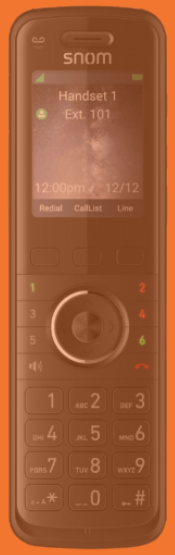
A Guide to VoIP Phone Systems



voip SUPPLY

Introduction to Learn More:

A Guide to VoIP Phone Systems

You've got to deal with new terminology and acronyms. Then there are the vague explanations technology vendors throw at you. Even if you get through all of this, you are still faced with more choices today than ever before.

Getting a VoIP Phone system doesn't have to be this hard.

What follows is a guide to VoIP Phone systems written in layman's terms that:

- Educates you on VoIP Phone Systems
- Defines and demystifies the underlying technology of a VoIP phone system
- Explains the important features of a VoIP phone system and the benefits of owning one
- Describes the different types of VoIP phone systems
- Highlights the types of businesses using a VoIP phone system
- Tells you how to go about purchasing a VoIP phone system
- And a few sample VoIP phone system solutions based on the size of your business

Since 2002, VoIP Supply has helped over 70,000 people just like you create, deploy and maintain a VoIP solution. If at any point in this guide you get stuck, are unsure of what is being discussed or just want to skip the details and have someone select the right VoIP Phone system for you, then please give us a call at 800-398-8647.

One of our experienced, vendor-neutral representatives will be more then happy to walk you through the process of selecting the VoIP Phone system that is right for you. Thank you for your time and enjoy the read.

VoIP Phone Systems Defined

Before we talk about VoIP Phone systems, it is important to note that there are a number of terms used to describe a VoIP Phone system that you might find helpful.

The two most commonly used terms to describe a Phone system are ‘IP PBX’ and ‘VoIP PBX’.

Since these terms are used often and can be interchanged, let’s first take a look at the term 'IP PBX'.

What does IP PBX stand for?
The acronym ‘IP PBX’ stands for Internet Protocol Private Branch Exchange. At first glance, the term is quite a mouth full. When you break an IP PBX into its two distinct parts (IP and PBX) you’ll find it is much easier to understand.

What is the Internet Protocol?
Internet Protocol (IP) is a method of transporting packets across your Local Area Network (LAN) or a Wide Area Network (WAN). If you are unfamiliar with the term WAN, it is what most call the Internet. In the context of a VoIP Phone system, IP denotes the method by which the system sends and receives packets – whether those packets happen to be voice or data. This is where the term VoIP comes from. VoIP stands for Voice over the Internet Protocol and is the widely recognized term associated with sending voice over a network.

What is a Private Branch Exchange?
A Private Branch Exchange (PBX) is a telecommunications system that handles the call control functionality of your telephones and fax machine while simultaneously managing your connection to the PSTN (Publicly Switched Telephone Network). The term PBX is used to describe what you would call your phone system.

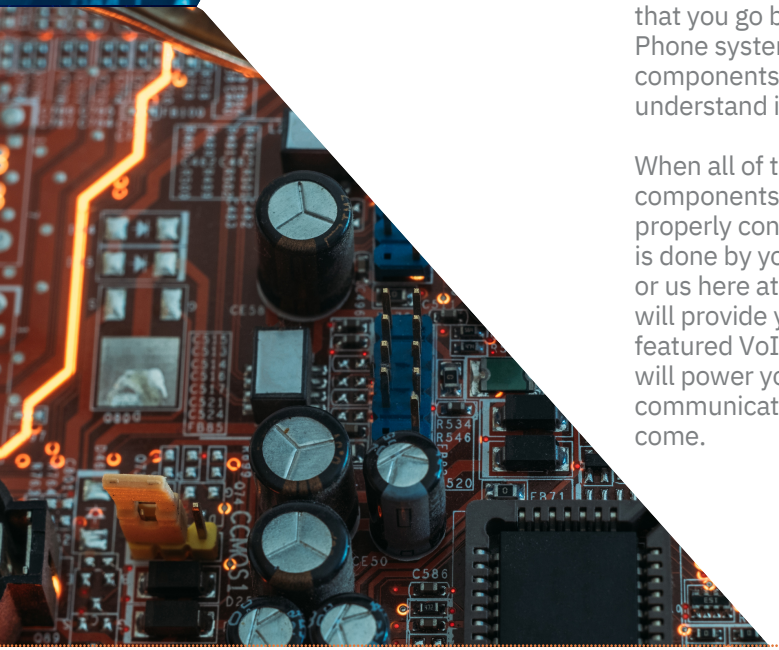
So, what is a VoIP Phone system then?
A VoIP Phone system is a phone system or IP PBX that handles your call control functionality and manages your connection to your telephone service provider through IP technology. A VoIP Phone system interconnects your telephones, VoIP Phone system and your VoIP service utilizing your existing LAN and WAN infrastructure.

