Catalyst 1900 and Catalyst 2820

The new Catalyst 1900 and 2820 standalone switches are ideally positioned to replace shared 10BaseT hubs in the wiring closet with feature-rich switched Ethernet capability to the desktop at an aggressive price. These switches are part of Cisco's Catalyst family, a comprehensive line of high-performance switches designed to help users easily migrate from traditional shared LANs to fully switched networks.

The Catalyst 1900 delivers the industry's best price/performance value for today's Ethernet networks. For an extremely low price per port, these switches offer an affordable, high-performance alternative to shared 10BaseT hubs. The Catalyst 1900 features 25 switched Ethernet ports providing attachment to individual workstations and 10BaseT hubs, and two 100BaseT ports for high speed connectivity to servers and backbones.

The Catalyst 1900 and 2820 switches deliver exceptional price/performance value for desktop switching applications

Starting at a very low price per port, the Catalyst 2820 is ideal for Ethernet workgroups requiring increased performance and 100BaseT, Fiber Distributed Data Interface (FDDI), or future Asynchronous Transfer Mode (ATM) connectivity to servers and backbones. The Catalyst 2820 has 25 switched Ethernet ports and two high-speed expansion slots. Field-installable modules provide configuration, wiring, and backbone flexibility with a choice of 100BaseT, FDDI, and future ATM modules available, which support Category 5 unshielded twisted pair (UTP) or fiber optic cabling.

Application

Catalyst 1900 and 2820 switches boost network performance in small and large workgroups and offer a choice of high-speed uplink options for connection to Cisco routers and other Catalyst switches. Branch offices can link switches via 10 Mbps Ethernet to Cisco access routers for forwarding traffic to headquarters locations.

CISCO SYSTEMS

Key Features/Benefits

Performance

- Twenty-four switched 10BaseT ports and a 25th AUI port deliver 10 Mbps of bandwidth to users and workgroups, supporting bandwidth-intensive applications
- Two switched 100BaseT ports provide 100-Mbps connectivity to servers and backbones, eliminating bottlenecks (Catalyst 1900 available in two models with either two 100BaseTX ports or a combination of one 100BaseTX and one 100BaseFX port)
- Two high speed expansion slots for 100BaseT, FDDI, and future ATM modules provide maximum configuration and backbone flexibility (Catalyst 2820)
- CollisionFree® 100BaseT full-duplex operation delivers up to 200 Mbps throughput to servers and between switches, and up to 2 kilometers (km) distance when using fiber
- Non-blocking, ClearChannel architecture delivers exceptional performance with up to 320 Mbps maximum forwarding bandwidth and 450,000 packets per second (pps) aggregate packet forwarding rate
- Shared memory architecture with 3 megabyte (MB) packet buffer virtually eliminates packet loss
- Choice of cut-through or store-and-forward switching lets administrators optimize for performance or error checking
- Per port broadcast storm control prevents faulty end stations from degrading overall system performance with broadcasts storms
- Cisco Group Multicast Protocol (CGMP) enables a switch to selectively forward routed IP multicast traffic to targeted multimedia end stations, reducing overall network traffic

Security and Fault-Tolerance

- Secure address options give administrative control over network access for security-sensitive applications
- IEEE 802.1d Spanning Tree Protocol (STP) support for redundant backbone connections and loop-free networks simplifies network configuration and improves fault tolerance
- An optional, external, Redundant Power Supply (RPS) provides a redundant power source for up to four switches, improving fault tolerance and enhancing network uptime

Management

- Telnet, Simple Network Management Protocol (SNMP) and FDDI Station Management (SMT) support provide comprehensive in-band manageability, and a menu-based management console provides out-of-band manageability

- SwitchProbe™ Analyzer (SPAN) interface allows monitoring and capturing of traffic from any port, group of ports, or the entire switch from a single remote monitoring (RMON) probe or other network analyzer
- Port-configurable intraswitch virtual LANs (VLANs) provide broadcast traffic control, firewall protection and simplified adds, moves, and changes
- Cisco Discovery Protocol (CDP) enables a CiscoView network management station to automatically discover the switch in a network topology
- Embedded RMON software agent supports 4 RMON groups for enhanced manageability, network monitoring, and traffic analysis

Specifications

Performance

- One gigabit-per-second (Gbps) bus
- Up to 320-Mbps maximum forwarding bandwidth
- Packet forwarding rates (64-byte packets):
  - 14,880 packets per second (pps) to 10BaseT ports
  - 133,980 pps to 100BaseT ports
  - Up to 100,000 pps to FDDI ports
- Latency (FastForward™ switching mode):
  - 31 microseconds between 10BaseT ports
  - 7 microseconds between 100BaseT ports

Network Management Support

- CiscoView (optional)
- SNMP MIB extensions
- FDDI SMT 7.3
- Telnet console
- RMON (RFC 1757, groups 1, 2, 3, 9)
- SNMP MIB II (RFC 1213)
- Bridging MIB (RFC 1493)
- FDDI MIB (RFC 1512)
- Out-of-band management

Frame Processing

- Destination address filtering
- Flooding Control option prevents ports from receiving traffic destined to unknown addresses
- Selectable switching options:
  - FastForward-forward after destination address
  - FragmentFree™-forward after collision window
  - Store-and-Forward-forward after packet receipt

Indicators and Interfaces

- 10BaseT ports:
  - RJ-45 connectors for 24 ports, Attachment Unit Interface (AUI) connector for 25th port
  - Two-pair Category 3, 4, or 5 UTP wiring (RJ-45)
  - Supports standard transceivers (AUI)
- 100BaseTX ports (Catalyst 1900):
  - RJ-45 connectors
  - Two pair Category 5 UTP wiring
- 100BaseFX port (Catalyst 1900):
  - SC connector
  - Support for 50/125—and 62.5/125—micron multimode fiber-optic cabling
- RS-232 management console port: DB-9 connector
- Per-port status LEDs—Link Integrity, Disabled, Activity, and Full Duplex Indication
- System status LEDs—System, RPS, Module Enabled, and Utilization Meter Indication

Buffers and Addressing

- Buffer: 3-MB dynamically shared memory
- Addresses: 1024 per system (Catalyst 1900), 2048 or 8192 per system (Catalyst 2820)

Dimensions/Weight

- Dimensions (h x w x d):
  1.73 x 17.5 x 15.3 in/4.39 x 44.45 x 38.86 cm
  (Catalyst 1900)
  3.43 x 17.5 x 12.4 in/8.76 x 44.45 x 31 cm
  (Catalyst 2820)
- Weight: 10.5 lbs/4.78 kg (Catalyst 1900), 13 lbs/5.9 kg (Catalyst 2820)

Environmental Conditions and Power Requirements

- Operating temperature: 23 to 113°F (-5 to 45°C)
- Operating relative humidity: 10 to 95% noncondensing
- Operating altitude: up to 9843 ft (3000 m)
- Power consumption: 65 watts (Catalyst 1900), 110 watts (Catalyst 2820)
- Input voltage: 90 to 250 volts, 50 to 60 Hz

Safety Certifications

- UL 1950
- CSA 950
- EN 60950
- IEC 950

Electromagnetic Emissions Certifications

- FCC Class B
- CE Marking
- EN 55022B
- VCCI II