

Catalyst 3200

Introduction

The Catalyst 3200 is a flexible, scalable and high performance member of the stackable Catalyst 3000 family. Its flexibility is derived from its ability to utilize a variety of Catalyst 3000 media modules such as 100BaseTX, 100BaseFX, 100VG AnyLAN TX, 100VG AnyLAN FX, 10BaseT, 10BaseFL and ATM. Combined with its unique stack architecture, the Catalyst 3200 can be configured in numerous ways through the use of any combination of these easily installed media modules. Flexibility continues with the Catalyst 3200 with its ability to utilize the new WAN access module that can be easily installed providing WAN connectivity to all devices connected to the switch.

As part of the Catalyst 3000 family, the Catalyst 3200 is stackable, allowing networks to grow seamlessly. The unique distributed software architecture of the Catalyst 3000 family allows additional switches to be added to provide additional ports of connectivity without the nuisance of reconfiguration or setup of a new device. The Catalyst 3200 can be stacked with up to seven other Catalyst 3000s, Catalyst 3100s or other Catalyst 3200s using one common Catalyst Matrix to provide up to 3.84 Gbps of bandwidth. All of the switched ports in a Catalyst 3000 family stack (within the same VLAN segment) can access the WAN through the 3011 WAN access module allowing all users in the stack instant WAN access.

Each of the ports on the Catalyst 3200 provides dedicated 10, 100 or 155 Mbps of bandwidth delivering higher bandwidth than any shared media network solutions. These switched ports can be connected to individual devices such as servers, workstations, other switches or routers. The Catalyst 3000 family can also be connected to shared media hubs providing high performance but affordable backbone solution for smaller organizations or branch offices. The Catalyst 3200 provides low latency Cut-Through switching for high performance connectivity which automatically switches to Store and Forward switching mode when error rates exceed normal levels. This minimizes the number of errors and retransmittals on the network. When the error rate within the network returns to an acceptable level, the Catalyst 3200 automatically reverts back to the low latency, Cut-Through mode to provide optimum performance.

Figure 1 Catalyst 3200 Configured with Optional Expansion and WAN Modules



Catalyst 3200 Highlights

- **Flexibility:** The Catalyst 3200 is a modular chassis with seven module slots. Six of these slots can be filled with Catalyst 3000 family switched media modules such as 10BaseT, 100BaseTX, 10BaseFL, 100BaseFX, 100VG-TX, 100VG-FX and ATM. Almost any combination of these media modules can be used to create a high performance switch tailored to specific branch office or wiring closet environments. In addition, the Catalyst 3200 has one FlexSlot for use with the 3011 WAN module. A future FlexSlot option will provide complete WAN connectivity as well as layer 3 switching capabilities. This FlexSlot can also utilize one additional Catalyst 3000 switched media module in lieu of the router card capability.
- **Expandability:** The unique distributed switch operating system allows multiple members of the Catalyst 3000 family of switches to be added or changed without requiring the administrator to take the network off line. In addition, the distributed operating system allows switches to sense one another, automatically configuring themselves and simultaneously reporting configuration information to the network management station. The Catalyst 3000 family stack is managed as one logical entity making easier for administering network change and growth. Two Catalyst 3000 family switches can be stacked together by simply connecting the StackPort interface in a back to back configuration. Up to 8 Catalyst 3000s/3100s/3200s can be interconnected in a stack configuration through the 3.84 Gbps Catalyst Matrix and StackPorts.
- **Performance:** Features wire speed performance (media rate for (28) 10 Mbps Ethernet segments) with low-latency using adaptive cut-through switching as well the ability to utilize store and forward switching for environments where high error rates exist. Dual power supplies are included with each Catalyst 3200 providing fault tolerance in those networks which require maximum network uptime.

- **Family Compatibility:** The Catalyst 3200 is part of the Catalyst 3000 family of products. All the existing modules for the Catalyst 3000 can be used with the Catalyst 3200 standard slots. In addition, the Catalyst 3200 can be stacked with up to 7 additional Catalyst 3000s, 3100s, or 3200s by using the Catalyst 3000 Matrix.
- **VLAN:** The Catalyst 3000 family offers both intra- and interswitch virtual LAN (VLAN) support. A maximum of 64 VLANs are supported per switch. The Catalyst 3000 family also includes external traffic monitoring capability which allows network managers to monitor traffic within and between VLANs.
- **End-to-end network management offerings:** Includes integrated device, VLAN, and traffic management with Simple Network Management Protocol (SNMP), 802.1d spanning-tree, filtering options, RMON, SPAN, and Cisco management applications support.