VoIP Phone Systems Defined

This diagram shows the basic setup of a VoIP Phone system.

This setup is different from your traditional PBX. Your traditional PBX uses its closed network that interconnects your desktop telephones, PBX hardware and connects to the PSTN. The consolidation of networks that comes with using a VoIP Phone system is one of the benefits you will read about on page 7.

You might have noticed in the diagram that the VoIP phone system was connected to the PSTN. Most VoIP phone systems allow you to use both a VoIP service provider and a traditional PSTN provider. Some even choose to only make VoIP calls within their offices or branches.



The Components of a VoIP Phone System

If you're still not sure about what exactly a VoIP Phone system does, that's okay.

Although most VoIP Phone systems come as packaged solutions (meaning the VoIP Phone system requires no assembly), a VoIP Phone system can be built using a standard set of widely available components (like your desktop computer and internal servers).

While we don't recommend that you go build your own VoIP Phone system, knowing its various components will help you better understand it.

When all of these individual components are combined and properly configured (whether this is done by you, the manufacturer or us here at VoIP Supply), they will provide you with a full-featured VoIP Phone system that will power your business communications for years to come.

A basic VoIP Phone system is comprised of the following:

Hardware

The foundational hardware of a VoIP Phone system can take the form of a PC tower, rack-mountable server or an appliance such as Sangoma's SwitchVox appliance or the VoIP Supply Renegade. Typically the foundational hardware of a VoIP Phone system is a motherboard, power supply and a hard drive. Most people look at this hardware as "the" VoIP Phone system because it is tangible, this is simply not true – it is the next two components that deliver the features and benefits you will read about later on.

Operating System

The operating system, which could be Microsoft Windows, a distribution of Linux or something proprietary to the vendor is a piece of software that manages the hardware resources and provides a platform by which these resources can be used.

PBX Software

The PBX software used by a VoIP Phone system can be built in a number of different programming languages. Regardless of the programming language, the PBX software is responsible for providing the call control functionality and connectivity management of the VoIP Phone system. It is also the "administrative" interface that you will use to install and maintain the VoIP Phone system.

Connectivity Cards

The final basic component of a VoIP Phone system is the connectivity hardware for connecting the VoIP Phone system to your LAN/WAN through an Ethernet Network Interface Card (NIC) and or to the PSTN through an analog/digital PCI or PCI-Express card like ones sold by Sangoma.

The Basic Features of a VoIP Phone System

VoIP Phone systems come packed with features. You will probably never use all of them. Here are the most common features you are most likely to use:

- Auto Attendant
- Direct Inward Dialing (DID)
- Caller ID, Call Transfers, Call Waiting, Call Forwarding, Three-way calling
- Call Park, Call Pick-up
- Call Monitoring & Call Recording
- Call Queues and Call Routing
- In Queue Music & Messaging
- Interactive Voice Response
- Integrated Messaging
- Notifications &Screenpops
- Mobile Applications
- Voicemail & voicemail to email
- Conference Calling
- Remote or Virtual Extensions
- Analytics & monitoring tools
- Call reporting
- Ability to utilize VoIP & PSTN calling methods
- Web based management
- Application integration

Again, these are just the basics. Most VoIP Phone systems come with dozens of other options.

The Major Benefits of Owning a VoIP Phone System

Cost savings
You will save money on your telephone bill by using VoIP. You will also see a reduction in maintenance and support costs because you will no longer need to maintain a separate network for your phone system (or pay for the "phone guy"). Controlling your business phone costs have never been easier.

