

# YOUR NEXT TELECOM SYSTEM

## A PRIMER ON CLOUD, ON-PREMISE, AND HYBRID

### Introduction

As 2018 begins, many companies are starting to look at technology upgrades for the coming year. One area that has become much more complex and challenging for CEO's, CFO's, CIO's, and IT managers is voice communications. No longer defined and relegated to a phone system, or PBX, voice is leading the way in integrating collaborative technology that includes voice, data, video, messaging, multi and omni channel contact centers, remote communications, Internet of Things, and other traditional IT applications.

The decision you make today will have an effect on almost every aspect of your company in the future. A good decision might pole-vault your company ahead of the competition and contribute directly to the bottom line. A poor decision could mean wasted budget dollars and lead to employees being less productive than your competition.

In order for you to make an informed, intelligent decision about which of the competing technology platforms, transport choices, features, functions and payment options are right for your business, it is very important to understand the benefits and limitations of each choice.

While we can't make you a technology expert by the time you finish this paper, you should be prepared to ask the right questions and better understand the major difference between voice platforms available in the marketplace and the impact each can have on your business.

*"VoIP is short for Voice over Internet Protocol. Voice over Internet Protocol is a category of hardware and software that enables people to use the Internet as the transmission medium for telephone calls by sending voice data in packets using IP rather than by traditional circuit transmissions of the PSTN."*

Definition from webopedia.com

*"Technology-based innovation arrives faster than most organizations can keep up with. Before one innovation is implemented, two others arrive. To cope, CIOs in end-user organizations must learn to develop an appropriate pace for digital change."*

Gartner Research



### In This Report

- Background—What is VoIP
- Why You Need to Upgrade
- Infographic—Pros/Cons of Each Option
- Cloud Communications Systems
- On-Premise Communications Systems
- Hybrid Communication Systems
- Key Considerations
- A Critical Business Decision

# Background

For the 30,000 foot overview you need to know what VoIP is, and the main difference between On-Premises, Hosted, and Cloud-Based systems.

Let's start with **VoIP (Voice over Internet Protocol)**. In a nutshell; your voice (which is analog) is converted to digital (think of listening to music on a CD instead of an LP record) and is layered in with other data applications on your network (seventh layer of the OSI model to be specific). It is the underlying technology of most of today's voice platforms.

One primary advantage of VoIP is that it essentially makes voice a data application, which allows it to be integrated into your IT infrastructure. On the other hand, voice has its own set of rules and parameters that traditional IT personnel find challenging if they do not have a voice background. For example; unlike data, voice is "real-time" which means that data packets cannot be delayed and must arrive and be assembled at the distant end in sequence.

VoIP needs other components in order to function in a business environment. There are many aspects of VoIP ranging from the actual technology, how carriers deliver and control their networks to how the end user interfaces with VoIP.

Next you will need to understand the way(s) VoIP is delivered as a working Voice platform. It might appear that there is an infinite number of possible solutions and to a certain degree that is true. The various combinations of technology and providers can be mind-boggling.

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## Why You Need to Upgrade

Your voice communications are going to be intricately entwined with many of your IT functions. Your IT applications are also going to be part of your new voice platform. Older analog Centrex or PBX phone systems or even earlier digital PBX systems cannot be upgraded and require a complete change out of equipment. Your old system is or will soon likely be costing more to run and maintain than a new system. Carriers are "sunsetting" old infrastructure and no longer supporting systems. This means you are not able to take advantage of the cost savings and new technology applications associated with VoIP technology.

One important question is whether all of the many features offered with the new system are features that the business actually needs. The sheer number of functions available can be overwhelming and most of their capabilities will never be used. Does the company need to tie into mobile devices and a remote home office workforce? Many companies have this requirement. What about an emergency notification system if there's a tornado approaching or an intruder in the building? It is important to recognize that all these new functions are not simply bells and whistles. Some, if implemented correctly and followed with adequate staff training, can keep your staff safe while also reducing costs and increasing sales. Installing a modern telecom system of any kind presents an opportunity to redesign not just communications but many of your technology related business applications.

