
Catalyst 2948G — Gigabit Ethernet Switch

Product Overview

The Catalyst 2948G is a dedicated Ethernet switch featuring high performance Layer-2 switching for the wiring closet, with low cost per port and advanced yet very stable software capable of supporting a wide variety of switching features. This new Catalyst switch provides an efficient, simple and cost effective method for improving performance and eliminating network congestion, with high-speed, high performance, Layer-2 intelligent enterprise switching. Fully integrated into the Catalyst family of switches, the Catalyst 2948G uses the same Catalyst system software as the industry leading Catalyst 5000/5500 Series thereby ensuring complete interoperability with existing Catalyst switches.

The Catalyst 2948G features:

- Dedicated 48 port 10/100 Mbps Ethernet and two port 1000BaseX Gigabit Ethernet with flexible media interfaces
- Feature-rich enterprise Catalyst System Software Comprehensive management tools based on standard CiscoWorks2000 applications
- 24 Gbps non-blocking switch fabric
- Redundant, hot swappable external power supply and other fault tolerant features

Key Features and Benefits

Dedicated 48 port 10/100 for the Wiring Closet

The Catalyst 2948G is a fixed configuration Layer-2 Ethernet switch with 48 RJ-45 10/100 ports and two Gigabit Ethernet uplink ports with modular GBIC interfaces. The switch is ideal for networks that require enterprise performance and cost effective desktop protection in increments of 48 10/100 ports in their wiring closet. Each of the 48 ports in the 2948G is autosensing and autoconfiguring.

Flexible, Full Duplex Gigabit Uplinks

Each Catalyst 2948G comes standard with two Gigabit uplink ports that can be configured with a variety of different interfaces depending on the customer's network requirements. Utilizing advanced GigaBit Interface Converter (GBIC) technology, customers can choose either shortwave (1000BASE-SX) or longwave (1000BASE-LX/LH) or singlemode extended range (1000Base-ZX) Gigabit interfaces, depending on network configuration requirements. And if, in the future, the customer's Gigabit interface requirement changes, they can easily (and inexpensively) change their GBICs. (Note that GBICs are sold separately from the Catalyst 2948G.)

Industry-leading Catalyst System Software

The Catalyst 2948G supports the full set of features found in enterprise Catalyst System Software. Not only does this ensure interoperability with other Catalyst switches (such as the Catalyst 5000/5500 series), but it provides the 2948G with the most comprehensive set of Layer 2 features available in the industry. Major software feature categories supported by the 2948G include:

- Advanced scalability (such as Fast EtherChannel, Dynamic VLANs, 802.1Q Trunking, etc.)
- Bandwidth management (QoS, Protocol Filtering, Link Load Balancing, etc.)
- Network Resiliency (UplinkFast, PortFast, Spanning Tree, etc.)
- Security (Per Port Security, Authentication, IP Permit Lists, etc.)

High Performance Non-Blocking Architecture

The Catalyst 2948G supports a high performance architecture with nonblocking 24 Gbps total capacity. The switch fabric is capable of supporting all 48 ports simultaneously at wire speed. The high performance fabric on the 2948G will minimize traffic congestion from growth and improve the overall network response time.

Built-In Fault Tolerance

The 2948G supports a variety of fault tolerant features including an available external redundant power supply (sold separately), support of multiple load sharing trunks (Fast EtherChannel), multiple Spanning Trees, and fast convergence software tools like PortFast and UplinkFast. This wide range of hardware and software fault tolerant tools enable the 2948G to provide the platform resiliency and fault tolerance required in today's mission critical networks.

Comprehensive Network Management of CiscoWorks2000

Cisco's powerful CiscoWorks 2000 network management products (option) manage catalyst 2948G series products. These management products focus on functions such as:

- Checking on device availability and configuration changes
- Provisioning of VLANs across multiple devices concurrently
- Representation of Layer-2 networks both physically and logically

The Essentials product suite leverages the power of the Intranet with browser-based access anywhere within the network. Network managers can walk up to any browser console, simply identify who they are via the access control interface, and immediately begin checking on the up-time of each device, the active software versions that are running the Catalyst 2948G, and print a year 2000 compliant report. For drill down real-time device status information, the network operations staff can launch Cisco's award winning CiscoView application from their fault management station and at a glance check on the health of the power supplies, line cards, and the operational status of each port.

For more sophisticated network-wide information network managers can launch the CWSI-Campus product bundle which automatically discovers the physical and logical representations of the Catalyst switch networks. This object-based discovery system offers detailed information on the location and type of each switch within the network, and the type of links that connect the switches together; it then displays integrity reports on the configurations between each switch. All of this information is provided graphically within the topology interface with search and location utilities. This topology interface offers a convenient launching point for other applications within CWSI-Campus including the RMON based traffic analysis application, the network-wide user location application, and the VLAN application which displays the logical configuration and spanning tree forwarding path information.

Intelligent, embedded agents in the 2948 switch include support for Cisco Discovery Protocol (CDP): delivering network topology discovery and mapping; and for Cisco's VLAN Trunking Protocol (VTP): supporting dynamic VLANs and dynamic trunk configurations across all switches. Embedded, intelligent RMON agents on every port deliver powerful traffic monitoring and control; RMON group support includes statistics, history, alarms and events.

