



# Summit 1i

The Summit1i™ is the ideal switch for mid-tier aggregation in enterprise, basement customer premise equipment (CPE) for metro area networks, and for server load balancing/web cache redirection in server co-location and hosting environments. With a compact 2U factor, the Summit1i switch integrates non-blocking Wire-Speed IP/IPX Routing and Layer 2 switching with advanced capabilities like Policy-Based Quality of Service, server load balancing, web cache redirection and access control lists- all at wire speed on every port.

Summit1i - Available in two configurations with six 100/1000BASE-T or 1000BASE-SX ports plus two GBIC-based 1000BASE-X ports, the Summit1i also comes with built-in redundant power supplies for increased fault tolerance.

**Point of Presence (POP)** The shift from narrowband technologies to gigabit level services has dramatically changed the networking requirements of the customer premise equipment portion of metro area networks, as well in Internet data centers fed by high-capacity connections. The Summit1i provides an ideal integrated platform to meet these new requirements.

**Broadband Access POP** - Delivers an integrated platform for providing transport and service termination at the CPE location. Features wire-speed switching and routing, filtering, virtual metropolitan area networks (vMANs), and bidirectional bandwidth controls.

**Broadband Services POP** - Provides a single aggregation point for the basic service delivery mechanisms necessary for an Internet data center- scalability, security, access policies, wire-speed access control lists, and server load balancing combined with both high availability and web cache redirection configurations.

Pre-installed on every Extreme Networks™ switch, the ExtremeWare™ software suite features industry standard protocols to ensure interoperability with legacy switches and routers, plus Policy-Based Quality of Service (QoS) for bandwidth management and traffic prioritization. ExtremeWare scales performance and increases availability by combining Policy-Based QoS with fully integrated server load balancing, web cache redirection, access control lists, VLAN switching and routing, IETF DiffServ and IEEE 802.1p.

- SONET-like reliability for non-stop operation
- Bandwidth by the slice for incremental service provisioning
- Usage-based billing to recoup the service provider's investment
- Virtual MAN (vMAN) services for virtual private networks over a single MAN
- BGP4 for Internet peering
- Medium- and long-reach optics for metro and regional area networks
- Non-blocking 17.5 Gbps switch fabrics yields 12 million packets per second
- Wire-Speed IP/IPX Routing at Layer 3 with wire-speed Layer 2 switching
- Policy-Based Quality of Service with bandwidth management and prioritization
- Bandwidth provisioning per port
- Advanced resiliency and fault tolerance; fully redundant, load-sharing power supplies
- Dual switch configurations and ExtremeWare images
- Extreme Standby Router Protocol (ESRP™) for ultra-fast fail-over
- OSPF equal cost multipath routing
- 1,024 IEEE 802.1Q VLANs
- IEEE 802.1ad compatible link aggregation
- Switch and route jumbo frames

# Summit1i Product Specifications

## General

True QoS via ExtremeWare and policy-based bandwidth control and application prioritization  
Eight queues per port  
Auto-negotiating 100/1000BASE-T  
Up to 128,000 Layer 2 addresses  
Up to 128,000 Layer 3 addresses  
4,096 VLANs

## Protocols and Standards

### General Routing:

RFC 1812 Router Requirements  
RFC 1519 CIDR  
RFC 1256 IRDP Router Discovery  
RFC 783 TFTP  
RFC 951 BootP  
RFC 1542 BootP  
RFC 2131 BootP/DHCP Helper  
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 Extreme Standby Router Protocol, with Groups, Host Attach and Domain Features

### RIP:

RFC 1058 RIPv1  
RFC 2453 RIPv2

### OSPF:

RFC 2328 OSPFv2  
RFC 1587 OSPF NSSA Option  
RFC 2154 OSPF with Digital Signatures (Password, MD-5)

### BGP-4:

RFC 1771 Border Gateway Protocol 4  
RFC 1965 Autonomous System Confederations for BGP  
RFC 1966 BGP Route Reflection  
RFC 1997 BGP Communities Attribute  
RFC 1745 BGP/OSPF interaction

## IP Multicast:

RFC 2362 PIM-SM  
PIM-DM Draft IETF PIM Dense Mode v2-dm-03  
RFC 1122 DVMRP Host req  
DVMRP v3 draft IETF DVMRP v3-07  
RFC 2236 IGMP v2  
IGMP Snooping with configurable router registration forwarding

## Quality of Service:

IEEE 802.1D - 1998 (802.1p) packet priority  
RFC 2474 DiffServ Precedence  
RFC 2598 DiffServ Expedited Forwarding  
RFC 2597 DiffServ Assured Forwarding  
RFC 2475 DiffServ Core and Edge router functions

## IEEE General:

IEEE 802.1Q VLAN tagging  
IEEE 802.3ad draft - static config  
IEEE GVRP (Generic VLAN Registration Protocol)  
Port-based  
MAC-based  
Protocol-sensitive

