



VoIP: Demystified

VoIP. You've heard of it. You kind of understand what it does—something about telephones and the Internet—and you're trying to decide if it's right for your organization. But it seems like there's a lot of technological terminology around it. Even the name of VoIP itself can be a little daunting: Voice Over Internet Protocol.

For your employees, VoIP (pronounced like "voyp") can be as simple as talking on the phone as they always do, but with a lot more flexibility in the devices they use and the features they can access. For you, VoIP can mean less complexity, more cost control and the freedom to introduce new capabilities to the organization.

With VoIP, voice isn't just about making phone calls anymore.

What's the Difference?

The difference between VoIP and what you normally might imagine when you think of a traditional telephone system is how your voice is transmitted. Instead of being sent over a telephone wire, VoIP sends your voice over the Internet. As a matter of fact, thousands of people use VoIP in their daily lives. If you've ever used Skype or Vonage, or if your home phone service is provided by your cable company, you've already been introduced to VoIP.

But there's so much more to VoIP than just talking on the phone, thanks to the Internet. If you're responsible for your organization's telephone infrastructure, you might want to know just a little more about how VoIP works, its benefits and advantages over a traditional telephone network. As with all things technological, having basic knowledge of what's happening under the hood goes a long way towards intuitively understanding how the technology can fit into your organization.

Digitizing Voice

As we all know, computer technology is ubiquitous in our world. The thing to realize is that, no matter where the technology resides—in a tablet, laptop, smartphone or printer—it pretty much treats all content the same way, as some form of digital information.

So, if some device wishes to transmit an email, a fax or a phone call over the Internet, the first thing it needs to do is digitize the content by breaking it down into bytes of data and putting it in little, individual packages called IP packets. The IP stands for Internet protocol, which is the "IP" part of VoIP. The content then gets labeled, addressed and sent out over the Internet.

What makes the Internet, or any computer network, so efficient is that the network doesn't send all of the IP packets via the same route. Instead, to

speed things along, it directs each packet along different routes on the network that have the least amount of traffic—you three go that way, you two go the other way. Once they reach their destination, all the IP packets are reassembled into the original piece of content.

Readying the Network

For voice packets, which are very large and require the highest levels of quality, directing traffic to different routes isn't enough. If your network already handles large amounts of other bandwidth-eating data and you add voice to the mix, your voice conversations and your normal network traffic could feel the impact. Network congestion leads to poor performance, which equates to poor voice quality.

Imagine what your phone call could sound like if the third voice packet took a faster route than the first and arrived before it. The resulting call could be garbled or filled with echoes. So, rule number one with VoIP is that you need enough bandwidth to support the voice application, plus everything else you'll be transmitting.

Whichever VoIP solution you choose, it's also important for your IT staff to be able to view and prioritize voice network traffic, making sure that voice packets receive the bandwidth *they* need, so you can get the high-quality sound *you* need.

Transitioning to VoIP

Depending on your needs, you have a number of options when it comes to transitioning your organization to a VoIP solution. Whether you decide on an all-IP solution, or a hybrid mix of existing and newer voice technology, your organization can benefit from the breadth of features VoIP offers.

Investment Protection. If you recently invested in a new PBX and desk phones, you may want to preserve that investment with a phased approach. For example, instead of purchasing IP-based phones that are "VoIP ready," you can install a router that will convert your phone conversations to VoIP and forward them to the Internet as IP packets. In this way, you can avoid "rip and replace" disruption while tapping into VoIP benefits.

Cost Savings Potential. With voice traveling the same network as your data, you can benefit from the cost-efficiencies of having a single network to monitor, manage, support and grow.

Mobility and Portability. With an end-to-end VoIP solution, you can leverage some of the "bring your voice anywhere" features that workers need today. For example, you can program your phone number to ring simultaneously on both your desk phone and your mobile device, to help avoid missed calls.

You can use a single device to access not only your voice mail, but also all your email accounts and social media. Voicemail can be accessed on your

laptop as email messages, and you can participate in an audio conference through your laptop, tablet or other mobile device, or an IP-based desk phone. With something called softphone support, you can also use your laptop or tablet for voice calls.

Easier Management. By converging your voice and data onto a single unified network, you can manage voice services just like any other service on the network. A web portal can provide visibility into network activity to prioritize traffic or run usage reports to show where and when you need to increase bandwidth to keep service quality high. You can also use a portal to forward a line, place orders for service upgrades or submit a trouble ticket.

Security. Putting voice on an IP network means that your calls can have the same high levels of security that helps protect your data, including firewalls, virus protection and encryption. For an added layer of security, you can use your virtual private network for voice traffic.

Growth. VoIP is a big difference from the “good old days” when you had to call the phone company to add lines or functionality. With VoIP, add-ons are easier. As your staff expands, you can just plug more phones into the network and they’re up and running, because they’re just more nodes on the network.

Doing More with Voice

VoIP also positions you to take advantage of other communication and collaboration tools - from presence and chat to web and video conferencing. Called unified communications, or UC, it opens up new opportunities to integrate voice into other real-time business activities.

For example, you can smoothly transition from a voice call with one to a web conference with many to share and revise ideas and documents online and on the spot. From there, you can launch a video conference for a more personal touch. And, you can do it all from a single interface, without wasting time on multiple log ins.

What’s the next step?

Now that you have an understanding of VoIP basics, it’s time to talk to your AT&T account team. They can arrange for a network assessment to determine your readiness for VoIP and how it can fit into your overall strategy for communications.