The Complete Guide to Hosted VoIP

Consolidated Communications®
As Voice over Internet Protocol (VoIP) solutions continue to mature, an increasing number of businesses will adopt the technology. According to Infonetics, a market research firm, VoIP and unified communications services are predicted to grow to an $88 billion market by 2018. The scores of meaningful business benefits resulting from hosted VoIP are helping to fuel this growth.

It’s clear hosted VoIP has moved beyond the hype to provide a viable business communication solution for organizations of all sizes. This guide will discuss several important topics to consider in your decision-making process, including:

- What is Hosted VoIP?
- How Does Hosted VoIP Work?
- Hosted VoIP vs. Alternative Solutions
- Is Hosted VoIP Right for Your Business?
- Understanding the Advantages
- Evaluating the Disadvantages

This in-depth discussion will help you create a strong foundation of knowledge. Armed with this information, you’ll be well-positioned to determine if hosted VoIP is right for your organization.
“Hosted” means the VoIP hardware and software, including the IP PBX, are housed at a service provider’s off-site location. The IP PBX can be owned and operated by the service provider or owned by the company. In the latter application, the organization will house and maintain their own equipment in a provider’s data center colocation facility.

For the purposes of this discussion, hosted VoIP refers to a solution provided by a third-party provider who owns and operates the IP PBX. These providers deliver a PBX telephony system as a service using VoIP technologies.

By using off-site hosted VoIP services, organizations can forego purchasing and installing equipment at their locations. Instead, they typically pay a monthly charge to access the provider’s hardware and software.

Hosted VoIP goes by a number of different names. Given the variety of references, it’s easy for business decision-makers to get confused. Hosted VoIP is also referred to as virtual PBX, hosted PBX, cloud PBX, Internet business phone system and managed VoIP. The underlying technology used in all of these hosted solutions is VoIP.
VoIP also goes by different names, including IP telephony, broadband telephony, digital telephony and voice over broadband. Although VoIP has also been used interchangeably with Internet telephony, some subtle distinctions exist.

Internet telephony uses the Internet as the connection medium for transmitting voice calls and other telephony services. Because it depicts the entire range of services provided by a digital phone system, Internet telephony is commonly used as the umbrella term for all IP voice communications conducted over the public Internet. Conversely, VoIP refers only to the digital phone calls. Therefore, VoIP is considered a sub-set of Internet telephony.

To summarize, hosted VoIP is a form of business communications that houses the VoIP equipment in a service provider’s data center. The service provider manages and maintains the hardware and software that processes an organization’s phone calls. The provider’s business customers deploy IP desktop phones that connect to the service provider’s system usually through an on-premise router.
CHAPTER 2:
How Does Hosted VoIP Work?

In a hosted VoIP model, service providers simplify business communications by doing the heavy lifting in their data centers. Customer phone calls are processed through the provider’s hardware and software systems, and routed over an IP network. The service provider offers a virtual solution that eliminates the need for a physical PBX at the organization’s location.

Here’s a more detailed explanation of what happens with a hosted VoIP phone call:

• Businesses purchase or lease IP phones from their hosted VoIP service provider. If leased, the cost of these phones is included in the monthly service charge for the hosted service.

• IP phones typically are “plug and play.” The business customer plugs them into its corporate LAN to gain access to the provider’s system. In some cases, traditional business telephones can be used with an analog telephone adapter that connects the phone to the LAN. VoIP services can also be conducted using a computer by adding a PC soft client phone application. Complete, end-to-end VoIP service delivery providers can also provide options for LAN equipment such as routers, switches and gateways and manage these networks for customers. This additional equipment would carry applicable monthly lease rates per device similar the simple phone model described above.

• Through routers in the company’s LAN, the IP phones connect to an IP network. IP networks can be the public Internet or a private IP network. In some applications, a Quality of Service (QoS) device may be installed between the LAN and IP network to maintain the highest voice quality. QoS devices are often used when calls are routed over the public Internet. Some providers can provide last mile facilities to customer site(s) and can control QoS on a closed network where VoIP services are not normally traversing the open Internet.
• After being routed through the IP network, the call reaches the service provider’s hosted IP PBX platform. The call is processed by the hosted IP PBX and routed to its final destination. The hosted IP PBX may route the call over an IP network or the traditional Public Switched Telephone Network (PSTN).