## Management:

RFC 1157 SNMPv1/v2c  
RFC 1907 SNMPv2  
RFC 1757 RMON 4 groups: Stats, History, Alarms & Events  
RFC 2021 RMON2 (probe config)  
RFC 2668 MAU  
RFC 1493 Bridge MIB  
RFC 1213 MIB-II  
RFC 2037 Entity MIB  
RFC 2233 Interface MIB  
RFC 2096 IP Forwarding  
RFC 1724 RIPv2 MIB  
ExtremeWare private MIB (includes ACL, QoS policy and VLAN config)  
RFC 1866 HTML  
RFC 2068 HTTP  
RFC 854 Telnet

HTML and telnet management  
Configuration logging  
Multiple images, multiple configs  
Multiple Syslog servers  
999 local messages, criticals stored across reboots  
RFC 1769 Ver 3 Simple Network Time Protocol

## Security:

FIPS-186 (Federal Information Processing Standards Publication 186) Secure Shell 2 (SSH2).  
RFC 1851 3DES-CBC cipher  
RFC 2792 DSA key exchange  
TACACS+  
RFC 2138 RADIUS  
RFC 2139 RADIUS Accounting  
RADIUS per-command authentication  
Access Profiles on all routing protocols  
Access Profiles on all management methods

## Denial of Service Protection:

RFC 2267 Network Ingress Filtering  
RPF (Unicast Reverse Path Forwarding) control  
Wire-speed ACLs  
Rate Limiting by ACLs  
Server Load Balancing with Layer 3,4 protection of servers  
SYN attack protection  
Uni-directional session control  
CERT and "rootshell" immunity testing including:- CERT (<http://www.cert.org>)  
• 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  
• CA95.01.IP\_Spoofing\_Attacks\_and\_Hijacked\_Terminal\_Connections  
- Host Attacks (<http://www.rootshell.org/beta/exploits.html>)

• Syndrop, Nestea, Latierra, Newtear, Bonk, Winnuke, Sipping, Raped, Spring, Ascend, Stream

## Physical and Environmental

### Summit1i Dimensions:

(H) 3.50 in x (W) 17.25 in x (D) 19.0 in  
(H) 8.90 cm (W) 43.87 cm x (D) 48.31 cm  
Weight: 22 lbs (9.90 Kg)  
Operating Temperature: 0° C to 40° C (32° F to 104° F)  
Storage Temperature: -10° C to 70° C (14° F to 158° F)  
Humidity: 10% to 95% non-condensing  
Power: 85-250 VAC, 50-60 Hz, 1.4 A max.  
Heat Dissipation: 556 BTU/hr (163 watts)

## Regulatory

### Safety

UL 1950 3rd Edition, Listed  
TUV/GS and GOST to EN60825-1 and EN60950: 1992/A3:1995+  
ZB/ZC Deviations  
cUL Listed to CSA 22.2#950-95

### EMI/EMC

FCC Part 15 Class A  
ICES-0003 Class A  
VCCI Class 1  
EN55022 Class A  
CISPR 22 Class A  
EN55024

### Environmental

EN60068 to Extreme IEC68 schedule

### Reliability

Minimum 50000 hrs MTBF to Mil HDBK 217F Notice 1, Parts Stress Method

### Acoustic

58 dB/pW Weighted Sound Power Level to EN27779 and EN29295

## Ordering Information

| Order Number | Description                                                                                                                                               |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11102        | Summit1i with 6 fixed 100/1000BASE-T ports (RJ-45) and two unpopulated GBIC-based 1000BASE-X ports (SC), Full Layer 3 Software License, dual power supply |
| 11104        | Summit1i with 6 fixed 1000BASE-SX ports (MT-RJ) and two unpopulated GBIC-based 1000BASE-X ports (SC), Full Layer 3 Software License, dual power supply    |

For the latest Summit1i product specifications, check out [www.extremenetworks.com/products/datasheets/summit1i.asp](http://www.extremenetworks.com/products/datasheets/summit1i.asp)

For more product information from Extreme Networks, please call 1.888.257.3000. 3585 Monroe Street, Santa Clara, CA 95051-1450 Phone 408.579.2800 Fax 408.579.3000 Email [info@extremenetworks.com](mailto:info@extremenetworks.com) Web [www.extremenetworks.com](http://www.extremenetworks.com)



© 2001 Extreme Networks, Inc. All rights reserved. Extreme Networks, BlackDiamond, Ethernet Everywhere, Extreme Ethernet Everywhere, ExtremeWare, Summit, ServiceWatch and the color purple are registered trademarks of Extreme Networks, Inc. in certain jurisdictions. Alpine, Alpine 3804, Alpine 3808, BlackDiamond 6808, BlackDiamond 6816, Extreme Standby Router Protocol, ESRP, Summit1i, Summit5i, Summit7i, Summit24, Summit48, Summit48i, SummitGbX, SummitRPS, Epicenter, Extreme Velocity, the BlackDiamond logo, the Alpine logo, the Summit logo, the ExtremeWorks logo and the Extreme Networks logo are trademarks of Extreme Networks, Inc., which may be registered or pending registration in certain jurisdictions. Extreme Turbodriven, the Extreme Turbodriven logo, ExtremeWorks, ExtremeWorks Professional Services and Go Purple are service marks of Extreme Networks, Inc., which may be registered or pending registration in certain jurisdictions. All other registered trademarks, trademarks and service marks are property of their respective owners. Specifications are subject to change without notice. LS-DS-S1i-110