Data Sheet

SUMMIT®200-24
SUMMIT®200-48

Ideal Edge Switch Solution: Performance, Security, and Manageability

The Summit 200 switch family redefines edge switch connectivity by delivering advanced features found in much more expensive Layer 3 switches with the price competitiveness and ease of connectivity of a traditional Layer 2 switch. The most demanding edge customers can now have it all: High performance, enhanced security, greatest network availability, true end-to-end manageability and advanced Layer 3 switching services, in a surprisingly compact 1 rack unit package.

Based on award-winning ExtremeWare® Layer 3 software, the Summit 200 delivers 24- or 48-ports of 10/100 Ethernet with four physical Gigabit Ethernet uplinks (two active and two redundant). Every port delivers a vast array of ExtremeWare Layer 3 and Layer 2 features; everything from OSPF routing and advanced Quality of Service (QoS) classification to the latest advancements in security, such as Network Login. Once again, Extreme Networks® demonstrates why it is the leader in Layer 3 switching.

Summit 200 Customer Benefits

High Performance:

- Non-blocking wire-speed capabilities ensure performance for the most demanding applications.
- DiffServ and 802.1p deliver varied levels of service for time sensitive applications. It ensures efficient bandwith usage.
- 4 hardware queues provide granularity for multiple applications, and guarantee low latency/low jitter for time sensitive applications (Voice & Multimedia).

Scalability:

- Higher port density in 1 RU footprint allows for maximum use of rack space.

Highest Level of Network Availability

- **Redundant copper and fiber Gigabit uplinks** enable true high availability as Summit 200 immediately is able to failover to the redundant port and the user's application is unaffected. The user stays connected to the network and remains productive.
- Enterprise customers can now rely on an unmatched failover time traditionally reserved for carriers (50ms) in their LAN network. The Summit 200 Guarantees connectivity and productivity with advanced high availability features, such as **sub-second failover Ethernet Automatic Protection Switching** (EAPS, RFC 3619) to deliver sub-second (less than 50 msec recovery) protection switching to interconnected switches in an Ethernet ring topology. EAPS is similar to the Spanning Tree Protocol (STP), but offers the advantage of converging in significantly less time than STP or even Rapid Spanning Tree (802.1W) when a link breaks in the ring.
- Dual-homed configurations.

Highest Security for Control and Data:

- **SSHv2** allows Network Managers to securely configure the box remotely without any risk of packet snooping or man in the middle attack. **SSHv2, denial of service, TACACS+ and RADIUS** support bring reliable secure configuration traffic (encryption) and authentication.
- With **IEEE 802.1x login**, Network Managers can always control who is connected to the network and prevent unauthorized clients from gaining access to the network.
- **Web-based Network Login:** Web-based network login does not require any specific client software and can work with any HTTP compliant web browser and thus is independent of platform. Every user on every port can be authenticated so the network is protected at the most sensitive point of attack – at the edge.
- Multiple Supplicant (client) feature enables multiple clients to be individually authenticated on the same port. Thus it is possible for two client stations to be connected to the same port, with one being authenticated and the other not.
- Wire speed Layer 2-4 Access Control Lists on every port for maximum security while maintaining maximum throughput.

True End-to-End Manageability:

- True end-to-end management resulting in lower operational costs, less training, while maximizing network uptime.

Superior Services:

- **ExtremeWare Layer 3 features:** Years of development enable ExtremeWare to deliver the most comprehensive Layer 3 advanced software solution set at the edge allowing customers to easily expand and add new services to their network without major changes.

Maximum 10/100 Performance with Minimum Cost of Ownership

The Summit 200 delivers an increase in 10/100 Ethernet scalability while reducing the cost per Layer 3 port to very affordable levels. Requiring only 1.75" of rack space (1 RU), the Summit 200 supports up to 48 ports of RJ-45 copper 10/100 Ethernet and four Gigabit Ethernet ports (two 1000BASE-T RJ-45 copper ports and two fiber gigabit ports). Summit 200 gigabit uplink ports provide the added flexibility of port redundancy between copper and fiber ports, enabling backup links to the active uplinks with sub-second (50 msec) failover capability. And with Summit 200's non-blocking architecture, you'll get full performance to the edge of every user at the network.

More 10/100 density and line rate performance sometimes means higher price, but not with the Summit 200! The groundbreaking design of this new platform enables Extreme Networks to price Layer 3 services on the Summit 200 at less than the competition's Layer 2 price. Customers get more density, higher performance, and a lower cost from Extreme Networks and the Summit 200.

