Cisco Catalyst Blade Switch 3020

For the HP c-Class BladeSystem Enclosure

Overview

For HP c-Class BladeSystem customers, the Cisco® Catalyst® Blade Switch 3020 is an integrated switch that extends Cisco infrastructure services to the server edge and uses existing network investments to help reduce operational expenses.

Figure 1. Cisco Catalyst Blade Switch 3020

Primary Features

- 16 internal 1000BASE ports connected to servers through the c-Class BladeSystem backplane.
- Up to 8 external Gigabit Ethernet uplink ports.
- 4 external dual-media Ethernet interfaces. Interfaces can be either 1000BASE-SX SFP or 10/100/1000BASE-T ports. The Small Form-Factor Pluggable (SFP) cage supports Gigabit Ethernet Fiber SX SFP modules from Cisco Systems®.
- 4 additional external 10/100/1000BASE-T ports. Two of these ports can be configured to provide an internal crossover connection to an associated additional Cisco Catalyst Blade Switch 3020.
- 1 Fast Ethernet connection to the HP enclosure onboard administrator.
- 1 external console port.

Challenges and Needs

- Maintaining the highest availability to meet increasingly stringent service-level agreements
- Securing network assets to protect against information theft
- Scaling quickly to adapt to rapidly changing business environments
- Enhancing operational efficiency through a common management framework and delivery optimization features

Operational Benefits

- Decreases cable complexity by up to 90 percent and completely eliminates the required cabling between servers and the integrated switch.
- Reduces space requirements by providing an integrated switch in a chassis that can be more densely populated than the traditional server rack.
- Improves manageability to the server edge by using an end-to-end Cisco management framework, CiscoWorks, and embedded Web-based GUI tools.
- Secures assets by integrating Cisco IOS® Software security features.
- Enhances operational efficiencies by providing a platform to integrate common network services to the server edge.

Why Cisco?

Designed for the HP c-Class BladeSystem Enclosure, the Cisco Catalyst Blade Switch 3020 helps ensure consistency across the network for advanced services such as security and resiliency. It also allows customers to use the end-to-end Cisco management framework to simplify ongoing operations.

Network Security

Available with a Cisco IOS Software LAN base image, the Cisco Catalyst Blade Switch 3020 provides network security features such as extended access control lists (ACLs) and quality-of-service (QoS) traffic policers to help mitigate flooding and attacks. The switch is also Network Admission Control (NAC) compliant. NAC allows for effective admission control, posture validation, and virus detection at the network level, before serious damage can reach servers or end stations.

Resiliency

The Cisco Catalyst Blade Switch 3020 also incorporates many resiliency features such as FlexLink and trunk failover to create a highly available integrated switch. FlexLink can coexist with spanning tree and allows convergence time of less than 50 milliseconds on switch uplink ports, providing extremely rapid spanning tree recovery intervals. Trunk failover allows rapid failover to the redundant switch in the blade enclosure if all uplinks from the primary switch fail, allowing uninterrupted network performance.

Manageability

The Catalyst Blade Switch 3020 comes with an embedded GUI device manager that simplifies initial configuration of the switch. Also, support for CiscoWorks management software means that the Cisco Catalyst Blade Switch 3020 is the right fit for enterprise and data center customers. CiscoWorks offers automated inventory collection, software deployment, easy tracking of network changes, views into device availability, and quick isolation of error conditions.

The Cisco Catalyst Blade Switch 3020 for HP c-Class BladeSystem enclosures is an excellent choice for data center and enterprise customers needing to deploy a secure, resilient, and highly manageable blade switch solution.

Delivery Optimization

The Cisco Catalyst Blade Switch 3020 offers superior multilayer, granular QoS features to avoid congestion and help ensure that network traffic is properly classified and prioritized. The Cisco Catalyst Blade Switch 3020 can classify, police, mark, queue, and schedule incoming packets and can queue and schedule packets at egress. Packet classification allows the network elements to discriminate between various traffic flows and to enforce policies based on Layer 2 and Layer 3 QoS fields.

Figure 2. CiscoWorks LAN Management Solution