Mobility
Connect the growing mobile and remote workforce by incorporating mobility. An office is just about anywhere you need it to be today, and it's increasingly important for remote and mobile workers to access the same phone system features, whether working from a desktop or a mobile device. By implementing a UC solution, it makes it easy to stay connected to customers and prospects, from any location, from any device. It also provides flexibility in managing off-site employees, using features like presence and conferencing and having additional monitoring capabilities.

Remote Deployments
If you are looking to have someone work from home, or want to set-up a distributed call center or branch offices without having to buy another phone system, with a VoIP Phone system, you can deploy VoIP Phones anywhere there is an Internet connection and control them from your central location.

Productivity and Efficiency Increases
Since a VoIP Phone system has the ability to integrate with other business systems such as your CRM or ERP messaging platforms, you will realize productivity and efficiency increases as a result of voice enabling these (and other) platforms.

Visibility Across Your Entire System
Regardless of where you are, getting real-time access to analytics, queue statuses, call recordings and other phone systems statistics is as easy as logging into your system from a web browser. With visibility across your entire system, you can make educated decisions about your operations on the fly.

Scalability
In the past once you've gotten past a certain headcount, you've had to replace your entire PBX in favor of a newer, more expensive version. Thanks to the way in which a VoIP Phone system is built, adding additional extensions is as easy as a few clicks of your mouse.

As mentioned above, these are just the major benefits that folks like you realize and then discuss with us. If you are interested in learning more about how a VoIP Phone system could benefit you, feel free to give us a call at **1-800-398-8647**. If you're not quite ready, please read on.

The Various Types of VoIP Phone Systems

At VoIP Supply, we help you choose a phone system that offers the best fit for your business. Looking for the simplicity of a hosted PBX solution for a low, monthly price? Need the power and control of an affordable, business phone system? Prefer the flexibility of a hybrid VoIP solution for your growing organization? No matter which deployment option you require, we have you covered - including all the features and savings you expect.

On-Premise also referred to as "on-prem"

Do you prefer to manage your own business phone system installed at your physical location? Our Switchvox premises-based IP PBX provides an end-to-end UC solution with enterprise-class features, designed to meet the budget of a SMB. You get the power and control of an affordable on-site solution, without the hassle of expensive add-on features or complicated licensing models.

Hosted PBX

Are you looking for a full-featured UC solution but want the ease of management from a hosted PBX solution? Switchvox Cloud has the same robust feature set as our on-premises phone system, but you don't have to worry about handling daily maintenance, or making a large up-front capital investment. With all features included, you simply choose a monthly payment plan that best fits your business, add the no-hassle phone rental (if needed), and let our cloud-based phone system go to work elevating your business communications.

Hybrid

While cloud-based and on-premises deployments are common as stand-alone options, the hybrid phone system rollout is a rapidly growing option for businesses of all sizes. Hybrid deployments combine both hosted and on-premises solutions to better meet the unique needs of your rapidly growing organization. Switchvox Hybrid phone system is an affordable alternative when you have a large, centralized corporate office, along with multiple remote, geographically dispersed locations. Franchises, banks, auto dealerships, and convenience stores and travel centers are some examples of organizations that can benefit from a Hybrid UC deployment.

The Various Types of VoIP Phone Systems

Proprietary
A proprietary VoIP Phone system is a VoIP Phone system with underlying operating system and PBX software that is closed "black box" technology specific to the manufacturer. With a proprietary VoIP Phone system, you have no access to system source code or insight into how the underlying system works.

Companies such as Cisco, Avaya and Shoretel offer these proprietary VoIP Phone systems. Because the development of the system was paid for by the manufacturer, proprietary systems are much more expensive than an open source or open source-based VoIP Phone system.

Open Source
An open source VoIP Phone system is a VoIP Phone system with underlying operating system and PBX software that is generally available to the public (for free). With an open source VoIP Phone system, you have full access to and control over the source as well as insight into how the system works.

As mentioned previously, you can make your own VoIP Phone system by assembling the various hardware components of a VoIP Phone system, installing your favorite operating system (like Linux) and an open source PBX software (like Asterisk by Sangoma, the most popular open source PBX software). Because the operating system and PBX software is free, the cost of an open source VoIP Phone system is very low since you only need to pay for the hardware and expertise to assemble, set-up and configure.

