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*BlackDiamond 6800—Flexible switches that can be used in the aggregation layer with a large number of edge switches or in the core for carrier-class reliability and security features.*

### Features

- Advanced resiliency and fault tolerance for carrier-class performance
- Extensive traffic management capabilities
- Comprehensive security features

### Target Applications

- Legacy networks with migration requirements to Gigabit Ethernet
- Advanced traffic management for metro revenue generating bandwidth-based services
- Highly available network cores and data centers with high density 10/100 and Gigabit Ethernet requirements and 10 Gigabit Ethernet interconnections

BlackDiamond 6800 switches can be utilized in both enterprise and carrier networks. In large enterprises, the high density of the BlackDiamond 6800 switch allows the core to act as an aggregation point for a large number of switches at the edge (e.g., Summit® switches) and distribution (e.g., Alpine® switches).

For service providers, BlackDiamond 6800 series switches are the real carrier-class platforms in the Extreme Networks® product family. Reliability features such as passive backplane, redundant power, and redundant control and switching fabric, via redundant MSMs, are combined with carrier-class I/O modules. Not only does BlackDiamond 6800 series provide world class Ethernet switching, but this breadth of interfaces also allows metro providers to migrate from legacy networks. Because of its redundancy features and high-density interfaces, BlackDiamond 6800 is often the switch of choice for deploying Metro Area Networks (MANs).

BlackDiamond 6800 series fits the entire span of application spaces within an enterprise and a metro network, giving full coverage from the core to the edge. Every BlackDiamond 6800 module fits in every member of the BlackDiamond 6800 family no matter the size of the chassis, so the full range of core capabilities can be implemented everywhere you deploy a BlackDiamond 6800.

### High Availability

BlackDiamond 6800 series switches support a passive backplane with redundant load sharing, hot swappable switch fabric modules. BlackDiamond 6800 switches can support hitless MSM failover and hitless software upgrades.

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BlackDiamond 6800 series is NEBS Level 3 compliant and meets the highest level of quality demanded by network service providers around the world, making it a true carrier-class product.

Ethernet Automatic Protection Switching (EAPS) allows the IP network to provide the level of resiliency and uptime that users expect from their traditional voice networks. EAPS is superior to Spanning Tree or Rapid Spanning Tree Protocols, offering sub-second (less than 50 milliseconds) recovery and delivers consistent failover BlackDiamond 6800 switches constantly check for problems in the uplink connections using advanced Layer 3 protocols such as OSPF, VRRP and ESRP (ESRP supported in Layer 2 or Layer 3), and dynamically routes around the problem. Equal Cost Multipath (ECMP) enables uplinks to be load balanced for performance and cost savings while also supporting redundant failover.

### Extensive Traffic Management Capabilities

Extreme Networks' revolutionary rate shaping capabilities provide Layer 3 IP/Ethernet networks that delivers a fixed latency, guaranteed transit path for voice

or video traffic equal to that achievable with ATM but at a fraction of the cost and complexity. This makes the implementation of VoIP or VOD or other delay sensitive traffic feasible, without requiring bandwidth over-provisioning.

Extreme Networks ability to classify packets using Layer 1 through Layer 4 attributes regardless of whether traffic is being switched or routed, combined with the ability to also honor priorities assigned before the traffic entered their network as well as re-write the signaling attributes (i.e. DiffServ), gives service providers unique control of application and service quality. These advanced capabilities ensure high bandwidth management and congestion control.

### Comprehensive Security Features

VMANs allow service providers to securely preserve the integrity of their customers' data while mixing and matching traffic from multiple sources over the same shared backbone.

BlackDiamond 6800 switches support ACLs based on Layer 2, 3 or 4-header information such as the MAC address or IP source/destination address. The use of

protocols like SSH2, SCP and SNMPv3 supported by a BlackDiamond 6800 series switch prevents the interception of management communications and man-in-the middle attacks.

Multiple supplicant (client) support on BlackDiamond 6800 series switches allow multiple clients to be individually authenticated on the same port.

The IPDA SUBNET lookup feature reduces exposure to malicious users or virus infected end clients and accelerates packet forwarding.

### Ease of Management

Extreme Networks has developed tools that save you time and resources in managing your network. EPICenter® provides all fault configuration, accounting, performance, and security functions to manage Extreme Networks' multilayer switching equipment in a converged network. EPICenter Policy Manager provides layer independent policy enforcement for Layers 1 – 4. Extreme Networks' software application, ServiceWatch®, delivers powerful, Layers 4 – 7 monitoring and management for mission-critical network services.

BlackDiamond 6800 Series Features	Benefits
Redundant load-sharing hot-swappable power supplies, redundant management and switch fabric, and passive backplane	Carrier-class availability and connectivity maximizes uptime and return on investment, so users are never without network service.
Wire-speed non-blocking architecture on all 10/100/1000 Interfaces	High performance and throughput for maximum scalability
Link aggregation of up to 8 links in a single trunk with sub-second fail-over and fail-back capabilities	Resiliency through multiple links and higher bandwidth by logically making 8 links look like one
OSPF, RIPv1 and RIPv2, IP Multicast, BGP4 routing	Layer 3 redundancy for highest availability and throughput
Extreme Standby Router Protocol™ (ESRP), Ethernet Automatic Protection Switching (EAPS), Spanning Tree Protocol (STP) and Extreme Networks' STP extensions, link aggregation	Layer 3 and Layer 2 redundancy within network uplinks to ensure that failure in other equipment will not result in lost connectivity for users
Policy-Based Quality of Service (QoS) with eight queues per port, bidirectional rate shaping and bandwidth management	Prioritize mission-critical applications and traffic to deliver maximum productivity; deliver delay-sensitive applications such as voice and video
ACLs, Network Login, DoS protection	Highest levels of security at the core of the network
MPLS connectivity	Point-to-point and point-to-multipoint Layer 2 VPNs offer a scalable, cost-effective means of delivering transparent LAN services across metro networks
Bidirectional rate shaping	Allows limiting and shaping of both ingress and egress traffic to a client based on bandwidth utilization
10 Gigabit Ethernet	The bandwidth is there when you need it



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