?**
A. Yes, the Panduit CDE2 is a two-rack unit duct that allows access to fan and power modules.
- Q. What mounting brackets does the Panduit CDE2 require on the switch?**
A. Only port-side brackets are required. The Panduit CDE2 supports the switch.
- Q. How are power cords routed from the switch for the Panduit CDE2?**
A. The Panduit CDE2 allows power cords to run underneath the switch to the port side.
- Q. Does the Panduit CDE2 have fans?**
A. No, the Panduit CDE2 is a passive device
- Q. What is the forwarding performance improvement with the Cisco Catalyst 4948E and 4948E-F compared to the Cisco Catalyst 4948 10 Gigabit Ethernet Switch?**
A. Please refer to Table 1, "Main Features of Cisco Catalyst 4900 Series Switches," at http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps6021/ps10947/data_sheet_c78-598933.html.
- Q. How many uplinks are available on the Cisco Catalyst 4948E and 4948E-F?**
A. Each switch provides four nonblocking ports of SFP and SFP+ uplinks. Customers can choose to use these ports in either 1 or 10 Gigabit Ethernet mode according to their aggregation requirements.
- Q. What is the speed of the management port on the Cisco Catalyst 4948E and 4948E-F?**
A. The management port provides 10/100/1000-Gbps RJ45 connectivity.
- Q. What mounting options are available on the Cisco Catalyst 4948E and 4948E-F?**
A. Please refer the following document for mounting options: <http://www.cisco.com/en/US/docs/switches/lan/catalyst4900/4948E/installation/guide/4948E.pdf>.
- Q. What is the Cisco IOS® Embedded Event Manager (EEM) and what is its use?**
A. Cisco IOS EEM provides a distributed and customized approach to event detection and recovery directly in a device running Cisco IOS Software. Cisco IOS EEM offers the capability to monitor events and take corrective or any other desired Cisco IOS EEM action when the monitored events occur or when a threshold is reached. A Cisco IOS EEM policy is an entity that defines an event and the actions to be taken when that event occurs. For more information, see http://www.cisco.com/en/US/docs/ios/netmgmt/configuration/guide/nm_eem_overview.html.
- Q. What are the other switches in the Cisco Catalyst 4900 Series?**
A. The Cisco Catalyst 4900 Series is the industry's most widely deployed ToR switch portfolio. Following are the switches in this series:
- Cisco Catalyst 4948E Ethernet Switch: 48x 10/100/1000-Gbps (RJ45) plus 4x 10 Gigabit Ethernet (SFP+) ports and front-to-back cooling

- Cisco Catalyst 4948E-F Switch: 48x 10/100/1000-Gbps (RJ45) plus 4x 10 Gigabit Ethernet (SFP+) ports and back-to-front cooling
- Cisco Catalyst 4900M Switch: 48x 10/100/1000-Gbps (RJ45) plus 4x X2 ports and side-to-back cooling
- Cisco Catalyst 4948 10 Gigabit Ethernet Switch: 48x 10/100/1000-Gbps (RJ45) plus 2x X2 ports and side-to-back cooling
- Cisco Catalyst 4928 10 Gigabit Ethernet Switch: 28x 1 Gigabit Ethernet (SFP) plus 2x X2 ports and side-to-back cooling
- Cisco Catalyst 4948 Switch: 48x 10/100/1000-Gbps (RJ45) ports (the last four can be used as SFP ports) and side-to-back cooling



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