Open Source-Based
An open source-based VoIP Phone system is a VoIP Phone system with an underlying operating system and PBX software that is open source at the core with proprietary code built on top. This proprietary code is comprised of additional features, functionality, graphical user interfaces or other advanced options not commonly found in an open source based VoIP Phone system.

An open source-based VoIP Phone system represents the best value for most as it costs less then a proprietary VoIP Phone system for the same features and benefits, but doesn't require the hassle of self-assembly that is present with an open source VoIP Phone system. One of the more popular open source-based VoIP Phone systems is Switchvox from Sangoma, the creators of the world's most popular open source PBX software. Within each of these two VoIP Phone system types, there are three distinct classifications.

Hopefully you now have a better understanding of the different types of VoIP Phone systems that are available to you. It is important to remember that selecting the right VoIP Phone system for your situation can't be done by just understanding what a VoIP Phone system does and the different types of VoIP Phone systems that are available. Later on we will take a look at the proper steps to selecting a VoIP Phone system, but first let's take a look at the different types of businesses using a VoIP Phone system.

Who Can Use a VoIP Phone System?

Businesses of any size can purchase, deploy and maintain a VoIP Phone system, thanks to the various types of VoIP Phone systems to choose from offering robust functionality, cost savings capability, productivity and efficiency.

Here are a few examples of the different businesses using a VoIP Phone system today:

- Author working from a home office
- Technology start-up
- Small-town dental or medical practice
- Multi-location real estate firm
- Century-old manufacturing company
- Nationwide retailer
- Publicly traded multi-national corporation
- Car Dealerships
- Schools and Colleges
- Local, state, and Federal government offices
- Professional Services

That's a pretty diverse list right there! Because VoIP Phone systems are both scalable and flexible, you are not forced into a one-size-fits-all scenario as one may have been in the past. By taking the proper steps (outlined below) in assessing and then eventually selecting a VoIP Phone system, you will find that no matter your need, there is a VoIP Phone system out there that is perfect for you.

How to Select the Right VoIP Phone System

We've come a long way, haven't we? Congrats and thanks for your attention.

By now you should have a solid understanding of the underlying technology behind a VoIP Phone system. You should know what a VoIP Phone system does, how it is different from a traditional PBX and the different types of VoIP Phone systems available to you.

Now it is time to put all of that knowledge to work and start on the path of selecting the right VoIP Phone system for your current (and future) needs.

Quick note:
The first three steps outlined below have little to do with actually selecting a VoIP Phone system, but resist the natural temptation to just jump into the fun stuff by going right to step 5. A needs assessment, network assessment and evaluation of your existing Internet connection are paramount to a successful deployment, crisp calls and maximization of your investment.

How to Select the Right VoIP Phone System

1. Needs Assessment

The first step in the process of selecting the right VoIP Phone system is to conduct a thorough needs assessment that will uncover all of your various needs, wants and other business specifics related to a VoIP Phone system.

A few questions to answer:

- Why are you looking for a VoIP Phone system?
- What type of VoIP Phone system best fits your business?
- What are the major features or benefits you need?
- Who will be using the VoIP Phone system?
- What do your users want?
- Will this system still work for me one, three, or five+ years down the road?

2. Network Assessment

Once you have discussed and documented exactly what you are looking for in a VoIP Phone system, the next step is to assess your LAN. This is a critical, often over-looked step in the process of selecting a VoIP Phone system. While your network has nothing to do with the actual selection of a VoIP Phone system, since a VoIP Phone system uses your LAN for the transport of system information and your voice calls, it is important to make sure your existing network can handle the additional strain a VoIP Phone system will cause. Failure to ensure that your network can handle this additional strain could result in a less then favorable experience.

A few questions you should seek the answers to:

- How old is your current networking infrastructure?
- What level of additional usage can it handle?
- Do you have switching ports available for VoIP Phones?
- Does it make sense to set-up a separate network (or sub-network) for your VoIP Phone system? If so, what new networking equipment do you need?