Intelligence at the Edge – Where You Need It

Customers need both Layer 2 and Layer 3 intelligent services at the edge to ensure maximum network efficiency, and the Summit 200 delivers the best Layer 2/3 features set at the edge. Intelligence supports security to prevent unauthorized access, high availability to ensure network uptime, common manageability to reduce expenses–the very features that customers require at the edge of the network.

The Summit 200 supports advanced Layer 3 services like RIP, OSPF, Network Address Translation, and Layer 2-4 ACLs. The Summit 200 also supports Layer 2 services like QoS classification, dynamic VLANs, Extreme Automatic Protection Switching (EAPS), and Access Control Lists. But the Summit 200 is the only edge switch on the market capable of supporting ExtremeWare Layer 2 and advanced Layer 3 features yet priced lower than many "entry level" Layer 2 switches. End users can now enjoy new services like better security, faster forwarding and routing, and more uptime because the Summit 200 supports ExtremeWare Layer 2 and Layer 3 services today!

End-to-End Solution–Edge, Aggregation, and Core

The Summit 200 is fully integrated into Extreme's edge, aggregation, and core end-to-end solution. ExtremeWare Layer 2 and Layer 3 features implemented in the Summit 200 are shared with all other Extreme platforms in the Summit product line as well as with Alpine™ and BlackDiamond® switches. This common code base makes it easy to configure features like Access Control Lists, automatic protection switching, etc. commonly throughout the network. The Summit 200 also uses the same command line interface (CLI), EPICenter™ graphical management interface and the same management commands as other Extreme Networks switches so training time and expense are reduced as management expertise can be shared over an entire network solution. Integration of the Summit 200 into Extreme's end-to-end solution will reduce the cost of networking and significantly improve the overall efficiency of the network.

Summit 200 Feature Set Summary

Hardware Features

- 24 and 48 10/100 auto-negotiating Ethernet ports in a 1 RU
- footprint allow more network connections per inch of rack space
- 2-10/100/1000BASE-T copper ports and 2 mini-GBIC ports
- deliver two active gigabit uplinks for greater throughput and two
- redundant uplinks
- Single AC power supply

Performance Features

- Non-blocking wire-speed architecture
- 13.6 Gbps switch fabric (Summit 200-48), 8.8 Gbps switch fabric on the Summit 200-24 enabling all 10/100 ports to operate at line rate
- Flow-based central rate limiting that can be applied to any classified packet flow
- 255 port based and MAC based VLANs
- 8,191 MAC addresses
- 4 hardware queues per port
- 4 Gigabit Ethernet uplink ports, 2 active and 2 redundant with Layer 1 failover
- ACLs for optimal security and diverse traffic classification

Management Features

- Serial management port on the front panel for ease of installation
- Extensive management through SNMP, RMON and command line interface
- Secure remote management with strong encryption using SSH2
- Port mirroring

ExtremeWare Intelligent Services

- Security Features
  - Network Login
  - 802.1x
  - Web based Network Login
  - SSH2 server
  - Layer 2/3/4 Access Control points
  - Denial of Service (DoS)
  - RADIUS support
  - TACACS+ support
- QoS
  - 4 priority queues
  - 802.1p priority marking
  - Layer 2 classification
  - Layer 3 DiffServ
  - Layer 2/3/4 Access Control Lists (ACLs)
- Routing
  - RIP v1/v2
  - OSPF Edge
  - Extreme Standby Router Protocol aware (ESRP)
- Multicast
  - IGMP v1/v2
  - IGMP snooping
  - PIM/SM edge
- Ethernet Automatic Protection Switching-edge (EAPS-edge)
- Network Address Translation
- Multicast-edge
- Stacking

