D-Link 5000 Series Data Center Switches

Powerful. Reliable. Versatile. Open. Efficient.

Overview

Introducing the SDN-ready 5000 Series Data Center Switches, a range of very high-speed, ultra-low latency switches designed for data center and enterprise applications.

Available in a variety of 10G, 25G, 40G, and 100G port combinations and featuring a robust set of Data Center Bridging (DCB) enhancements, ONIE support and OpenFlow v1.3, the 5000 Series presents network administrators with a versatile, powerful, and cost-effective solution for data center virtualization.

Powerful

The 5000 Series is available in a variety of wire-speed, ultra-low latency 10G, 25G, 40G, and 100G interfaces capable of achieving up to 6.4 Tbps of simultaneous throughput. With a robust security suite and comprehensive Layer 2 and enterprise-grade Layer 3 functionality including L2 /L3 multicasting, L3 routing, OSPF, and BFD, the 5000 Series offers the necessary features to be deployed as powerful components in a range of data center applications.

5000 Series Port Combinations

Model	DXS-5000-54S	DQS-5000-32S	DQS-5000-32Q28	DQS-5000-54SQ28
Port Count	48 x 10G SFP+ 6 x 40G QSFP+	32 x 40G QSFP+	32 x 100G QSFP28	48 x 25G SFP28 6 x 100G QSFP28

Reliable

The 5000 Series Data Center Switches were built with optimal reliability and availability in mind, offering a full range of features to ensure uninterrupted network operation. The dual power supply design offers load balancing for increased reliability and 1+1 redundancy in case of a power failure. Meanwhile, the modular fans allow for customizable front-to-back or back-to-front airflow to create an optimal data center cooling configuration. Both the power supplies and fans are hot-swappable, meaning they can be removed or replaced at any time without interrupting switch operation.

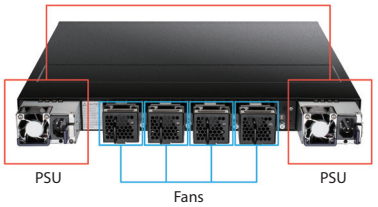


Figure 1. Hot-swappable PSU & fans

Figure 2. Configurable airflow

Versatile

Designed for versatility, the 5000 Series switches are suitable for a multitude of data center applications. Leveraging the ultra-high terabyte-per-second throughput and high reliability design, the 5000 Series can be deployed as the data center network backbone in either a Leaf-Spine, Top-of-Rack (ToR), or End-of-Row (EoR) configuration to create a highly scalable mesh architecture. In combination with advanced L3 routing features including L3 multicasting and Virtual Router Redundancy Protocol (VRRP), the 5000 Series presents an ideal solution for smaller, single private infrastructures to large-scale enterprise and government data centers.

Open

All models in the 5000 Series come preloaded with Open Network Install Environment (ONIE), allowing multiple third-party network operating systems (NOS) to be installed on the switch while also offering the option to activate the embedded fully-featured D-Link OS. Support for the OpenFlow v1.3 protocol means that the 5000 Series switches are also controllable by a wide range of OpenFlow-compatible controllers, simplifying integration into open network architectures. By separating hardware from software, administrators have a cost-effective means to easily integrate and expand existing infrastructures for a truly scalable and future-proof network.