3. Internet Connectivity

Like a thorough network assessment, taking a look at your Internet connectivity has nothing to do with the actual selection of a VoIP Phone system. But since you will likely be using VoIP for your calling needs, it is important to ensure that your Internet connection has enough available bandwidth to handle the additional traffic that will result from VoIP calling.

Here are a few things to look into:

- Do you have a high speed Internet connection?
- Have you tested the strength and speed of your Internet connection recently?
- How many concurrent VoIP calls do you anticipate you or your business will make at any given time?
- What amount of bandwidth will your VoIP calling use?
- Can your current Internet connection handle the increased bandwidth needs?

4. Installation, Support and Ongoing Maintenance

Once you understand what you need from a VoIP Phone system, ensure that your network and Internet connection can handle VoIP calling. It's now time to look at your ability – or lack thereof – to install, support and maintain your VoIP Phone system. While many can install, support and maintain a VoIP Phone system inhouse, some cannot.

Before signing the dotted line here are a few things to consider:

- Do you have the time and or resources to install, support and maintain the VoIP Phone system yourself?
- Have you (or anyone on staff) ever installed a VoIP Phone system?
- Do you (or anyone on staff) have a moderate comfort level with telephony, Linux and traditional telecommunications?

How to Select the Right VoIP Phone System

5. System Selection

Finally! It's the step you have been itching to get to. With all of the basic preparations and questions answered, it is time to focus on the VoIP Phone system.

Here is what you need to consider before pulling out your wallet:

- What is your total budget (including monthly recurring fees)?
- Which type of VoIP Phone system best matches your current needs? (Based on the results of your needs assessment)
- Are there any licensing and or monthly support fees?
- Does your vendor offer installation, support and ongoing maintenance?
- What is the total cost of ownership?
- Can this system integrate with other business systems?
- Is your system of choice interoperable with your VoIP service provider?
- Did you get multiple VoIP Phone system quotes?
- What is your Return on Investment (ROI)?
- Are there any warranties or service level agreements (SLAs) that come with the VoIP Phone system?

6. End Points

With the selection of your VoIP Phone system out of the way, you can now move on to the end points (VoIP Phones) that go with your VoIP Phone system. Since most VoIP Phone systems support several different brands of VoIP Phones you have many choices.

Here are a few questions to answer that will help narrow down your choices:

- Who will be using these VoIP Phones?
- What features and functionality do you need?
- How many incoming calls will a person/position receive at any given time?
- How often will the phone be used?
- Will you (or can you) use Power over Ethernet?
- What is your budget per VoIP Phone?
- How many Ethernet ports are available at each work station?

7. Voice Service

One of the final steps in the process is the selection of the type and provider of your voice service.

There are a few different ways to handle your voice calls. Some elect to go VoIP only. Some don't use VoIP at all. Many use a combination of VoIP and PSTN for their calling.

While your individual needs and preferences will ultimately determine which route you go, it is important to note that if you go VoIP only and your network/ Internet connection is lost, you will not be able to send or receive calls (including 911 emergency calls).

If you choose to use the PSTN, it is critical that you make sure your VoIP Phone system can connect to the PSTN. This can be done through a PSTN connectivity card in your VoIP Phone system or through an Analog or Digital Gateway that works in conjunction with your VoIP Phone system.

It will probably take some time to answer all of the questions above. But what are you to do with those answers once you have them? This is where VoIP Supply comes in.

If you have already answered all of these questions (or are still unsure of how to find these answers) then please give us a call at 1-800-398-8647 so one of our experienced representatives can walk you through the process of selecting a VoIP Phone system that is right for you.

