3Com® SuperStack® 3 Switch 3200 Family

Key Benefits

Performance
Wirespeed, non-blocking Layer 2/3 switching for 10/100 desktop connections with built-in Gigabit downlinks. Packet prioritization gives optimal performance to real-time applications such as voice and video. Link aggregation of the downlinks enables high-performance connectivity to the core of the network, with resiliency to improve availability and uptime. Layer 3 switching at the edge enables fast switching of traffic between local subnets while offloading routers in the core of the network.

Flexibility
Available in managed 50- or 26-port configurations, with 48 or 24 autosensing 10/100 ports and two dual-personality ports for 10/100/1000 or SFP connectivity.

Ease of Use
Supports dynamic routing through RIP, with automatic updating of the Layer 3 network without any manual intervention. Much easier than implementing static routes.
Automatically auto-negotiates speed and duplex mode of cables connected to it preventing misconfiguration of the network. Switches detect and adjust to cross-over or straight-through cable connections—a feature called auto MDI/MDIX—eliminating the need for specific crossover cables.

Scalability
Supports up to 2,000 external routes, allowing the switch to scale as the network grows—ideal for deployments at the edge of a network. Supports up to 255 VLANs and standards-based IEEE 802.3ad trunking (LACP).
Rate limiting enables the bandwidth on each port to be restricted, preserving network bandwidth and allowing maximum control of network resources.

Security
Supports IEEE 802.1X network login to secure user entry into the network, with access control directed from a central standards-based RADIUS server for ease of management. Intrusion prevention features protect the network and will discard all packets from unauthenticated users.
Port-based Access Control Lists further enhance security. Communication of attached stations can be restricted to certain destinations, in essence segmenting the network into more secure areas.
Management of the switch can be implemented using Secure Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encryption (56 or 168 bit) preventing unauthorized remote access to the switch over IP networks or from a web browser.

Network Control
Network management through embedded web interface, command line interface, or an SNMP management station. Network management is further simplified with the use of 3Com Network Supervisor for configuration and troubleshooting of multiple devices on the network.

Limited Lifetime Warranty
Limited Lifetime hardware warranty. Next Business Day Advanced Hardware Replacement in most countries.*

* Available in the U.S. and E.U. countries
3Com® SuperStack® 3 Switch 3200 family switches are wirespeed, Layer 3 switches with 10/100 desktop connections and Gigabit downlinks for high performance connectivity to the rest of the network. These switches support dynamic Layer 3 routing, simplifying the implementation of Layer 3 networks by automatically configuring and updating the switch with all topology changes. This ability to dynamically reconfigure the routing provides a significant benefit over the use of static routes, avoiding the drawback of many Layer 3 switches which require manual intervention when changing the topology of the network.

The SuperStack 3 Switch 3200 is optimized for edge desktop connections. Layer 3 switching for the network’s edge, with the Switch 3200’s hardware-based wirespeed routing, improves performance by routing locally without data having to travel back to the network core. This is especially useful in organizations having or anticipating multiple subnets in their workgroups, where even local traffic may otherwise need to be routed via a core switch.

Also, for edge-optimized deployment, the SuperStack 3 Switch 3200 supports the learning of up to 2,000 IP routes through an uplink to a core router using Router Internet Protocol (RIP). This high number of routes enables the switch to operate in larger networks than can other switches which have significantly smaller numbers of routes.

The SuperStack 3 Switch 3200 also supports core-level switching in smaller networks, with local routing for 32 IP interfaces and up to 14 routes distributed from other local Layer 3 devices.

The SuperStack 3 Switch 3200 family confirms 3Com’s commitment to strong network security. Its implementation of IEEE 802.1X network login security helps ensure all users are authorized before being granted access to any network resource. User authentication is carried out using any standards-based RADIUS server, avoiding any proprietary authentication mechanisms.

Containment of users to specific areas of the network can be easily controlled through Access Control Lists (ACLs), restricting the IP addresses with which a port can communicate.

