

Cloud PBX

Technical Guide

Contact

1 (877) 311-8750
support@g12com.com



An Enterprise-grade Cloud PBX

Cloud hosted PBX by G12 offers growing businesses of all sizes access to our reliable, proven communication infrastructure and technology. Using the latest Voice over Internet Protocol (VoIP) technology, G12 empowers your team with enterprise-grade communication services for a low monthly fee. Along with our primary communication tools, G12's cloud PBX offers dozens of additional premium features, including mobility tools, for no additional cost.

The entire G12 Cloud PBX system is managed through simple, web-based control panel, and can easily scale with you as your company grows and your needs expand. This flexibility also means that managers and users can access their accounts and control panel wherever there is an internet connection, and are not restricted by device or location.

The simplicity of this platform along with the latest technological advances, results in streamlined operations, superior communication, and low overhead costs for you and your customers. Make calls at the click of a button, listen to voicemail via email, and manage your entire team through a simple web browser no matter where you are.

Furthermore, with 24 hour support and technical teams, set up, on-boarding, and complete customization of the entire system can be done easily and quickly from day one -- Anyone in an organization can learn how to manage the system easily and efficiently.

With years of leadership in communication technologies, G12 has the experience and technology to drive your most important business communication needs.

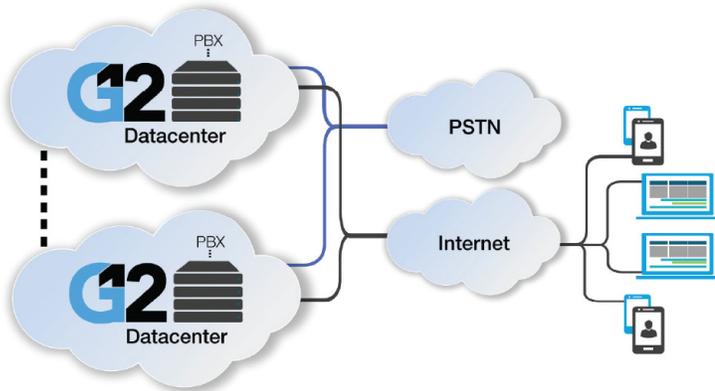


How Your Enterprise Hosted PBX Works

G12 Cloud PBX routes calls between end points using the internet and VoIP technology. Customer voice traffic passes through your router to the internet, before being redirected to any landline or mobile number, using the industry standard Session Initiation Protocol (SIP). With G.729 and G.711 codecs, voice and sound quality is always crisp and clear.

IP phones, usually Polycom, are deployed at your location or locations. The phones are programmed to reach at least 2 data centers at any given time. The phones register to the G12 servers every 60 seconds so the credentials are validated. Each phone is provided at least one or multiple users or extensions (both are the same). A phone in your office will show extension 100 as an example, then any phone number or numbers could then be pointed or directed to that extension.

When you're using the G12 Cloud PBX, line capacity is never an issue. Each phone can call out 4 calls at a time so if you have 10 phones on site, you could have 40 simultaneous calls.



DID's or Telephone numbers, are something to consider. Some companies prefer a single number to call in and each call comes to an Auto Attendant or receptionist and then gets forwarded to a specific extension. Most companies however are assigning individual numbers to each employee so that outside callers can directly dial a specific individual by dialing their individual phone number.

Greetings are really what set G12 apart. With each new deployment G12 will have professional studio recorded voicemail and directory greetings for each employee and professionally recorded Auto Attendants at no extra cost. This provides the professional quality you require in an enterprise grade phone system. Studio recorded greetings can really enhance the image of your company and it comes standard with every new account.

Infrastructure, with redundant, geographically-distributed server architecture that's hosted in the latest, SSAE16 SOC 1 Type II compliant data centers, your system will be running with the highest reliability and uptime available in the industry (99.999%). In case of emergencies or unforeseen issues, each data center is also supported with redundant electrical and cooling systems, along with backup diesel generators.

Using multiple tier 1 internet providers, G12 connects each of its data centers to the internet and to global voice partners through several fiber cables to ensure availability and distribute traffic effectively at any given time. This means that even at peak calling hours, your system will operate flawlessly without any drop in sound quality or performance



G12 PBX

Services

G12 PBX is a robust system built on redundant servers through proprietary and standardized technologies over a VMware hardware platform. This unique architecture enables us to provide our customers and their clients with enterprise-grade calling features and customer-specific call routing with the highest availability and scalability. With a large network of distributed datacenters, high availability hardware and network components allow us to distribute traffic evenly throughout the network to protect against common outages and failures. Even with a datacenter failure, your PBX services are running concurrently using another datacenter in our network, with minimal-to-zero impact to the end-user.

Network Services

G12 has partnered with some of the top tier carriers to connect its Cloud PBX system to the PSTN (Public Switched Telephone Network). This connection is also reinforced by a secondary failover network that utilizes high-availability hardware and network components to protect against failure or system outages. With so many redundant backup systems, G12 and its partners ensure that your voice traffic will maintain the highest quality and remain uninterrupted even if connectivity to the telephone network is lost.

Voice and Call Quality

G12 engineered its Cloud PBX to provide the best call quality, no matter the location of either caller:

- G12's network has been over -provisioned, which allows call volumes to scale by thousands of simultaneous calls. This means that G12 will never run into bottle necks in the network and that all services will function optimally 99.999% of the time.
- G12 uses large capacity networks to deliver all your VoIP calls and ensure quick functionality across all your products and services.
- When it comes to making crisp, quality calls, every millisecond of response time matters. For this reason, we've developed and implemented our technology as close as possible to our partner networks to minimize the distance your calls must travel. This reduces latency and improves call-quality.