Recommendation for **Small Offices**

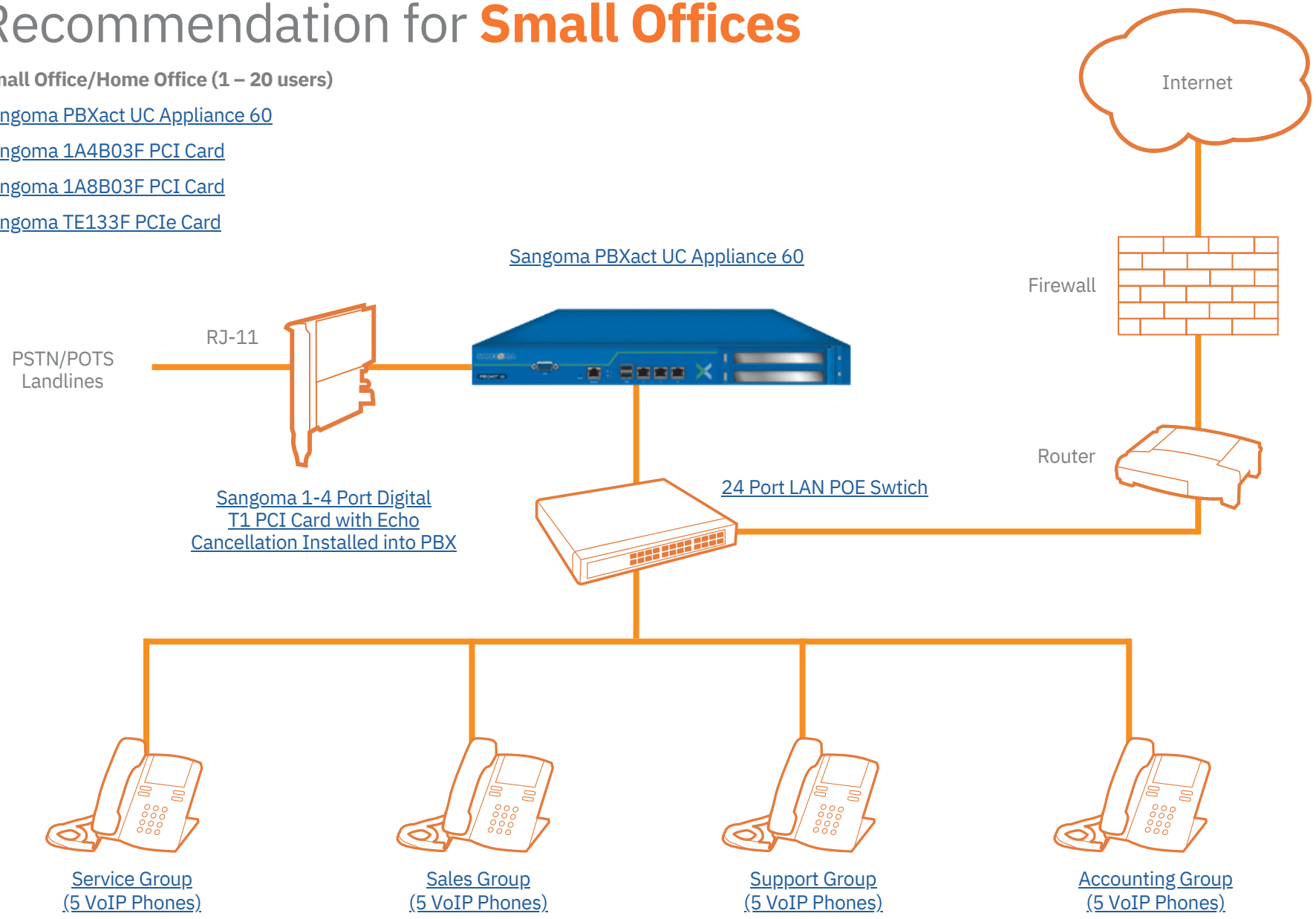
Small Office/Home Office (1 – 20 users)