• When transmitted over an IP network, phone calls are converted from analog signals to digital signals, or data packets. Once converted, these data packets travel over the IP network just like email or any other type of data. Conversely, voice calls over the PSTN are transmitted over a circuit-switched network and travel as analog signals.

• On the receiving end, calls are converted back to analog voice. This entire process of converting, transmitting and converting happens as quickly as a traditional phone call and is unnoticeable to phone users. VoIP uses compression technology to reduce the size of the voice data packets so they’re transmitted efficiently. VoIP also uses encoding and decoding technology that ensures the voice packets arrive at their final destination at the same time and in the right order, even though they may have taken different paths.
CHAPTER 3:
Hosted VoIP vs. Alternative Solutions

Businesses have several options when they deploy a voice communications solution. Three of the most common approaches include using an:

1. **On-Premises Company-Owned System** – An on-premises, company owned system can be either a traditional legacy PBX (T1, PRI, or multiline interfaces) or an IP-enabled (SIP interface) PBX platform. In both cases, the system serves a single business and is housed at the company’s location. Both on-premises options require more work and expertise on the part of the company. The business must also make a significant investment in technology.

   In addition, companies can leverage Session Initiation Protocol (SIP) Trunking with their on-premises system. SIP Trunking is an IP trunk service that can be configured to support both traditional PBXs, using a gateway device and IP PBXs. By connecting a customer’s premises-based PBX to a service provider’s network, SIP Trunking offers an IP replacement for traditional PBX interfaces (T1, PRI, or multiline). For IP-enabled PBXs, SIP Trunking creates access to additional routing and disaster recovery features and capabilities.

2. **Off-Premise Company-Owned System** – A business houses either their traditional PBX or IP PBX in a service provider’s data center colocation facility. If you use this model, you’re responsible for maintaining your equipment. For a monthly fee, the provider offers space, power, cooling, physical security and other facility-related services.

3. **Off-Premise Hosted VoIP Solution** – A business pays a monthly fee for accessing complete IP voice communications services. The service provider owns, manages and maintains all hardware and software components at their facility. Through online portals, you can administer the configuration and capabilities of your hosted VoIP solution.

Organizations of all sizes face a critical decision: is it better for their business to deploy a premises-based solution in which the phone equipment is kept on-site, or a hosted VoIP solution where phones connect over an Ethernet service circuit or through an Internet connection to a provider that maintains the equipment in an off-site data center? You must educate yourself on the benefits and potential challenges of your various options to make the right decision and ensure the greatest return on your investment.
EVALUATING THE ADVANTAGES AND DISADVANTAGES

Compared to on-premises phone solutions, hosted VoIP provides a fully functional telephone service without having to purchase system hardware, except for the IP phones in some circumstances. The following table lists the major strengths and weaknesses of hosted VoIP. Using this information, you can decide if hosted VoIP is the best voice solution for your organization.