While G12 has all the systems in place to operate your enterprise-grade Cloud PBX system, it's important that you review your own network to ensure that it can handle routing, making, and receiving high quality calls. While it's not always necessary, G12 suggests a review of your current system to ensure that no information bottle necks ensue.

- 1) To ensure that VoIP and data traffic each have adequate bandwidth for the highest levels of call quality, in some cases we recommend deploying a separate Internet connection for VoIP and data traffic.
- 2) Quality of Service features (QoS). While not as efficient as separate lines, a router with voice QoS features will be able to recognize and prioritize voice data to ensure that your calls are never interrupted and calls remains undiluted. Sonic Wall and Meraki routers are good examples.

No matter which option you choose, it's also important to check with your service provider to ensure that both upstream and downstream bandwidths are sufficient for the maximum number of simultaneous voice calls that you expect (upstream is outgoing voice data, downstream is incoming voice data). Often, it's expected that only a portion of your total users will be calling at the same location at the same time (for instance, you may have 10 users, but only expect 6 of them to be on calls at the same time).

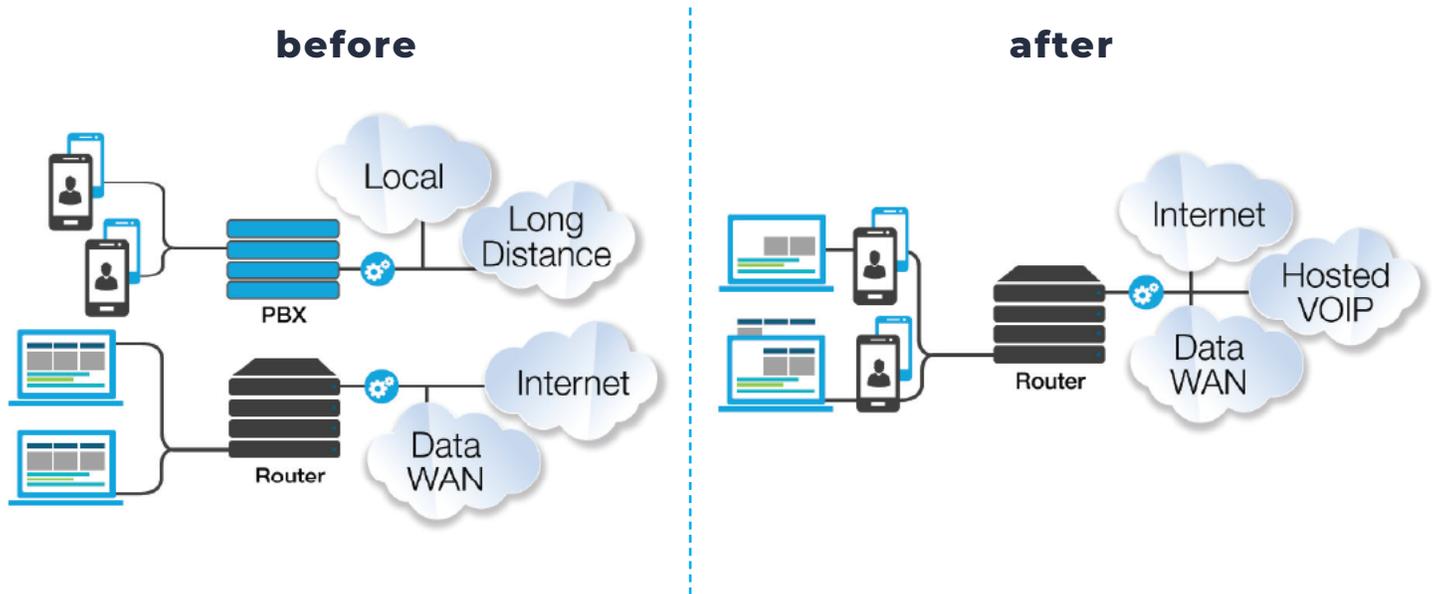
Minimum bandwidth can easily be calculated the following way:

Total Bandwidth needed is equivalent to the maximum number of phones needed multiplied by 50Kbps. For instance, if you expect that only 6 users will be simultaneously speaking on the phone, you'll need at least 300Kbps of bandwidth.

In addition to voice bandwidth, you'll also need to make sure there's enough bandwidth left over to handle data traffic as well. Customer networks typically have more than enough bandwidth on the customer premise side (Local Area Network, or LAN) of the network. On the other hand, Wide Area Networks (WAN) typically do not have as much available bandwidth.

It should be noted that if there isn't a dedicated line or a router that can prioritize VoIP traffic, the bandwidth will be allotted to any application that requests it. When the bandwidth limits are reached for the WAN, random incoming data packets are either discarded or buffered -- acceptable for data applications, but not for time-sensitive data streams like voice. When this happens, voice and call quality could be diminished as the connection struggles to keep up with the incoming and outgoing data.

Most internet providers provide upgraded or "business class" packages to accommodate large bandwidth needs, so be sure to call your provider after assessing how much bandwidth you really need from the equation on page 3.



A best-in-class Enterprise phone system to exceed your every need

Whether you're small, large, or quickly growing, you can now empower your employees with a complete enterprise-level suite of technologies and capabilities. With systems engineered to lead the way in efficiency and functionality, G12 communications has been fully optimized to meet your exact business needs while drastically improving both the quality and performance of your communications.

G12 not only provides superior quality and a better user experience than on-premise platforms or other Hosted VoIP solutions, but offers more features, a seamless experience, 24/7 customer support from industry professionals, and all at a price you can afford. Even better, you can customize each system to accommodate your exact size and needs. When you grow, we'll grow with you.

Call or email us now to learn more about how the G12 Cloud PBX system can transform the way you do business.