Sangoma PBXact UC Appliance 60

Sangoma 1A4B03F PCI Card

Sangoma 1A8B03F PCI Card

Sangoma TE133F PCIe Card



Recommendation for **Medium Offices**

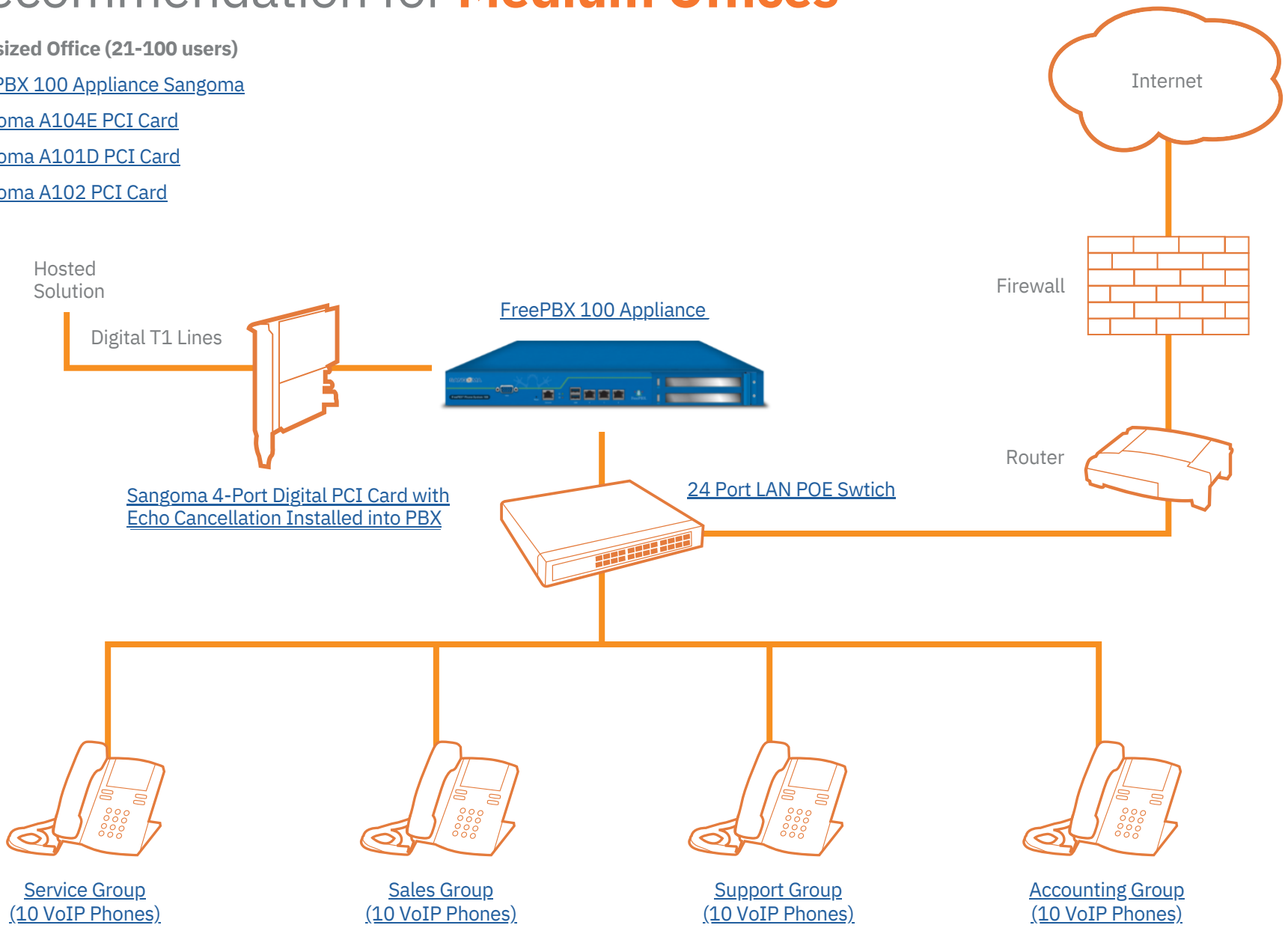
Mid-sized Office (21-100 users)

FreePBX 100 Appliance Sangoma

Sangoma A104E PCI Card

Sangoma A101D PCI Card

Sangoma A102 PCI Card



Recommendation for **Large Offices**

Larger Office (75+ users)

