bigleaf networks

VoIP Enablement

Bad Calls Are Hurting Your Business

Do you know what quality VoIP looks like?

Quality VoIP sounds as good — if not better — than a traditional landline. It works seamlessly, flawlessly, and reliably every time, all the time. You might think you're giving your users quality VoIP but are you? Problems with this technology are horribly under-reported, so you might not even know that you have problems. Bad VoIP hurts your business and impairs communication.

So what are the solutions for your VoIP frustrations?

What causes VoIP problems?

The answer is the internet. Even the best connections will be plagued by packet loss, jitter (packets being received in the wrong order) and latency. VoIP is vulnerable to the internet's inevitable bad days.

Dropped calls

Because of internet outages, packet loss, or latency, a call gets interrupted and the line goes dead!

Choppy calls

Parts of the conversation are lost. No one can understand other speakers. This is often the result of packet loss and jitter, symptoms of an unreliable internet connection.

Robotic voice

When your Quality of Service (QoS) goes wrong and VoIP traffic is deprioritized, it can cause the voice on the other end to sound like a robot.

Echoes, awkward delays, and laggy calls

These problems are often caused by jitter and latency on your internet connection.

It doesn't take much of a problem to notice it on VoIP.

	GOAL less than	NOTICEABLE ISSUE	UNUSABLE greater than
Packet Loss	**.01%**	**.5-2%**	**5%**
Latency	**20ms**	**50-100ms**	**200ms**
Jitter	**10ms**	**30-100ms**	**150ms**

Understanding the Impact of Bad VoIP

When your VoIP has problems, your users probably won't report it. They are used to continual VoIP issues, so why even try?

Your team learns to mistrust their phones and find workarounds that are unprofessional, insecure, and ultimately cost your business money.

SD-WAN: VoIP's Best Friend

What is SD-WAN?

SD-WAN is software-defined networking. It enables high-performance networking using commercially available internet access and, depending on the solution, provides a layer of intelligent monitoring that keeps internet problems from impacting your voice and video call services.

What can SD-WAN do?

SD-WAN utilizes multiple internet connections to maximize reliability and quality of service. It enables a more performant network for VoIP and enables a more resilient network for your applications by constantly monitoring each internet connection for performance, jitter, latency, and connectivity problems. Some SD-WAN solutions also provide features that detect and automatically respond to changes in internet performance, optimizing and prioritizing VoIP traffic for the most suitable connection.

What features should you look for in an SD-WAN solution?

To have an impact on your VoIP service, an SD-WAN needs to:

- Auto-detect application needs and adapt in real-time to internet performance and connectivity issues before they impact your business
- Provide static public IP addresses that don't change and automatically failover when your traffic needs to move between ISP connections to avoid outages
- Directly peer with major cloud, content, and carrier networks by connecting to the major peering exchange in each region

- Compliment, not complicate, your security settings by working with your existing firewalls and respecting existing security policies
- Be backed by fully redundant architecture for SLA-backed uptime and tier one service and support

But don't I already have SD-WAN capability with my firewall?

Bigleaf's SD-WAN solution is innovative and different — an improvement over the SD-WAN built into your firewall. It uses a powerful site-to-cloud architecture. Unlike your existing box-only solution, we leverage both an on-site router and a dedicated backbone network, controlling traffic both to and from the cloud. Plus, it installs outside your LAN, so it works with existing security solutions.

What makes Bigleaf's SD-WAN better?

Bigleaf is a cloud-first SD-WAN for today's cloud-enabled business. It is built with a Cloud Access Network that enables you to ensure performant uptime for any cloud-based technologies across all sites and users. Unlike policy-based solutions, Bigleaf auto-detects application needs and network conditions and intelligently adapts traffic in real time. With Bigleaf, you can easily provide enterprise-grade connectivity for all of your cloud applications, improve visibility into your internet usage, and simplify your network.

Also with Bigleaf:

- Clients get SLA-backed uptime of 99.99%
- Active calls stay connected by same IP failover, even when a circuit fails
- The Bigleaf owned-and-operated Cloud Access Network peers with 150 different cloud, content, and carrier networks for optimal performance
- Dynamic QoS prioritizes VoIP and other real-time traffic across commodity internet connections, even with varying bandwidth
- Hidden data on the WAN path from your business to the cloud is unlocked, providing you with access to real-time and historical data from our SD-WAN software that monitors each of your Internet connections 10x per second

If you're curious, SD-WAN stands for "Software-Defined Networking in a Wide Area Network."

How soon can SD-WAN be deployed?

Bigleaf can help you deploy a new SD-WAN installation quickly and without disruption. Pre-configured routers are shipped in two weeks. They can be connected to the Bigleaf service at corporate, branch, or home offices, often without the need of specialized staff.

Bigleaf SD-WAN automatically mitigates VoIP issues.
Ask your representative for a demo!
www.bigleaf.net

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