Technical Datasheet

Bigleaf Cloud Connect is the performance control layer for distributed businesses, turning any mix of wired, wireless, satellite, and cellular circuits into reliable application performance. By connecting Bigleaf's Customer Premise Equipment (CPE) routers with our proprietary Cloud Access Network, Cloud Connect continuously monitors conditions across every path and adapts traffic in real time to preserve performance, continuity, and visibility across the full data path.

With optional Edge Firewall, Bigleaf extends the same integrated platform experience to right-sized branch security, giving business sites stateful protection, site-to-site connectivity, and centralized access control without adding unnecessary complexity.

This datasheet details the Bigleaf routers used with Cloud Connect, including supported connectivity, wireless, and Edge Firewall capabilities.

Meet the Bigleaf Routers

Your gateway to an internet without downtime:

- Plug and play install.
- Arrives pre-configured with your circuit details and tested for a seamless, zero-configuration installation experience.
- Connects up to four broadband circuits.
- Connects your sites to the Bigleaf backbone Cloud Access Network with Bigleaf-issued IP blocks.
- Works as a stateful edge firewall with the Edge Firewall add-on or alongside existing third-party firewalls.

Unrivaled Connectivity

Cloud Connect delivers resilient and redundant connections through intelligent network optimization enabled by our purpose-built routers. These devices leverage proprietary algorithms to continuously analyze traffic patterns and network conditions, automatically adapting in real-time to maintain optimal performance across all connections. Resiliency and redundancy are ensured through automatic network optimizations.

SESSION CONTINUITY

Cloud Connect maintains active application sessions through circuit outages, brownouts, and changing network conditions. Bigleaf-issued public IP address block(s) allow inbound and outbound traffic to continue without requiring users to reconnect or restart applications.

- Active application sessions remain connected during failover
- Same-IP addressing preserves inbound and outbound traffic continuity
- Physical redundancy across geographically diverse Bigleaf Gateway Clusters maintains consistent IP addressing

INTELLIGENT LOAD BALANCING

Bigleaf load balancing determines how network traffic is routed to WAN circuits. You can maintain out-of-the-box default settings for Bigleaf to automatically decide how to route traffic among your circuits based on best practices for businesses or make easy adjustments that allow traffic to access a circuit only in specific cases.

- Facilitated by asymmetric/unidirectional ISP circuit health monitoring.
- Automatic session-based load balancing for optimal circuit usage efficiency and application health, based on four application algorithms:
  - Real-time
  - Bulk Data
  - Interactive
  - High-Load Bulk Data (download only)
- Mid-session same-IP re-routing for all applications based on real-time path health and application need through attributes such as jitter, latency, and packet loss.
- Automatic traffic identification works without configuration for almost all customer use cases; custom configurations are available as needed.
- Advanced configuration options that enable granular selection of load balancing, backup only, or blocking, based on traffic class.

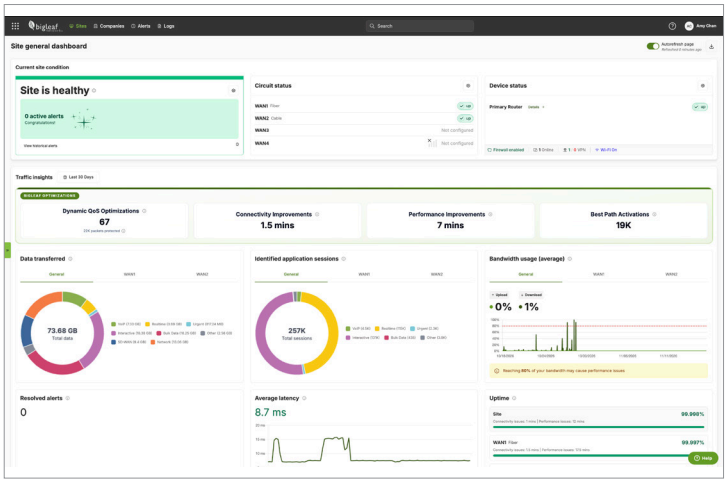
DYNAMIC QOS

Bigleaf's Dynamic Quality of Service (QoS) provides effective and automatic prioritization for traffic traversing the public internet.

