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Bringing VoIP into your corporate environment is an exciting prospect. Your team can realize substantial benefits in productivity, and your organization can realize a substantial reduction in operational costs. But there is a challenge that lies ahead before you can start reaping the benefits of VoIP. Most companies cannot afford to start from scratch and deploy a completely new network optimized for VoIP. Usually, your existing network is evaluated and enhanced to integrate with VoIP technology. The question is, how can you as the end user help to facilitate this process and make the transition as smooth as possible?

First, let's look at some common VoIP concepts and terminology to get you up to speed with what we're talking about. VoIP stands for Voice over Internet Protocol. This means that voice transmissions are converted to packets of data and sent across the Internet, only to be converted back into voice on the other side. Basically, a VoIP network is a collection of VoIP gateways, VoIP PBX servers, VoIP telephones, and network switches and routers.

These routers and switches are the paths that voice data and traditional data traffic flow across. Additionally, all VoIP networks have gateway hardware to handle connections between the VoIP network and external telephone network. This VoIP hardware translates between different VoIP protocols, with names such as H.323, MGCP and SIP.

VoIP networks also run what's known as the VoIP PBX server. The VoIP PBX server keeps track of all phone numbers, subscribers and the call routing table. The VoIP phone handsets themselves can be either software or hardware devices. They are what actually convert your voice into data packets to be transmitted over the Internet.

So what can you do to help with your company's VoIP implementation?

In order to ensure a solid deployment, most organizations will deploy VoIP in stages in order to test and tune the network at each phase. As an end user, you can report voice communication problems as the deployment proceeds in an effort to avoid a larger issue later on.

Some common symptoms of network issues are as follows. You may notice a drop in overall voice quality or the conversation may seem to be breaking up. This is usually caused by an issue known as packet loss (remember, your voice is converted to a data packet each time you place a call over a VoIP network). Packet loss of 1% or less will not be noticeable from the caller's perspective. When packet loss exceeds 3%, you will start to notice the call breaking up. You ultimately might lose the call.

You might also notice a delay in the time from when you say something to another caller, and the time it takes them to respond. This delay is caused by an issue known as latency. Latency is the end-to-end delay of voice communications from the speaker's mouth to the listener's ear. VoIP requires a latency of not more than 80ms each way for high-quality voice communication (a delay of 150-180ms can still be acceptable).

Sometimes, you may have difficulty in placing a call. This may be caused by a firewall or incorrectly configured router blocking VoIP traffic, or insufficient bandwidth to support peak traffic volumes. If you notice an "echo" in your communications, it may be caused by integration issues between the new and existing components of your network.

Let your IT department know what's going on.

By reporting these problems to your IT department, and to your VoIP vendor, you can aid in their network testing and evaluation. It will help them to diagnose network and equipment issues quicker, and empower them to develop strategies to compensate and correct for the problem. If the proper amount of testing and tuning is performed on your network during deployment, and it continues on a regular maintenance basis, you will have reliable and high-quality voice communications for years to come.

Additionally, your business can realize a solid reduction in phone and long distance costs. And your team can have single point access to e-mail, voice-mail and fax communications. This means e-mail can be heard over the phone, voice messages can be read over e-mail or the Internet, and both kinds of messages can be forwarded to a fax machine. The flexibility, affordability and mobility delivered by VoIP makes the deployment effort well worthwhile.

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