

Data Sheet

Bigleaf Edge Routers and High-Availability Switches



Overview

Bigleaf Cloud-first SD-WAN is the next generation of Internet optimization – based on the natural redundancy found in leaf veins. The Bigleaf platform is distributed across the Bigleaf CPE Router, and Bigleaf Gateway Clusters in the core of the Internet, providing end-to-end visibility and control.

Features

SAME-IP FAILOVER

- BGP-like dedicated public IP address block(s) provided from the Bigleaf CPE LAN interface for seamless failover of inbound and outbound traffic.
- All application sessions maintained through consistent IP addressing and fast failover.
- Physical redundancy across geographically diverse Bigleaf Gateway Cluster datacenters, maintaining consistent IP addressing.

INTELLIGENT LOAD BALANCING

- 10x per second asymmetric/unidirectional ISP circuit health monitoring.
- Automatic session-based load-balancing for optimal circuit usage efficiency and application health, based on 4 application need algorithms:
 - Real-Time
 - Interactive
 - Bulk Data
 - High-Load Bulk Data (download only)
- Mid-session Same-IP re-routing for all applications based on real-time path health and application need.
- Sensitivity down to 0.3% packet loss, 15ms latency increase, and 20ms jitter.
- Automatic traffic identification works without configuration for almost all customer use cases. Custom configurations available when needed.
- Advanced configuration option enabling granular selection of load-balancing, backup-only, or blocking, based on traffic class.

DYNAMIC QoS

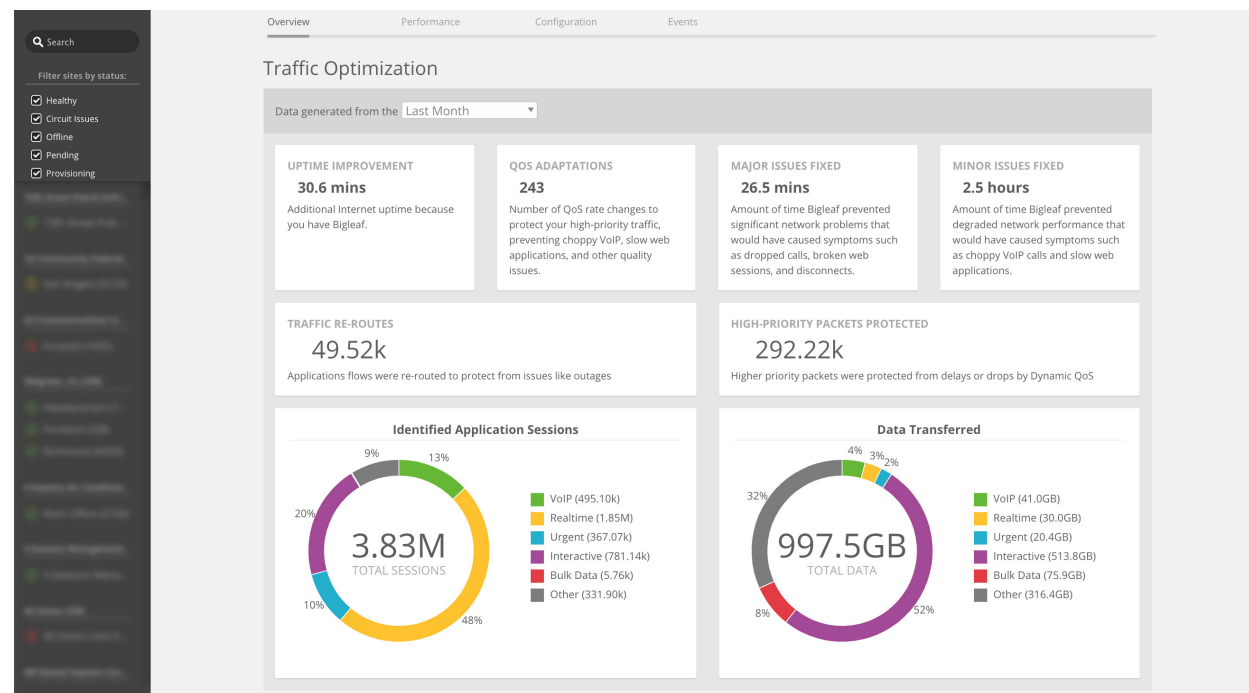
- Application traffic automatically identified and grouped into 6 classes:
 - VoIP
 - Realtime
 - Urgent
 - Interactive
 - Bulk Data
 - Other
- Algorithmic identification of ISP circuit clean capacity in real-time for true Internet-wide QoS.
- Dedicated Gateway Cluster routing of all customer traffic for 100% control of prioritization, even with bursty download TCP or large UDP flows.
- Automatic traffic classification works without configuration for almost all customer use cases. Per-site custom rules available when needed.