### ADVANTAGES AND DISADVANTAGES OF HOSTED VOIP

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<th>Advantages</th>
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<td><strong>No Initial Capital Expenditures</strong> – Hosted VoIP solutions require a lower upfront cost. Instead of large capital outlays, you incur a predictable, monthly operating expense which allows you to budget more efficiently.</td>
<td><strong>Higher Long-Term Costs</strong> – At some future point, your recurring monthly costs will exceed the cost of purchasing your own equipment. You must also consider any usage charges. However in some cases, long-term costs will be offset by the value created by hosted VoIP, including automatic upgrades, lack of capital expenditures, ongoing support and more.</td>
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<td><strong>Lower Total Cost of Ownership (TCO)</strong> – After factoring in certain savings, such as in IT personnel, equipment purchases, maintenance costs and repair costs, you may arrive at a lower TCO for a hosted VoIP solution. A good chunk of the operational costs are transferred to the service provider.</td>
<td><strong>Internet Outages</strong> – If any of your phone calls are routed over the public Internet, you may have a disruption of service if any outages occur. These outages may be beyond the control of the service provider. Keep in mind, however, phone calls will still be routed to voicemail or other destinations during an Internet outage. Some providers can provide pre-provisioned backup service options to minimize these types of outages.</td>
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<td><strong>Easy Installation</strong> – The hosted VoIP provider will take care of all the set-up and installation. So, you don’t need a telecom or VoIP expert on staff. And, you typically don’t pay for equipment set-up.</td>
<td><strong>Voice Quality</strong> – The quality of your voice communications largely depends on the quality of your service provider’s network and equipment. Hosted VoIP has come a long way since its inception and current quality levels equal the PSTN. However, sub-par networks and/or equipment can cause interference, latency and other call quality issues. Selecting the right service provider can ensure your business receives the highest quality of service.</td>
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<td><strong>Leverage Existing Data Network</strong> – You don’t need to pay for and maintain two separate voice and data networks. By using one network for both voice and data, you use bandwidth more efficiently.</td>
<td><strong>Extended Contracts</strong> – The length of your contract depends on the service provider’s terms. Pricing may depend on the commitment you make – the longer your agreement term, the less you might pay. In addition, some providers may charge a cancellation fee for early contract terminations.</td>
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<td><strong>Feature-Rich</strong> – Although feature sets may vary by provider, typically a hosted VoIP solution includes a greater number of capabilities at a lower cost than an on-premises system. Typical features included are voicemail, auto attendant, conference calling, voice mail transcription, call forwarding, call preferences and more.</td>
<td><strong>Lack of Customization</strong> – Customized features may be unavailable to some customers. Hosted VoIP providers usually don’t adapt services to single users.</td>
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<td><strong>Scalability</strong> – If you think your business will grow, a hosted VoIP solution can easily scale to meet your future requirements. You just add new users whenever needed. A premise-based solution often requires you to purchase a larger system to accommodate future growth. Or, you have to pay for expensive upgrades when your requirements outgrow your existing system’s capabilities.</td>
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<td><strong>Greater Worker Mobility</strong> – Because a hosted VoIP solution uses an IP network to transmit calls, workers can access the system’s capabilities from any location with an Internet connection. Using sophisticated features, the solution can be set-up so calls follow you wherever you go.</td>
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<td><strong>Improved Disaster Recovery</strong> – Hosted VoIP providers typically oversee their systems around-the-clock. In the event of a power outage, backup systems keep everything up and running. A service provider can offer physically secure data centers with multiple levels of redundancy that are unaffordable to many businesses.</td>
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<td><strong>Professional Image</strong> – Hosted VoIP allows even the smallest of companies to project a more professional image to its customers. Whether an employee is working from home or on the road, your company will provide a consistent user experience.</td>
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<td><strong>Regular Upgrades</strong> – A proven hosted VoIP provider will stay current with system capabilities. You don’t have to handle upgrades or worry about falling victim to technological obsolescence. Hosted VoIP customers can access new features on a regular basis.</td>
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<td><strong>Increased Productivity</strong> – Hosted VoIP systems help streamline operations by providing advanced call routing and call management. These capabilities help ensure calls get to the right person every time. Your employees won’t be wasting time and callers won’t be inconvenienced.</td>
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<td><strong>Ease of Moving Your Phone System</strong> – It’s much easier to move a hosted VoIP solution than an on-premises system. You simply plug your IP phones into a broadband connection to make and receive calls.</td>
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In many situations, the advantages of a hosted VoIP solution will far outweigh the potential disadvantages. With the right service provider, hosted VoIP delivers a wide range of cost and capability benefits. It is these benefits that are driving the growth in hosted VoIP models.

The success of your business depends on purchasing the right voice communications system. Therefore, you’ll need to carefully evaluate the available options for your voice communications, as well as provider capabilities, to determine the right phone service for your business.
CHAPTER 5:
Why Consider Consolidated Communications For Your Hosted VoIP Solution?