# Pros and Cons for Cloud, On-Premise and Hybrid Communication Systems



Voice Over IP telephone systems are popular options for modern businesses, and they can offer substantial advantages. But buying a VoIP phone system can be challenging. Below lists the pros and cons of each option to help you determine which solution is better for your business.

## Cloud Systems



### Features

- Entire system managed by 3rd party provider
- Shared platform

### Pros

- Frees your IT staff up to focus on core services
- Feature changes/upgrades easily activated remotely

### Cons

- Longterm contracts may limit options
- Possible security concern

### Best For

- Small businesses with reliable Internet connection
- Industries needing faster setup and tear down

## On-Premise Systems



### Features

- All equipment and servers onsite
- Voice and data can be on different networks

### Pros

- Typically better overall ROI
- Retain complete control of system

### Cons

- High up-front costs
- Higher labor costs to manage

### Best For

- Industries requiring complete control
- In-house expertise to manage system

## Hybrid Systems



### Features

- Offers benefits of both premises and hosted
- Can be on standalone remote server

### Pros

- Flexible and customizable solution
- Feature-rich, best of both worlds.

### Cons

- Requires some in-house resources to manage
- Need to maintain onsite and cloud infrastructure

### Best For

- Companies with IT staff to manage services
- Those on a fixed budget but no WAN.

## Option 1: Cloud Communications Systems

Sometimes referred to as Hosted VoIP, Hosted PBX, and Unified Communications as a Service (UCaaS), Cloud systems all access an off-site location where the entire phone system and circuits are managed by a third-party provider. These services are connected to the client's network through the Internet or a Private Cloud delivered by MPLS for example. Of course, there are all sorts of variations on this basic design. The pricing for these systems is usually determined on a per seat basis.

Most often, Cloud systems are shared. This means that although a business can still own its phone numbers and various accounts, the vendor will be pooling a larger client base onto the same server array. This could be a security concern for some businesses. It also means that if the system has a problem or goes down, all clients on the system can be affected. Despite many providers having 99.999% reliability, there are chances of outages at some point. With Cloud systems, it is also possible to own your own system.

A major advantage of a Cloud system is that the vendor will take responsibility for the reliable operation of the entire platform. While no communications company can ever guarantee that there will never be an outage, this does offer businesses a very reliable service and peace of mind that they typically cannot achieve on their own. In most cases the service provider will know about a problem and fix it before the client is ever aware of it. A key advantage in a Cloud system is that IT staff time is freed up. In addition, training to maintain the phone system is not necessary.

Another advantage of Cloud-based systems is the ease with which new features and capabilities can be turned off or on. These changes along with upgrades and improvements to the system can all be done by the vendor remotely. This means maintenance downtime periods can generally be avoided. Technology refreshes and system upgrades are typically included in the pricing.

If the hosting VoIP company is sophisticated enough, they can develop, implement and maintain specific applications for the client (often delivered as an API), such as preferred communications access for their own clients.

Extra care must be taken when negotiating with a Cloud communications service provider. You should avoid long-term contracts that would limit your options when looking at alternative providers or technology advancements.

Systems may be offered in various hybrid models where you could adapt some of your existing infrastructure or achieve cost savings from other vendors for specific elements of the system. For example, acquiring a different brand of headset or telephone handset, assuming they are compatible, could bring down costs. Be sure to sort this out in your contract or use an experienced Communications Technology Consultant to ensure you are getting the best possible solution for your





## Option 2: On-Premise Communications Systems

With an On-Premise solution (probably what you have now; also known as a Private Branch Exchange or PBX), the entire telephone system is housed on-site. This includes the software, servers, routers, and other networking devices, as well as phones, softphones, and headsets. If installing an on-premises system, in all likelihood you will also need to upgrade your internal cabling infrastructure (although you may be able to use existing Ethernet, fiber optic and CAT 5/6 cables). The only outside element is dial tone from the Public Switched Telephone Network or PSTN, which is delivered from a voice services carrier such as AT&T or Verizon, or a local Cable, Broadband, Ethernet or Fiber provider.