PLUG-AND-PLAY INSTALL

- CPE Router arrives pre-configured and tested for a seamless zero-config install experience.
- Simple IP address swap on existing firewall WAN interface completes the install and doesn't require breaching the existing LAN security perimeter.
- Bigleaf support available 24/7/365 to assist as needed.

Centralized Visibility and Reporting

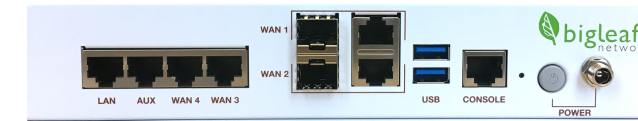
The BigleafWeb Dashboard provides centralized visibility and alerting. Detailed data is provided on ISP circuit quality, bandwidth utilization, and more. Email alerts provide real-time notification of up/down status and health issues.



Edge Router Hardware

BLR-108

Front



Back



BLR-112

Front



Back



BLR-107

Front

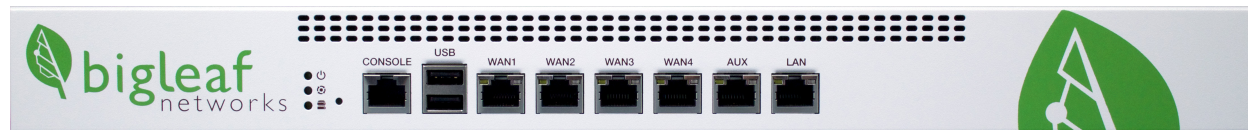


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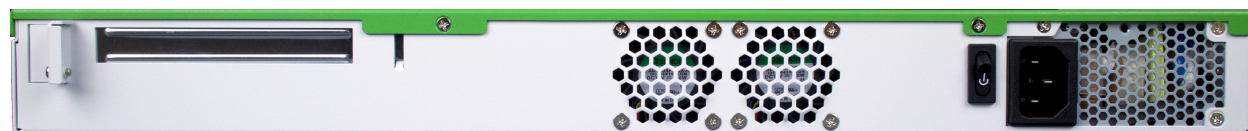


BLR-111

Front



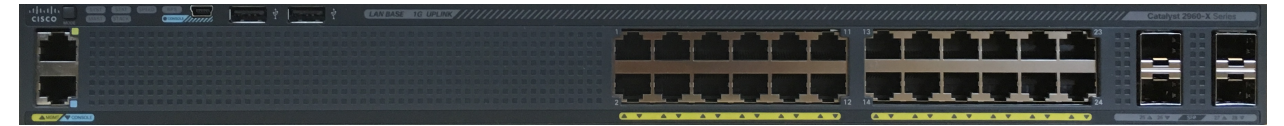
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Switches