Consolidated Communications helps businesses of any size get the most from their voice applications. As a hosted VoIP provider, CCI’s solution delivers a powerful, feature-rich phone system for small, medium or large businesses. Major advantages of CCI’s hosted VoIP include:

• **Customized Configurations** – You can customize services depending on the requirements of individuals and groups within your organization. For example, services such as call forwarding, simultaneous ringing and call rejection can be configured through the CCI web portal. Every user’s voice communications are set up so they can communicate on their own terms.

• **Robust Calling Features** – You gain access to features such as unlimited local calling, station-to-station intercom calling, caller ID, voicemail, call forwarding, call transfer, call park/retrieve, speed dialing, return call/busy redial, call manager/follow me, simultaneous ring, music on hold, a web portal for do-it-yourself changes and feature activation/management, attractively priced long-distance plans and more.

• **Enhanced Flexibility** – With CCI’s hosted VoIP, you can update user preferences and features quickly and easily to suit your business. And if your business grows, the CCI solution keeps pace no matter how many locations you have.

• **End-to-End Reliability** – All your calls are routed over CCI’s secure Ethernet network. You get crystal-clear voice quality and reliable service backed by 24/7 support. Even if the power goes out, messages are saved and calls re-routed to alternative locations.

• **Comprehensive Support** – CCI’s communications experts handle everything involving your voice and data connectivity. You no longer have to worry about maintaining, monitoring and upgrading your voice communications system. Instead, you can focus on your core business initiatives.
• **A Superior Network** – CCI operates the largest fiber-based network in northern New England. This advanced network delivers fast, reliable service every business needs to stay competitive. Next-generation technology, 24/7 network monitoring and 99.999% core network reliability keep you connected.

• **Seamless Integration** – CCI integrates your locations, services and applications smoothly. The goal is a best-in-class experience for every customer installation.

• **Competitive Pricing** – CCI offers the best value in the areas it serves. The hosted VoIP solution provides every customer with a right-sized, scalable service designed and supported by experts.
CHAPTER 6:  
Why Consider Consolidated Communications For Your Next-Generation Technology Services?

MORE THAN A NETWORK.
THE SERVICE PROVIDER YOU’VE BEEN LOOKING FOR.

We can do much more for your organization than provide data transport and availability at the desired speeds to all your locations. We can help you use technology in smart ways that improve operations and save you time and money. With Consolidated Communications, you can focus more on running your organization, and use your IT staff more strategically, by outsourcing some or all of your IT operations, from routine to complex. For example:

1. **Converge voice and data onto a single network.** CCI’s VoIP services deliver a modern business-class phone system with mobile- and cloud-based features. We offer two VoIP options: Hosted PBX and SIP Trunking. Both options simplify network requirements, provide access to enhanced features and lower operational costs.

2. **Use data center colocation for savings and protection.** We’ve already made the capital investment in a physically secure, state-of-the-art data center, so you don’t have to. Experience ultimate peace of mind by working with Consolidated Communications for your primary data center or secondary site for redundant computer operations and data back-up. If you experience a serious failure or disaster at the office, your organization can stay up and running with the right solution.

3. **Free up your resources and rely on CCI expertise to extend your IT team.** We have skilled personnel to help you with remote-hands tasks at our data center. With our experienced Advanced Services team at your fingertips, your IT staff has more time to develop new applications and address strategic priorities.
CONSOLIDATED COMMUNICATIONS

Consolidated Communications Holdings, Inc. (Nasdaq: CNSL) is a leading broadband and business communications provider serving consumers, businesses of all sizes and wireless companies and carriers, across a 24-state service area. Leveraging its advanced fiber optic network spanning more than 36,000 fiber route miles, Consolidated Communications offers a wide range of communications solutions, including: data, voice, video, managed services, cloud computing and wireless backhaul. Headquartered in Mattoon, IL, Consolidated Communications has been providing services in many of its markets for more than a century.

To arrange a free, no-obligation consultation or request a complimentary demo, contact Consolidated Communications at 844.YOUR.CCI. For more information on hosted VoIP or other Consolidated Communications solutions, visit www.consolidated.com.