- Application traffic is automatically identified and grouped into six classes:
  - VoIP
  - Urgent
  - Bulk Data
  - Real-time
  - Interactive
  - 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. Custom rules are available as needed.

CENTRALIZED VISIBILITY AND REPORTING

Cloud Connect 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.



Integrated Edge Security

Bigleaf Edge Firewall extends the Bigleaf platform with right-sized branch security, providing stateful protection, secure site-to-site connectivity, and centralized access control through a simple, unified experience.

SECURITY	
Firewall	Stateful inspection
Outbound Access Control	Layer 3 policies for controlling outbound network traffic
NAT	Outbound NAT, port forwarding, and 1:1 public-to-private IP mapping
Access Control	Inbound/outbound ACL rulesets
Segmentation	802.1Q VLAN tagging on LAN ports
MAC Filtering	MAC-based allow/deny rules

VPN	
Site-to-Site VPN	IPsec, static-route hub-and-spoke and full mesh designs
Supported Tunnels	Up to 50 per Bigleaf router
Logging	Centralized firewall and VPN logs
Key Exchange	IKEv2
Authetication	Pre-shared key
Third-Party Interoperability	Standards-based IPsesc interoperability with compatible third-party VPN enpoints
Multi-WAN Resiliency	VPN traffic benefits from Bigleaf Cloud Connect optimization and automatic failover across available ISP connections
Management	Intuitive policy control centralized in Cloud Connect dashboard

	BLR-108	BLR EDGE 400	BLR EDGE 800W	BLR-112	BLR EDGE 1200
VPN Throughput	250 Mbps	250 Mbps	250 Mbps	650 Mbps	650 Mbps

Note: Edge Firewall requires a supported firmware version. Existing deployed routers or partner-held inventory may require a firmware update before enablement.

Flexible Firewall Deployment

Bigleaf supports multiple firewall deployment models:

THIRD-PARTY FIREWALL COMPATIBILITY

- Integrated Edge Firewall: Use the Bigleaf router for stateful firewall protection and network access control.
- Existing firewall: Deploy the Bigleaf router on the WAN side of an existing third-party firewall, allowing the existing firewall and LAN security to remain in place.
- Hybrid environment: Use Edge Firewall at selected locations while retaining third-party firewalls at others.

Ideal for Wireless-First Environments

As 5G, LTE, and satellite connections become primary WAN options, businesses need more than backup connectivity. They need continuous performance control across every circuit. Bigleaf Cloud Connect is ideal for sites relying exclusively or primarily on wireless connections, continuously monitoring and adapting to changing conditions across wired, wireless, and satellite paths to keep mission-critical applications performing consistently.

The BLR Edge 800W router includes an integrated 5G cellular modem for use with Bigleaf Wireless Connect data plans and can work with up to three additional wired or wireless connections, creating a unified multi-circuit solution for reliable, wireless-first branch connectivity.

BIGLEAF WIRELESS CONNECT DATA PLANS

Flexible, business-grade cellular data plans designed specifically for Cloud Connect deployments where wireless is used as primary, backup, or part of a multi-circuit strategy.

- Pre-configured router is shipped with carrier-activated 5G plan.
- Simplified billing and management through a single provider experience.
- Predictable pricing with no data overage fees.

INTEGRATED CELLULAR CONNECTIVITY

Built-in 5G-capable modem on the Edge 800W router extends optimized connectivity across devices at wireless-first locations.

- Seamless integration with Wireless Connect plans for turnkey deployment.
- 5G Ready design supports use of preferred carrier relationships and existing service plans.

BRANCH-WIDE WLAN

Comprehensive Wi-Fi coverage extends reliable connectivity throughout your wireless-first location.

- Seamless connectivity to optimized cloud application performance across laptops, printers, and smart devices.
- Convenient, all-in-one device delivering network optimization, 5G and WLAN connectivity.