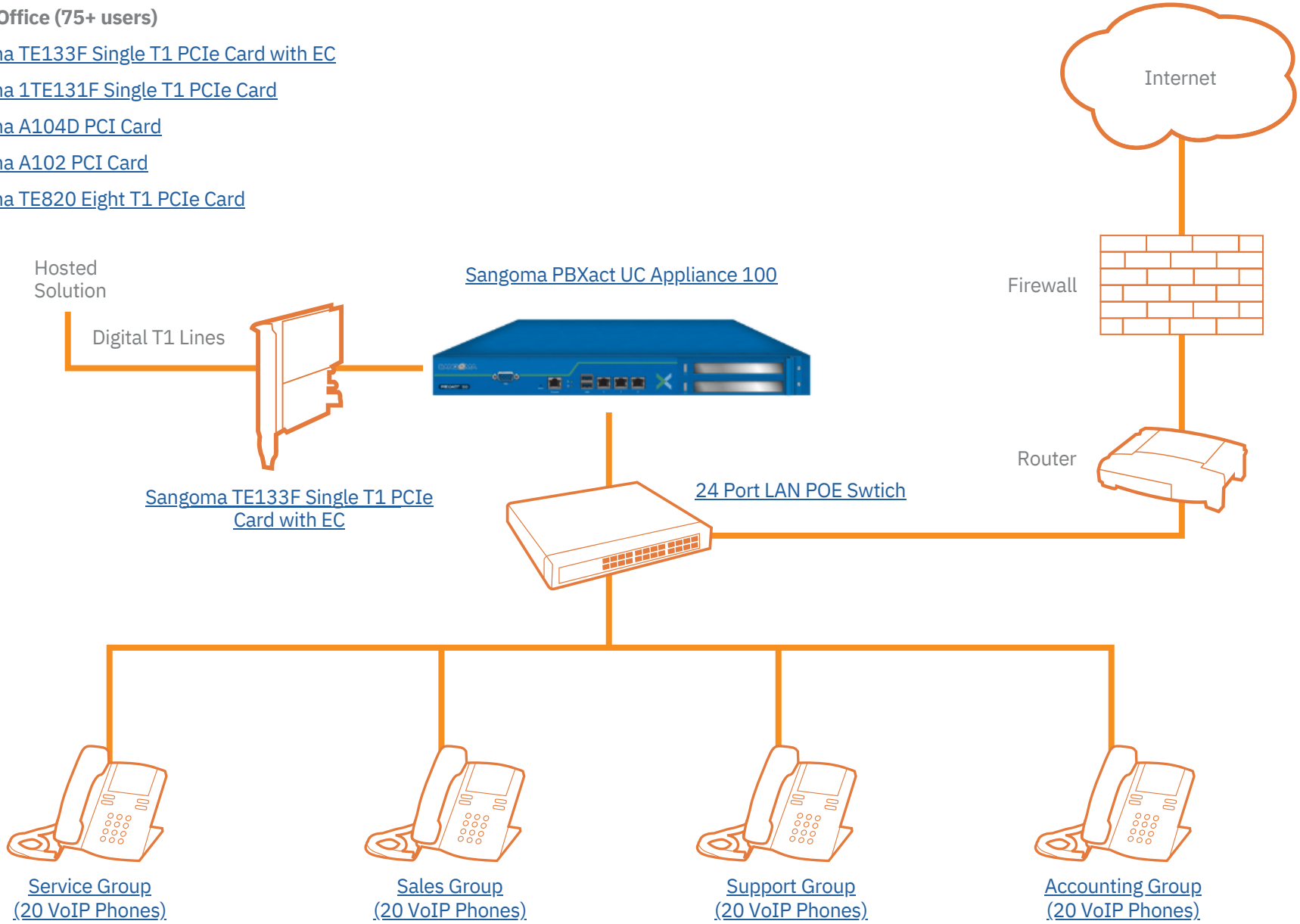
Sangoma TE133F Single T1 PCIe Card with EC

Sangoma 1TE131F Single T1 PCIe Card

Sangoma A104D PCI Card

Sangoma A102 PCI Card

Sangoma TE820 Eight T1 PCIe Card



We here at VoIP Supply appreciate the time you invested in learning more about VoIP Phone Systems and we hope that you have found this content helpful in your pursuit of a VoIP Phone system. In closing, we'd like to once again extend our services here at VoIP Supply to you. Since 2002, VoIP Supply has helped over 120,000 people just like you create, deploy and maintain a VoIP solution – adding you as a customer would be a great privilege.

So after leaving this guide to further dive into the process of purchasing a VoIP Phone system, if you ever find yourself confused, frustrated, or simply in need of expert advice, please do not hesitate to give us a call at 1-800-398-8647 and we will do our best to give you honest, accurate and helpful information that will help you make the right choice.

Thanks again for your time,
– The VoIP Supply team

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