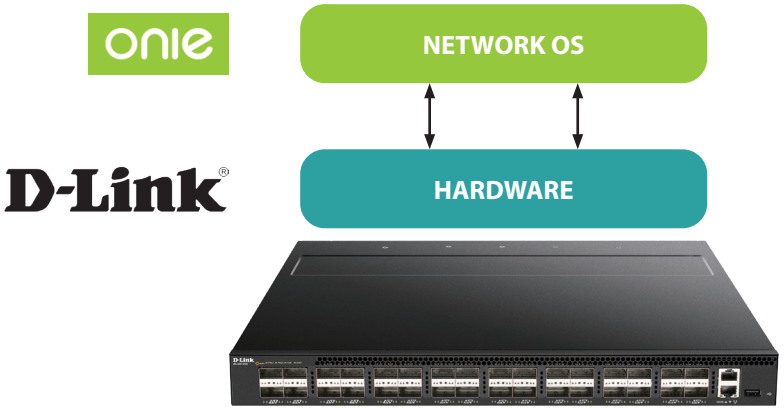


Figure 3. 5000 Series open networking

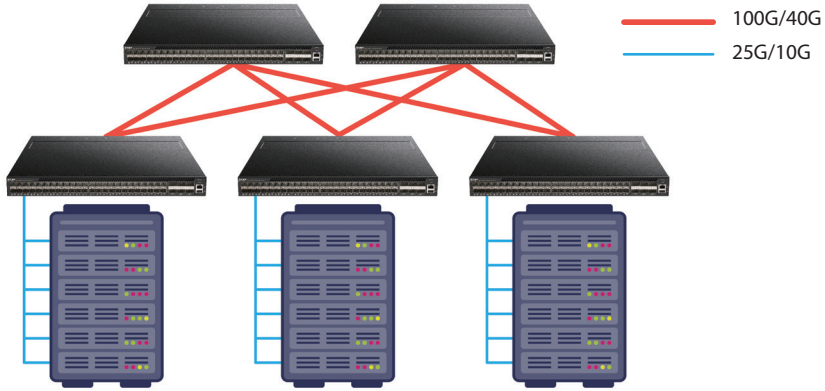
Efficient

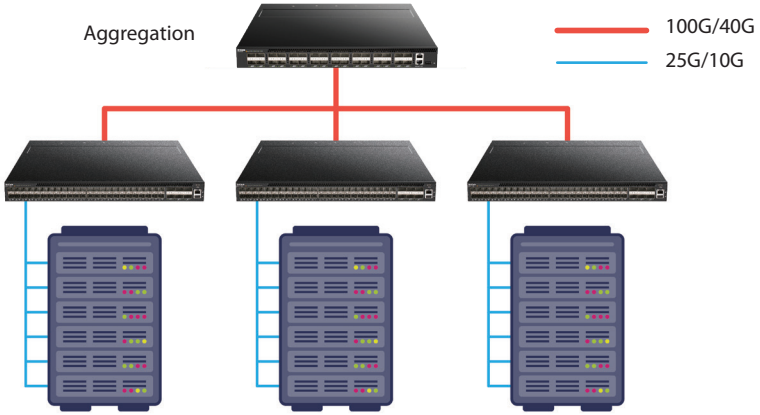
The 5000 Series supports all essential Data Center Bridging (DCB) enhancements to accommodate data center applications. Priority-based Flow Control (IEEE 802.1Qbb), Enhanced Transmission Selection (IEEE 802.1Qaz), and Congestion Notification (IEEE 802.1Qau) ensure that data is classified so that transmission is smooth and uncongested while simultaneously avoiding data loss. Meanwhile, integrated support for VXLAN technology enables administrators to deploy significantly larger VLAN architectures compared to traditional VLAN standards, allowing up to 16 million isolated simultaneous VLAN networks. With these combined features, the 5000 Series provides a capable answer to the growing demands and scale of virtualized cloud network infrastructures.

Deployment Scenarios

Leaf-Spine Configuration

The 5000 Series can be deployed as the network core in a Leaf-Spine configuration, leveraging ultra-low latency 100G/40G speeds to connect the core to the spine switches which in turn use 25G/10G downlinks to the server racks to create a highly scalable, high-redundancy mesh topology.



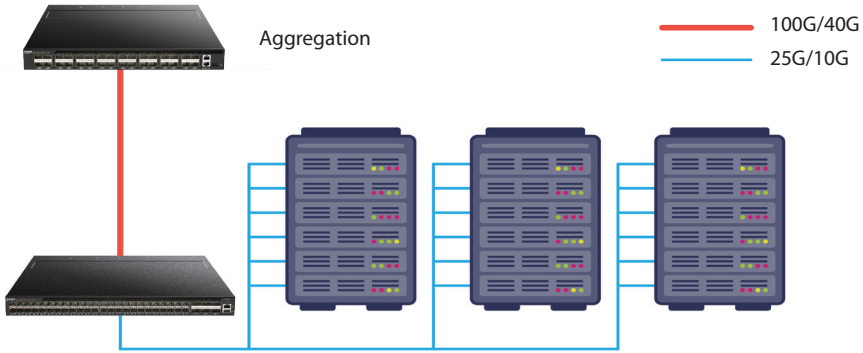


Top-of-Rack Configuration

For high-density data centers, the 5000 Series is ideally placed at the top of server racks with high-speed 100G/40G uplinks to the aggregation layer and 25G/10G downlinks to the servers. This effectively results in less access level cabling, optimal cable management, and improved airflow. In addition, each rack is managed as a modular unit, simplifying per-rack upgrades or changes.

End-of-Row Configuration

When installed in an End-of-Row (EoR) configuration, the 5000 Series maximizes port usage by connecting multiple racks to the same EoR switch. This translates to faster equipment deployment and significantly eases data center management and maintenance by reducing the number of switches that need to be managed.



Warranty

For information about D-Link warranties, visit support.dlink.com.

Technical Support

For information about D-Link Technical Support, visit support.dlink.com.

Product Availability

Shipping worldwide.

More Information

For more information about the 5000 Series, visit www.dlink.com.