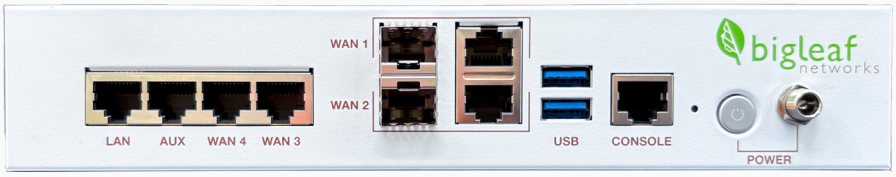
Bigleaf Router Hardware

BLR-108

Front



Back

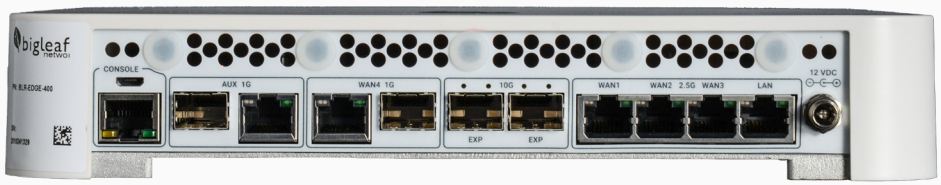


BLR EDGE 400

Front



Back



BLR EDGE 800W

Front



Back



BLR-112

Front



Back



BLR EDGE 1200

Front



Back



Bigleaf Router Specifications

	BLR-108	BLR EDGE 400	BLR EDGE 800W	BLR-112	BLR EDGE 1200
GENERAL					
Max Throughput[1]	500 Mbps / 500 Mbps or 1 Gbps / 100 Mbps	500 Mbps / 500 Mbps or 1 Gbps / 100 Mbps	500 Mbps / 500 Mbps or 1 Gbps / 100 Mbps	3 Gbps / 3 Gbps	3 Gbps / 3 Gbps
MTU[2]	1420 bytes	1420 bytes	1420 bytes	1420 bytes	1420 bytes
ISP WAN Ports	2 x GbE combo SFP or RJ45, 2 x GbE RJ45	3 x 2.5 GbE RJ45, 1 x GbE combo SFP or RJ45	3 x 2.5 GbE RJ45	4 x GbE RJ45	4 x GbE RJ45
LAN ports to Customer Firewall	2 x GbE RJ45	1 x 2.5 GbE, 1 x GbE combo SFP or RJ45	1 x 2.5 GbE, 1 x GbE combo SFP or RJ45	2 x GbE RJ45	2 x GbE RJ45
Built-in Cellular WAN	No	No	5G NR / 4G LTE	No	No
Wi-Fi	No	No	Dual Band Dual Concurrent (2.4 GHz and 5 GHz) MU-MIMO. 802.11ax	No	No
Multi-use Fiber Ports	None	2 x combo 10 GbE SFP+ or 1 x GbE SFP	2 x combo 10 GbE SFP+ or 1 x GbE SFP, 1 x GbE combo SFP or RJ45	4 x 10 GbE SFP+ or 4 x GbE SFP[3]	4 x 10 GbE SFP+ or 4 x GbE SFP[3]
CPU Platform	Intel® Atom®	Intel® Atom® C3758 CPU (4 core)	Intel® Atom® C3758 CPU (8 core)	Intel® Core	Intel® G6400E
VPN Throughput	250 Mbps	250 Mbps	250 Mbps	650 Mbps	650 Mbps
VPN Tunnels	50	50	50	50	50
HARDWARE REDUNDANCY					
Next Business Day Hardware Replacement	Yes	Yes	Yes	Yes	Yes
Standard HA (2 x routers)	Upgrade Option	Upgrade Option	No	Upgrade Option	Upgrade Option
PHYSICAL					
Mounting Options	1U (each)	1U (rack and wall options)	1U (rack and wall options)	1U (each)	1U (each)
Dimensions (W x D x H)	9.1" x 6.8" x 1.65"	10.0" x 7.9" x 1.7"	10.0" x 7.9" x 1.7"	17" x 11.8" x 1.75"	17.24" x 13.56" x 1.73"
Power Draw	40W	60W	60W	150W	250W
Fanless	Yes	Yes	No	No	No
Operating Environment	32° - 104° F temperature, 10-90% humidity	32° - 104° F temperature	32° - 104° F temperature	32° - 104° F temperature, 10-90% humidity	32° - 104° F temperature, 10-90% humidity
Compliance	FCC, CE, UL	FCC, CE, UL RoHS, IC	FCC, CE, UL RoHS, IC	FCC, CE, UL	FCC, CE
MTBF (Hours)	178,128 @ 40C	163,042 @ 40C	163,042 @ 40C	178,128 @ 40C	192,794 @ 40C

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. Two expansion card options are available for the BLR-112 and BLR Edge 1200: 1 Gb or 10 Gb.