Summit 200 Product Specifications

Switch Fabric
Bandwidth, Gbps: non-blocking
13.6 Gbps (Summit 200-48),
8.8 Gbps (Summit 200-24)
Forwarding Rate
10.15 million packets/second (Summit 200-48)
6.55 million packets/second (Summit 200-24)
Max Packet Size: 1522
Ports
24/48 RJ-45 10/100 ports (IEEE 802.3
Type 10BASE-T; 802.3u Type 100BASE-TX)
2 dual personality ports: Either RJ-45 10/100/1000 ports
(IEEE 802.3 Type 10BASE-T; 802.3u Type 100BASE-TX;
802.3ab 1000BASE-T Gigabit Ethernet) or open mini-GBIC slot
General
Number of QoS queues/port: 4
Number of VLANs: 255
VLAN Types: Port, IEEE 802.1Q, and MAC-based
Number of ACL Rules/lines: 1014
(can be applied to either ingress or egress)
Forwarding Tables:
Layer 2/MAC addresses: 8K
Layer 3 forwarding database in hardware: 2K
Layer 3 routing table size: 8K
Rate Limiting:
Flow-based bandwidth policing/rate limiting: pool of 315 rate limiters that can be applied to any classified ACL flow (including ingress or egress flows)
Rate Limiting Granularity: 1Mb/s on 10/100BASE-T ports. 8Mb/s on 1000BASE-T ports
Physical and Environmental
Dimensions
Height, Inches/Cm: 1.75 Inches / 4.45 Cm
Width, Inches/Cm: 17.32 Inches / 44 Cm
Depth, Inches/Cm:
Summit 200-48: 12.2 Inches / 31 Cm
Summit 200-24: 8.1 Inches / 20.85 Cm
Weight, Lbs/Kg:
Summit 200-48: 9.7 lbs/4.4Kg
Summit 200-24: 5.72 lbs/2.6Kg
Operating Temperature Range,
Degrees Celsius/Fahrenheit: -40° to 40° C (-40° to 104° F)
Storage Temperature Range,
Degrees/Degrees Celsius: -40° to +70° C (-40° to 158° F)
Humidity Range: 10-95% (RH) non-condensing
Power
Min Voltage/Associated Current:
Summit 200-48: 100VAC / 0.640A
Summit 200-24: 100VAC / 0.414A
Max Voltage/Associated Current:
Summit 200-48: 240VAC / 0.328A
Summit 200-24: 240VAC / 0.223A
Heat Dissipation, Watts/BTU:
Summit 200-48: 48W / 164 BTU/hr
Summit 200-24: 24.1W / 82 BTU/hr
Acoustic
Summit 200-24: 51.7 dBA - Sound Pressure
Summit 200-48: 51.6 dBA - Sound Pressure

Regulatory
Safety
North America
cULus Listed device – UL 60950 3rd Edition (US Safety) – CAN/CSA-C22.2 No. 60950-00 (Canadian Safety)
Europe
Low Voltage Directive (LVD)
– TUV-R GS Mark by German Notified Body– EN60950:2000 (European Safety)
International
CB Scheme – IEC60950: 2000 with all country deviations (International Safety)
Country · Mexico NOM/NYCE
(Product Safety & EMC Approval)
Specific · Australia/New Zealand AS/NZS 3260 (ACA DoC, Safety of ITE)
· Argentina S-Mark
· GOST (Russia)
Laser Safety
North
FCC 21 CFR subpart (J) (Safety of Laser Products)
America
CDRH Letter of Approval (US FDA Approval)
Europe
EN60825-2 (European Safety of Lasers)
EMI/EMC
North
FCC 47 CFR Part 15 Class A (US Emissions)
America
ICES-003 Class A (Canada Emissions)
Europe 89/336/EEC EMC Directive
ETSI/EN 300 386:2001 (EU Telecommunication Emissions & Immunity)
EN55022:1998 Class A (Europe Emissions)
EN55024:1998 includes IEC/EN 61000-2,3,4,5,6,11 (Europe Immunity)
EN 61000-3-2, -3 (Europe Harmonics and Flicker)
International
IEC/CISPR 22:1997 Class A (International Emissions)
IEC/CISPR 24:1998 (International Immunity)
IEC/EN 61000-4-2 Electrostatic Discharge
IEC/EN 61000-4-3 Radiated Immunity
IEC/EN 61000-4-4 Transient Bursts
IEC/EN 61000-4-5 Surge
IEC/EN 61000-4-6 Conducted Immunity
IEC/EN 61000-4-11 Power Dips & Interruptions
Country
Japan Class A (VCCI Registration, Emissions)
Specific
Australia/New Zealand AS/NZS 3548 (ACA DoC, Emissions)
Korean MIC Mark (MIC Approval, Emissions & Immunity)
Mexico NOM/NYCE (Product Safety & EMC Approval)
GOST (Russia)
Taiwan CNS 13438:1997 Class A (BSMI Approval, Emissions)
Environmental
Standard:
EN 300 019-2-1 (2000-09) - Storage Class 1.2 - Packaged
EN 300 019-2-2 (1999-09) - Transportation Class 2.3 - Packaged
EN 300 019-2-2 (1999-09) - Stationary
Use at Weather Protected locations, Class 3.1e - Operational
EN 300 753 (1997-10) - Acoustic Noise - Operational
ASTM D5276 * - Drop – Packaged
ASTM D3332 * - Shock - Unpackaged
ASTM D3580 * - Random Vibration – Unpackaged
ASTM D6179 * - Tilt – Packaged
*Additional testing requested by Extreme Networks