Enhanced Switched Port Analyzer (SPAN) functionality enables the user to mirror traffic from any single port, multiple ports, or VLAN to another Ethernet or Fast Ethernet port for analysis by a remote sniffer or RMON SwitchProbe product. Support for local, out-of-band management is delivered through a terminal or modem attached to the EIA/TIA-232 interface; remote in-band management is available via Simple Network Management Protocol (SNMP), Telnet client, BOOTP, and Trivial File Transfer Protocol (TFTP).

- Low Cost of Entry, Easy to Deploy

For customers requiring up to 48 ports of 10/100 Ethernet connectivity at an affordable price, the Catalyst 2948G offers an ideal configuration of 10/100 autosensing Fast Ethernet mixed with modular Gigabit Ethernet switched Uplinks in a single platform. The 2948G will meet the Layer 2 bandwidth needs of advanced networks and provides a very affordable 10/100/1000 Mbps switched Ethernet solution plus enterprise resiliency and management with future-proof growth protection.

- Performance and Scalability for Today's Network

Catalyst 2948G is designed to meet all customer performance requirements and expectations, ranging from wire-speed performance on all ports simultaneously to the efficiency of load sharing trunks and flexible Gigabit Ethernet uplinks. With a 24 Gbps switch fabric capacity, the 2948G is non-blocking seven as the end user migrates from 10 Mbps Ethernet to Fast Ethernet, the switch capacity will always be greater than the total bandwidth requirement of all ports.

- Catalyst System Software Advantages

Building on the familiar features and interfaces of the award-winning Catalyst 5000 series switches, the Catalyst 2948G software shares the advantage of years of Catalyst 5000 Series enterprise feature development by supporting a consistent software feature-set. This is a tremendous competitive advantage over competitive products with embryonic or immature wiring closet feature-sets. The Catalyst 2948G provides easy plug-and-play insertion in your network, with seamless feature linkages to other Catalyst switches in the infrastructure.

- Investment Protection for Future Growth

Catalyst 2948G not only meets customers' switching needs today, but is carefully designed to meet future requirements as well. Many customers currently implement 10 Mbps Ethernet LANs. As these customers migrate to 100 Mbps Fast Ethernet LANs, the 2948G automatically adjusts the switch port to the new speed. This eliminates the need to replace the switch. Similarly, as customers need to change their Gigabit Ethernet cabling interface connection, the 2948G supports GBIC technology so they can choose either shortwave (1000BASE-SX) or longwave (1000BASE-LX/LH) or singlemode extended range (1000Base-ZX) interfaces, depending on network configuration requirements. If Gigabit interface requirements change, the GBICs can be easily and inexpensively changed.

Ongoing enhancements to the Catalyst System Software deliver one of the most important investment protection features of the Catalyst 2948G. Catalyst software is already the most comprehensive Layer 2 switching software in the industry. As new Catalyst System Software releases become available, the 2948G customer will have immediate access to the latest enhancements in critical areas like Quality of Service, Multicast, load balancing, and security. The Catalyst 2948G, because of its high performance architecture, will be capable of supporting these new features for years to come, effectively "future-proofing" this platform.

Summary

The Catalyst 2948G is a cost-effective, high performance, feature-rich Ethernet switch ideally suited for customers requiring Layer 2 switching for up to 48 10/100 desktop connections. The 2948G features a dedicated configuration of 48 10/100 Ethernet ports and two modular Gigabit Ethernet uplink ports. This new Catalyst has a non-blocking 24 Gbps architecture enabling all ports to operate simultaneously at wire speed. The two Gigabit uplinks support standard GBIC technology enabling the customer the flexibility to select and change Gigabit interfaces in the 2948G quickly, easily and inexpensively.

Fully integrated into the Catalyst family of switches, the 2948G uses the same Catalyst system software as the industry-leading Catalyst 5000/5500 platforms, thereby ensuring complete interoperability with existing Catalyst switches. The combination of high port density, wire-speed performance, rich software feature-set, and affordable cost-per-port makes the Catalyst 2948G an excellent choice for wiring closet implementations.

The powerful Catalyst 2948G enables new high-performance 10/100/1000 Ethernet solutions at a very attractive price/performance point. The Catalyst 2948G is designed to evolve Layer 2 Ethernet switching for the wiring closet.

Networks Benefit from Catalyst 2948G:

- Greater functionality of enterprise system software features
- Price/performance and density of high-speed Ethernet
- Improved cost-of-ownership
- Tighter network infrastructure integration

Specifications

Hardware

The Catalyst 2948G is the ideal wiring closet fixed Layer 2 switch for customers requiring increments of 48 ports of 10/100 Mbps Ethernet and two Gigabit Ethernet Uplinks. The 2948G features a non-blocking architecture and has the capacity to support all 10/100 ports at wire speed.

Software

All software part descriptions and part numbers for Cisco products can be accessed using the online Cisco Pricing Tool at http://www.cisco.com/cgi-bin/order/pricing_root.pl

Ordering Information

Product Part Numbers

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