Bigleaf Wireless Connect Hardware and Accessories

Bigleaf Wireless Connect can be supplied either through our BLR Edge 800W router, or through a separate external device that connects to your Bigleaf BLR 108, BLR Edge 400, BLR 112, or BLR Edge 1200 routers. Our wireless service supports both 5G and 4G LTE and offers an additional wireless circuit to ensure uninterrupted access and optimal performance of your cloud-based mission-critical tools and resources.

When the external 5G router is being used, it is shipped from Bigleaf with following accessories:

- Power adapter
- 4 5G NR / LTE antennas
- 1 Ethernet cable
- 1 Wall-mount kit
- 1 Adhesive window mount



Front



Back



Top

External 5G Router Specifications

ITEM	DESCRIPTION
CPU	MediaTek Dual-core, @1.3GHz
Antenna	4 x Antenna (5G NR-Sub-6)
SIM	2 SIM cards (AT&T | VZW | T-MOBILE)**
LAN	1 x 2.5G WAN, 1 x 1G LAN
Power	DC5521, 12V / 2.5A (5.5*2.1mm) <14 W
Dimensions (W x D x H)	6.10” x 1.93” x 3.74”
Weight	1.68 lbs

* Only one SIM is provisioned and operational.

Remote 5G LTE Antenna Kit Specifications

Bigleaf offers a remote antenna kit compatible with the BLR Edge 800W and its external 5G routers to enhance 5G or LTE data throughput (speed) in challenging site installations. This kit has weatherproof, omnidirectional, multi-antenna housing with flexible mounting options.

When the 5G LTE network device is embedded in a building or enclosure with obstructions and no line of sight to the cellular basestation (tower), this kit allows the installer to move the antenna away from the network device to the most optimal location outside of those obstructions.



This 5G LTE antenna kit has IP65 weatherproof housing that contains multiple antennas with four low-loss coax cable connections so that only one antenna kit is needed for each site.

Hardware included in the kit allows for flexible indoor/outdoor mounting on wall, pole, or window locations. Multiple low-loss coax cable length options are offered to perfectly adapt antenna location to each site.

The antennas are omnidirectional and do not need to be “aimed” at the cellular basestation. However, some sites require colocation with other types of antennas; e.g. on a building roof. A steerable ball mount is included for optional tuning/ positioning of the antenna housing relative to other nearby antennas.

Bigleaf Antenna Kit Specifications

FEATURE	DESCRIPTION
Antenna Type	5G / LTE
Antenna per Housing	4x 5G/ LTE antennas (MIMO)
Directionality	Omnidirectional (steerable mount for optimization with other nearby antennas)
Mounting Options	Hardware included for: wall mount, pole mount, window mount
Coax Cable Length (antenna)	9 ft hard-wired to antenna housing (built-in)
Coax Cable Length (extension)	Kit options for extension cables in lengths: • 16 ft • 31 ft • 66 ft
Coax Cable Impedance	50 ohms
Power Input	None (passive)
Environmental	IP65 weatherproof indoor/outdoor -40 to +185° F operating temperature
Antenna Dimensions	6.5” x 6.5” x 5.9”
Antenna Weight	31.7 oz

Discuss your network needs with a Bigleaf expert.

LET’S TALK

bigleaf networks

Bigleaf enables internet connectivity without complexity, from network optimization to 5G wireless solutions, making it a must-have for IT pros and their organizations to conduct business on the internet with confidence. Seamlessly integrating with established firewalls, ISPs, and cloud applications, Bigleaf’s solutions are incredibly simple to install, begin working instantaneously, and continue to work unattended, preserving application performance and user productivity despite circuit degradation or outages.

www.bigleaf.net | 888.244.3133 | sales@bigleaf.net | © 2025 Bigleaf Networks, Inc