3Com backs these products with more than 25 years of networking experience. They come with a Limited Lifetime product hardware warranty and limited lifetime access to software updates, along with Next Business Day Advanced Hardware Replacement.*
### Features

#### Performance

| Switching capacity: SuperStack 3 Switch 3226, 8.8 Gbps; Switch 3250, 13.6 Gbps |
| Forwarding rate: Switch 3226, 6.6 Mpps; Switch 3250, 10.1 Mpps |
| Store-and-forward switching; latency <12 µs |

#### Layer 2 Switching

| MAC Address | 8K MAC addresses |
| VLAN | 255 VLANs (IEEE 802.1Q) |
| Link Aggregation | IEEE 802.1ad (LACP), Gigabit ports only |
| Auto-negotiation | Auto-negotiation of port speed, duplex, and connection (MDI/MDIX) |
| Traffic control | IEEE 802.3x full-duplex flow control |
| | Back pressure flow control for half-duplex |
| | Supports Broadcast Storm Suppression (3,000 pps threshold) |

#### STP/RSTP

| IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) |
| Backward-compatible with STP |
| Fast-start mode |
| Spanning tree enable/disable per port |

#### Layer 3 Switching

| Routes | Hardware based routing |
| | 2,000 IP routes |
| | 1,990 dynamic and 10 static ARP (Address Resolution Protocol) entries |
| IP Routing | 32 IP interfaces |
| | Multi-netting (multiple IP interfaces per VLAN) |
| | RIP (Routing Information Protocol), v1 and v2 |
| | • Split Horizon |
| | • Split Horizon with poisoned reverse |
| | • Triggered updates |
| | • MD5 authentication of the RIP packets |
| | • Password authenticated RIP packets |
| | • Host route advertisements |

#### Multicast

| Filtering for 64 multicast groups |
| IGMP (Internet Group Management Protocol) snooping on Layer 2 interfaces |
| IGMP v1 and v2 |
| IGMP Querier |

#### Network protocol

| DHCP (Dynamic Host Configuration Protocol) Helper/Relay |
| UDP Helper |
| ARP, ARP Proxy |

#### Convergence

| Priority Queues | Four hardware queues per port |
| | Weighted Round Robin queuing |

#### Traffic Prioritization

| Priority based on: |
| • DSCP (DiffServ Code Point) |
| • IEEE 802.1p Class of Service (CoS) VLAN priority |
| • TCP/UDP destination port number |
| • Default port priority |
| • Auto classification of 3Com NBX® telephony traffic |

#### Bandwidth Management

| Port-based bandwidth management: |
| • 1 Mbps increments (10/100 ports) |
| • 8 Mbps increments (Gigabit ports) |
### Security

| Network Login | IEEE 802.1X user authentication  
|               | • RADIUS authentication  
|               | • Secure Mode (locks MAC address) |
| Access Control Lists | Port-based ACLs  
|               | • Filtered on destination IP address / mask  
|               | • One ACL per port  
|               | • 32 unique ACLs per switch  
|               | • 32 rules per ACL (10/100 ports) |
| Switch Protocol Security | MD5 cipher-text and clear-text authentication for RIP v2 packets |
| Switch Management | Local or RADIUS management of switch passwords  
|               | Trusted IP Management Addresses  
|               | Telnet  
|               | • SSH v1 (56bit DES)  
|               | • SSH v2 (requires free software upgrade)  
|               | SSL (HTTPS)  
|               | • 40 Bit  
|               | • 56 Bit DES  
|               | • 128 Bit RC4 (requires free software upgrade) |

### Resiliency

- Support for 3Com Advanced Redundant Power Supply; provides backup power to the switch
- Dual software images
- Backup and restore of switch settings