Reliability
MTBF
Calculated MTBF:
Summit 200-48: 123,000 hours
Summit 200-24: 150,000 hours
Method: Bellcore TR-332 Operating @ 40° C
Warranty
Limited Lifetime Warranty
ExtremeWare 7.1e Supported Protocols
General Routing and Switching:
RFC 1812 IPv4 Router Requirements
RFC 1519 CIDR
RFC 1256 IPv4 Router Discovery (IRDP)
RFC 783 TFTP
RFC 951, 1542 BootP
RFC 2131 BOOTP/DHCP relay agent and DHCP server
RFC 1591 DNS (client operation)
RFC 1122 Host Requirements
RFC 768 UDP
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
ESRP-aware (Extreme Standby Router Protocol)
IEEE 802.1D - 1998 Spanning Tree Protocol
IEEE 802.1Q - 1998 Virtual Bridged Local Area Networks
EAPS-Edge mode (Ethernet Automatic Protection Switching, master and member of one ring)
Quality of Service
IEEE 802.1D -1998 (802.1p) Packet Priority
RFC 2474 DiffServ Precedence, including 4 queues/port
Ingress Rate Limiting
Layer 1-4 Policy-Based Mapping
Policy-Based Mapping/Overwriting of DiffServ code points, .1p priority
DLCS (Dynamic Link Context System, WINS snooping)
VLANs
IEEE 802.1Q VLAN Tagging
IEEE 802.3ad static configuration
Port-based VLANs
RIP
RFC 1058 RIP v1
RFC 2453 RIP v2
OSPF
RFC 2328 OSPF v2 (including MD5 authentication) Edge-mode (up to 4 adjacencies, cannot be designated or backup router)
RFC 1587 OSPF NSSA Option
RFC 1765 OSPF Database Overflow
RFC 2370 OSPF Opaque LSA Option
IP Multicast
RFC 1112 IGMP v1
RFC 2236 IGMP v2
IGMP Snooping with Configurable Router Registration Forwarding
PIM SM
RFC 2362 PIM-SM "Edge-Mode" (two active interfaces)
Management - SNMP & MIBs
RFC 1155 Structure of Mgmt Information (SMIv1)
RFC 1157 SNMPv1
RFC 1212, RFC 1213, RFC 1215 MIB-II & TRAPs
RFC 1901 – 1907 SNMP Version 2c, SMIv2 and Revised MIB-II
RFC 1908 Coexistence between SNMP Version 1 and Version 2c
RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
RFC 2021 RMON2 (probe configuration)
RFC 2668 802.3 MAU MIB
RFC 1643 Ethernet MIB
RFC 1650 Etherlike-MIB
RFC 1573 Evolution of Interface
RFC 1493 Bridge MIB
RFC 1354 IPv4 Forwarding Table MIB
RFC 2037 Entity MIB
RFC 2233 Interface MIB (receive address group not supported)
RFC 2096 IP Forwarding
RFC 1724 RIPv2 MIB
RFC 1850 OSPFv2 MIB
ExtremeWare vendor MIB (includes MAC FDB, IP FDB, QoS policy and VLAN config)
IEEE 802.1x - 2001 MIB
Extreme extensions to 802.1x-MIB
RFC 1866 HTML
RFC 2068 HTTP
HTML/ HTTP management
Management - Other
RFC 854 Telnet
Secure Shell (SSHv2) and Telnet management,
Telnet clients
Configuration logging
Multiple Images, Multiple Configs
BSD System Logging Protocol (SYSLOG), with Multiple Syslog Servers
999 Local Messages (criticals stored across reboots)
RFC 2030 SNTP, Simple Network Time Protocol v4
Security
Routing protocol authentication (see above)
Secure Shell (SSHv2) with encryption/authentication
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2139 RADIUS Accounting
RADIUS Per-command Authentication
Access Profiles on All Routing Protocols
Access Profiles on All Management Methods
Network Login (including DHCP / RADIUS integration)
Network Address Translation (NAT)
Layer 2/3/4Access Control Lists (ACLs)
IEEE 802.1x - 2001 Port-Based Network Access Control for Network Login
Multiple supplicants for Network Login (web-based and 802.1x modes)
Denial of Service Protection
Wire-speed ACLs
Rate Limiting by ACLs
Security Against Common Network Attacks
CERT (http://www.cert.org)
CA-2002-03: SNMP vulnerabilities
CA-97.28:Teardrop_Land -Teardrop and "LAND " attack
IP Options Attack
CA-98-13: tcp-denial-of-service
CA-98.01: smurf
CA-96.26: ping
CA-96.21: tcp_syn_flooding
CA-96.01: UDP_service_denial
CA-95.01: IP_Spoofing_Attacks_and_Hijacked_ Terminal_Connections
Host Attacks (http://www.rootshell.com)
Syndrop Newtear Raped Ascend
Nestea Bonk Simping Stream
Latierra Winnuke Sping

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