Cisco C2960X

Front

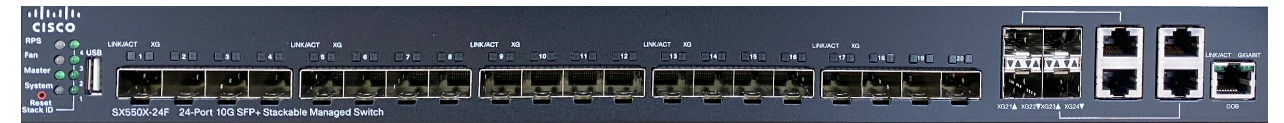


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Cisco SX550X-24

Front



Back



CPE Specifications

	BLR-108	BLR-112	BLR-107	BLR-111
GENERAL				
Throughput ¹	500 Mbps /500 Mbps	Up to 3 Gbps/ 3 Gbps	100 Mbps / 100 Mbps	1 Gbps / 1 Gbps
MTU ²	1420 bytes			
ISP WAN ports	4 x GbE RJ45	4 x GbE RJ45 or 4 x10 GbE SFP+ ³	4 x GbE RJ45	
LAN ports to Customer Firewall	1 x GbE RJ45	1 x GbE RJ45 or 1 x 10GbE SFP+	1 x GbE RJ45	
Multi-Use Fiber ports	2 x SFP/RJ45	4 x SFP+	--	--
CPU Platform	Intel Atom	Intel Core	Intel Atom	Intel Core
HARDWARE REDUNDANCY				
Next Business Day Hardware Replacement	Yes	Yes	Yes	Yes
Warm Spare option with 2nd unit for cable-swap redundancy	Upgrade Option			
Standard HA (2 x CPEs)	Upgrade Option			
HA with Network Switches	Upgrade Option			
PHYSICAL				
Mounting Options	IU (each) ⁴	IU (each)	IU rack, or wall	IU rack
Dimensions (W x D x H)	9.1" x 6.8" x 1.65	17" x 11.8" x 1.75"	7" x 5.8" x 1.75	17" x 12" x 1.75"
Power Input	100-240V 50/60Hz AC			
Power Draw	40W	150W	35W	150W
Fanless	Yes	No	Yes	No
Operating Environment	0 - 40° C temperature, 10-90% humidity		0°-40° C temperature, 5%-90% humidity, non-condensing	
Compliance	FCC, CE, UL		FCC, CE, ROHS	
MTBF (Hours)	178,128 @ 40C	178,128 @ 40C	97,340	59,454

1. Typical Internet usage patterns and packet sizes

2. Bigleaf system will set TCP MSS appropriately and transparently fragment UDP, IPSEC, and other non-TCP packets, so no user equipment changes are generally needed. Stated size is for Bigleaf standard unencrypted tunnels.

3. 4x10 GbE SFP+ ports are available with the expansion card for the BLR-112

4. If rack mounts for the BLR-108 are required, these can be purchased separately through Bigleaf.

Switch Specifications

	Cisco C2960X	Cisco SX550X-24
HARDWARE		
Copper Ethernet Ports	24 x 1GbE	4 x 10GbE copper/SFP+
Pluggable Ethernet Ports	4 x 1GbE SFP	20 x 10GbE SFP+
Total	28	28
GbE Ports	24	1
SFP Ports	4	20 SFP+ & 4 Combo SFP+/Copper
CONFIGURATION		
LAN Ports	4 x Copper RJ45 2 x 1GbE SFP	4 x SFP+ 2 x SFP+/Copper
Bigleaf Ports	16 (8 router & 8 ISP)	16 (8 router & 8 ISP)
PHYSICAL		
Mounting Options	IU rack (each switch)	IU rack (each switch)
Dimensions (W x D x H)	17.5" x 11.0" x 1.75" (each switch)	
Power Input	100-240V 50/60Hz AC	
Power Draw	37W power usage (each switch)	56W power usage (each switch)
Operating Environment	0°-40° C temperature, 5%-90% humidity, non-condensing	
MTBF (Hours)	564,910	433,149
SUPPORT		
Next Business Day Hardware Replacement	Yes	