### Management

| Remote Management | SNMP v1 |
| Software | Dual software images  
|           | Backup and restore  
|           | TFTP configuration: upload/download  
|           | TFTP agent: upload |
| Configuration | Command line  
|               | Serial (9-pin, D-type connector)  
|               | Telnet  
|               | Web-based  
|               | SNMP |
| Mirror port / RAP (Roving Analysis Port) | One-to-one |
| RMON (Remote Monitoring) | Four groups: statistics, history, alarm, and events |
| IP address allocation | DHCP  
|                       | Manual  
|                       | User-selectable management VLAN |
| Switch access levels | 2 access levels  
|                       | 16 user accounts |
| Remote management | 3Com Network Supervisor (*copy provided with product*)  
|                    | • Topology discovery  
|                    | • Change management reporting  
|                    | • Capacity planning  
|                    | • Event logging  
|                    | • Fault identification and troubleshooting  
|                    | • Utilization monitoring |
### Ordering Information

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To learn more about 3Com solutions, visit www.3com.com. 3Com Corporation is publicly traded on NASDAQ under the symbol COMS.

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### Specifications

**Environmental Requirements**
- Operating temperature: 0° to 40°C (32° to 104°F)
- Storage temperature: -40° to 70°C (-40° to 158°F)
- Humidity: 10% to 90% non-condensing

**MTBF**
- SuperStack 3 Switch 3226: 51 years (447,000 hours)
- SuperStack 3 Switch 3250: 36 years (331,000 hours)

**Industry Standards Supported**
- Ethernet Protocols:
  - IEEE 802.3z (Fiber Gigabit)
  - IEEE 802.3x (Flow Control)
  - IEEE 802.3u (Fast Ethernet)
  - IEEE 802.3i (10BASE-T)
  - IEEE 802.1Q (VLANs)
  - IEEE 802.1p (CoS)
  - IEEE 802.1d (Link Aggregation)
  - IEEE 802.3ad (Link Aggregation)

- IEEE 802.1X (Security)
- IEEE 802.1w (RSTP)
- IEEE 802.1Q (VLANs)
- IEEE 802.1p (CoS)

**Administration Protocols**
- RFC 1519 (CIDR)
- RFC 1518 (IPv4)
- RFC 1724 (RIP V2 MIB Extension)
- RFC 1573 (Private IF MIB)
- RFC 1493 (Bridge MIB)

**Management, including MIBs Supported**
- RFC 2013 UDP-MIB
- RFC 2012 TCP-MIB
- RFC 2011 IP-MIB
- RFC 1723 (RIP v2)
- RFC 1518 (CIDR)
- RFC 1757 RMON MIB
- RFC 1398 Ethernet MIB
- RFC 1213 (MIB II)
- RFC 826 (ARP)
- RFC 791 (IP)
- RFC 793 (TCP)
- RFC 2737 Entity MIB
- RFC 2674P P-BRIDGE-MIB
- RFC 2674Q Q-BRIDGE-MIB
- RFC 2665 Ethernet-MIB
- RFC 1493 (Bridge-MIB)
- RFC 1573 (Private IF-MIB)
- RFC 1724 (RIP v2 MIB Extension)
- RFC 1757 RMON MIB
- RFC 2011 IP-MIB
- RFC 2012 TCP-MIB

**Emissions / Agency Approvals**
- CISPR 22: 1995; Class A
- FCC Part 15 subpart B, Class A
- EN 55022: 1998; Class A
- IEC 60950: 2001; all national deviations
- EN 60950: 2001; all national deviations

**Safety Agency Certifications**
- CSA 22.2 # 60950-00
- UL 60950-1
- EN 55024: 1998; Class A
- EN 61000-3-2: 2000
- EN 61000-3-3: 1995 +A1
- IEC 61000-3-2: 2000
- IEC 61000-3-3: 1995 +A1

**Redundant Power**
- 3Com SuperStack 3 Advanced 3C16071B
- 3Com SuperStack 3 Advanced 3C16075

**Other Benefits**
- Limited Lifetime software updates
- Next Business Day Advanced Hardware Replacement in U.S. and E.U., after registration of the switch.