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Capabilities and limitations of VoIP in the small- to medium-sized business environment

Introduction

VoIP, or voice over Internet protocol, is all the rage in the telephony and business worlds right now. The technology enables a company to make telephone calls over the Internet on the same wiring used to connect to the Internet rather than the copper wires of traditional telephony. Everyone is either using it, talking about it or wishing they knew more about it. Most companies in the process of moving or outgrowing their current PBX phone system are at least considering the option of VoIP versus traditional telephony.

Until fairly recently, VoIP was not a serious contender in the enterprise environment, due to quality and reliability issues. Fortunately, the technology has made tremendous strides over the past year, making it a wise and highly affordable option for many organizations. However, for the enterprise that uses its phone system as a requisite part of conducting business, extra consideration is recommended before making the decision to switch, due to many misperceptions in the marketplace.

The question of whether or not to adopt VoIP technology in the small- to medium-sized businesses is not as simple as whether or not it wants its long distance calls for free or lower cost. This paper strives to educate readers on the issues to consider before adopting this relatively new and exciting technology in the business environment.

Common features

What is all the excitement about? VoIP technology enables small- to medium- sized businesses to have advanced phone features previously reserved for large companies with the budgets for expensive PBX systems, and even some that were never even available. These features give businesses unprecedented flexibility, efficiency and more. Features such as auto attendants, phone number mobility, unified messaging and conference rooms/bridges are usually costly extras with traditional telephony, but with most VoIP systems, they are common built-in features, although the initial cost of a VoIP system may be higher than a traditional system. Other features common to VoIP phone systems include the following:

Mobility

- With VoIP, there are no boundaries. Your clients would not know the difference between an employee working in the corporate office, their home office or while traveling.
- Even the caller ID information displayed is not from the geographical location, but from the office

Softphones

- With a small piece of software, users can turn their computers into “softphones,” where the computer functions as their office telephone with the use of the hardware’s speakers and a microphone or a headset

Flexible dial plans and auto-attendants

- You can handle a call any way you like and develop complex rules which determine how calls should be routed, including to which phones a caller is routed
- Unlimited and easily customizable auto-attendant messages can be played to each caller
- You can also set up an unlimited number of voicemail boxes

Conference call hosting

- Instead of reserving space on a conferencing bridge, companies can host their own conference calls on their VoIP system

Unified messaging

- VoIP enables users to conveniently receive their voicemails and faxes right in their email inbox
- The system can integrate with Microsoft Outlook, enabling users to dial out from their address book
- Faxes can be sent from each individual's computer
- Electronic voicemails and faxes can be stored indefinitely for easy reference later

On-screen consoles and monitoring

- Recording phone calls can be as easy as pressing a button on the phone
- Employees can see who is on the phone and who is not in the office
- Caller ID information can be displayed on-screen to see who is calling

Disaster recovery

- VoIP systems that run on a server enables easy backup of files and configuration, which means problems can often be quickly fixed without losing any data

Advantages

Cost Reduction

- The phone system can be administered from a central location rather than adding separate systems at separate physical locations, lowering up-front and maintenance costs
- Businesses can utilize VoIP service providers' flat rate and low cost long distance pricing can possibly result in call savings, but this should be considered only a short term advantage since in time, the service will likely be taxed as traditional phone service is currently taxed
- International calling is generally less expensive with VoIP service providers, but it is important to verify the rates before making a commitment because to some countries, it can be more expensive
- Interoffice phone calls across physically disconnected sites can be free if the networks are connected

IT and VoIP. Done right. Done now.

- A standardized communications infrastructure, i.e., using the same wiring for both voice and data traffic, can result in lower initial and operating costs
- Theoretically, one could use fewer personnel or a single vendor to handle the company's voice and data needs, although it is critical to make sure the provider is qualified and experienced in both technologies
- VoIP makes it easier and more cost effective to deploy additional technologies, such as interactive voice response (IVR) and eventually videoconferencing and other multimedia applications
- A VoIP phone system can be simple enough that an employee can be trained to set up new users on the system without calling in a telephony vendor or modifying the wiring

Efficiency

- Database integration. Already have a customer database? Get your internal applications to provide you key information when a call is received.
- On-screen dialing. Click on an Outlook contact and the number is automatically dialed.

Flexibility/Scalability

- Many VoIP systems are backwards-compatible with traditional phone, which means companies can use their traditional analog phones, and buy VoIP phones as they can afford them
- Since incoming caller ID information is retained, even outside the office, and calls going out all look like they originated in the office, employees can work from wherever they need to be
- Unlike traditional phone system which are designed for a defined size range, VoIP systems are much more scalable, growing as the company grows

Other Advantages

- Better accountability through call recording and reporting
- VoIP phone service bills are easier to understand and can be viewed via the Internet with real time reporting

Limitations

Quality and reliability

- Echo, static and delay continue to be occasional annoyances of VoIP service, although improvements continue
- To put this in perspective, the quality and reliability are somewhere between cell phones and traditional landline service
- Most businesses will need to keep at least some traditional landlines for important phone calls and as a backup in case of power or Internet outages

911 Availability

- For home users who switch to all VoIP, this is an important question, but for businesses with backup landline service, this is not an issue

Network strain

- If a company is close to maximizing bandwidth usage on its DSL or T1 lines, the network can become unreliable and phone calls may sound uneven, so a network upgrade may be necessary

When to switch

Companies in the process of moving to a new office or outgrowing their current phone system are in a prime position to investigate VoIP technology. If a company's telephone system is near the end of its useful life, VoIP offers more potential returns than traditional telephone systems. Companies who bought new traditional systems within the last three years who have not outgrown their system, probably have enough remaining useful life in their current equipment that they shouldn't start over yet with VoIP. At some point, however, improvements to the technology and new applications that run only with VoIP will draw most companies in this new direction.

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