Today's on-premise solutions are on par with the latest technology and can deliver a full set of capabilities. Better still, the cost of implementation is very competitive and may be your least expensive option if cost is the major concern. Although modern PBX systems are physically smaller than in the past, they still require dedicated areas for all the equipment. Environmental controls such as a separate HVAC system may also be required.

Another important aspect to keep in mind is the need for in-house monitoring and system management. An individual or group of individuals within the company will need to be trained on the system to address any issues that might arise. Vendors typically offer various management and support programs. These services are usually remote but sometimes include on-site support. Nevertheless, a business will need at least one individual in the company to "own" the new system and, with an on-premise system, that can be a significant investment.

It is important to understand that the company that installs an on-premise system retains complete control. This is critical and may even be a requirement in certain industries. While some Cloud and Hybrid solutions have options that address specific industry requirements, in terms of security it is hard to beat a well-protected internal network.



## Option 3: Hybrid Communications Systems

To further complicate and confuse the communications systems available, some system vendors will offer partial as well as full end-to-end solutions into a Hybrid solution. A variety of different options will be available at different price points.

As with an On-Premise system, the client may need some infrastructure onsite such as a server and handsets, and a reliable connection to the Cloud. The communications provider will maintain and may own this equipment and associated software which is accessed remotely. The provider may offer various service and maintenance packages, but, just as with an in-house PBX, the business client would be wise to maintain an internal support capability.

Similar to Cloud systems, Hybrid systems can also be on a shared or partitioned server. Unlike a Hosted system, a client can actually own, lease or rent a standalone server. The cloud company then provides a “managed” service for all necessary hardware, software, network connectivity and system management including maintenance and on-premise service calls.

The virtual PBX will quickly become as unique to the business as a conventional PBX. And that’s one of its strengths. It is designed to expand capability and collaboration. It is much more customizable and, therefore, not as limited or uniform as a Hosted system. Since a business can own and operate a Hybrid-based PBX, many of the same management issues of an On-Premise systems will need to be taken into account. On the other hand, it shares a similar technology to Hosted systems so many of the infrastructure and equipment issues are the same.



### Some Other Considerations When Implementing New Telecom Systems

**Workforce Needs and Capabilities:** Some employees thrive on change and are well disposed and open to new technologies. Others may be more set in their ways and less open to change. A new telecom setup may look great on paper but if the employees are not receptive, or are simply not capable of learning how to use it, the best system in the world will have no benefit. Thus the aptitudes and attitudes of staff members is a crucial consideration.

**The Effect of the Implementation:** What will be the cost to productivity of the installation and training periods, and of the breakdowns that will inevitably occur at some point in the future? How will these matters be handled and what will it mean to the effectiveness and morale of the workforce?

**Capex vs. Opex:** How an implementation is expensed is critical. Early on, a company must determine the balance of costs between operational expenses, such as monthly rentals on headsets, and capital expenditures, such as purchasing a new PBX.



## A Critical Business Decision

In the end, whether a business chooses Cloud, On-Premise, or Hybrid solution, the new telecom system can have a profound effect on business processes and ultimately profitability. Selection and implementation is critical. Change is both a risk and an opportunity.

An effective implementation can improve everything from customer experience to overall profitability. How a business functions and how it wants to function is as much a determinant on the selection of a new business communications system as the price or the choice of technology.

These are not easy decisions nor are they simple. If your company is not prepared with educated staff, you can define the scope of work to outsource this to a Communications Technology Consultant. Just make sure he/she is independent, experienced and aligned with your company's objectives.



## About Us

Abilita is a Communications Technology company whose experts provide independent and technology agnostic consulting solutions to a diverse set of SMB to enterprise organizations. With locations across North America, Abilita offers expert advice on premise, hosted and hybrid systems to suit your business needs.

View our infographic [Pros and Cons for Cloud, On-Premise and Hybrid](#) or for more information about telecom or your custom technology needs:

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