Catalyst 3200 Applications

The Catalyst 3200 cost-effectively addresses branch office connectivity and switching applications, and has the flexibility of switch stackability to accommodate incremental growth as well. Applications include:

Flexibility for Branch Offices and Workgroups

The Catalyst 3200 is an ethernet switch with the ability to add a router module which provides WAN access, all within one integrated device. As these branch offices grow, additional Catalyst 3200s, Catalyst 3100s or Catalyst 3000s can be stacked together for a very simple but high performance growth migration path. In addition, as the stack grows, new users in the stack are now given access to the WAN through the 280 Mbps StackPort and the common 3011 WAN module.

In a mixed media workgroup environment, the Catalyst 3200 can be configured in numerous ways to create a device furnishing a wide variety of connectivity and media combinations.

By employing the CiscoWorks™ for Switched Internetworks (CWSI) management tools, network managers provide network manageability of an entire enterprise network, from home office to branch office.

Switched VLAN Feeder

The Catalyst 3200 can provide effective VLAN capabilities as well as segregate workgroup traffic across the switched internetwork. Using either LANE or the InterSwitch Link (ISL) protocol, the Catalyst 3200 can trunk over 64 configurable VLANs across the switched internetwork. Similarly, the Catalyst 3200 can also employ ATM LAN Emulation (LANE) for switched workgroup traffic across an ATM backbone. With the use of the future layer 3 switching/WAN module in the FlexSlot, each VLAN can be routed through this very fast integrated router for security and broadcast containment. In addition, the VLAN/WAN module allows each of the VLANs to access the WAN by means of its very high performance routing engine.

Features/Benefits

Extensive Traffic/Network Management

- Entire stack formed with Catalyst Matrix can be managed as one entity, simplifying use and minimizing reconfigurations and troubleshooting
- Supports up to 64 internal VLANs for easy creation and maintenance of multiple broadcast domains
- Optional RMON support (4 groups) providing diagnostics, baselining and analysis of network traffic.
- E-SPAN allows Sniffers, Cisco SwitchProbes and other network analyzers to monitor any port or segments within the switch through the standard SwitchProbe port.
- Supports IEEE 802.1d spanning-tree for network loop detection and disabling (particularly useful in larger networks) and for fault-tolerant connectivity
- Supports Telnet, remote dial-up modem, out-of-band administrative interface. New software releases can be downloaded either locally or over the network.
- Cisco Discovery Protocol (CDP) support, allowing devices to discover other Cisco devices on the network. This aids in efficient construction of VLANs across the internetwork
- Provides CiscoView GUI-based comprehensive network management support, allowing easy point-and-click discovery of device status, statistics and comprehensive per-port configuration and performance information

Fault Tolerant

Redundant power supplies for fault tolerance.

Ease of Use

- Variety of connectors and media types allows use of the Catalyst 3200 in a variety of network topologies and cabling plants
- Media types and connectors include: 100BaseTX (RJ-45); ATM (SC); 10BaseFL (ST); 100BaseFX (ST); 100BaseFX with ISL (SC); 10BaseT (RJ-45); 100VGAnyLan (RJ-45); 100VGAnyLan (SC).
- Power-up diagnostics to aid troubleshooting

Additional information on all Catalyst 3000 media modules and Catalyst 3200 router options can be found in their individual datasheets.

Specifications

Hardware

- Physical Dimensions
 - Catalyst 3200
 - Width: 17 in
 - Height: 6 in
 - Depth: 13.6 in
 - Weight: 32 lb.
 - Catalyst Matrix
 - Depth: 13.4 in (34 cm)
 - Width: 17 in (43 cm)
 - Height: 3.5 in (8.76 cm)
 - Weight: 14 lb. (6.35 kg)

Environmental Ranges

- Operating temperature: (10 to 40 C)
- Operating humidity: Operating 8% to 80%, no condensing
- Storage temperature: (-25 to 75 C)
- Storage altitude: 40,000 ft.
- Power: 90 to 264 VAC autosensing
- Frequency: 47 to 63 Hz
- AC current rating: 4 A @ 120v; 2 A @220V

Buffers and Addressing

- Buffers: 192 KB per 10 Mbps port; 256 KB per 100 Mbps port
- Memory: 8Mb per system
- Addresses: 1700/port, 10,000/system
- Latency: 40 microseconds
- Network Management Support
- Telnet
- SNMP MIB II (RFC 1213)
- Bridging MIB (RFC 1493)
- 802.1D spanning-tree MIB
- Ethernet MIB
- CiscoView

Regulatory Approvals

- EMI
 - FCC Class A (CFR 47, Part 15)
 - CE Mark
 - EN55022 Class B
 - VCCI Class 2
- Safety
 - CSA-C22.2 No. 950-93
 - EN60950
 - UL1950



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