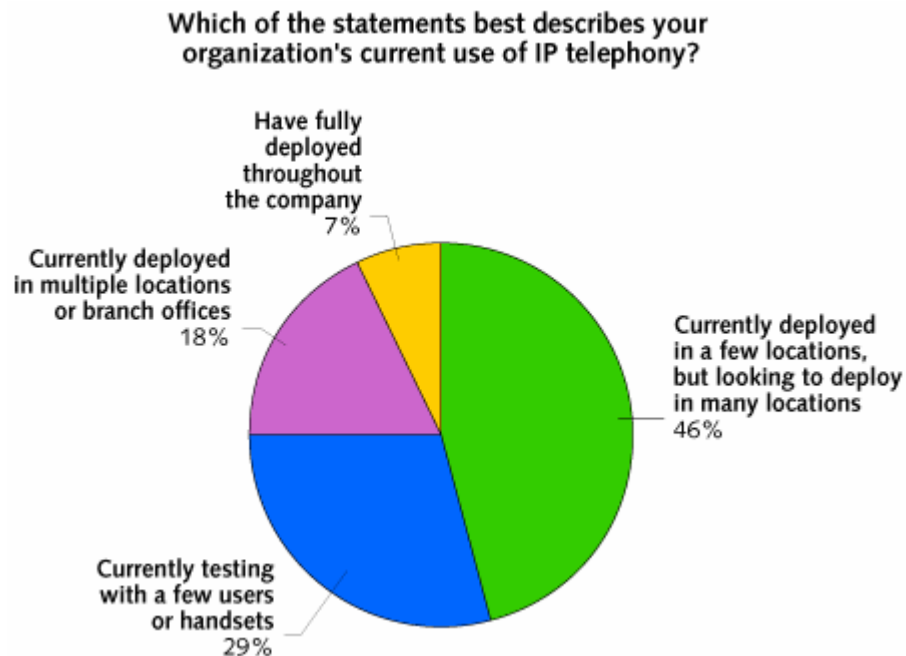


VoIP SmartGuide

Prospect City has added VoIP telephone services to its portfolio. This component will integrate with Prospect City's other technical offerings, including Velvet Search Management Database technology, Website Design and Hosting, Email, The Private Research Exchange Hub and Private Instant Messaging. This guide will help you understand VoIP and its impact on your business.



What is VoIP?

Voice over Internet Protocol is a technology that allows users to make phone calls over the Internet, bypassing traditional landlines. Because there are no restrictions to the distance communicated via the Internet, monthly usage charges are drastically reduced or eliminated.

User Experience – Mobility Benefits

In a VoIP system the Internet becomes your "wiring" that connects your phones and therefore has great advantages regarding location and mobility. A VoIP telephone can be plugged into the Internet from any location in the world (without programming adjustments) and act as if it's in your office. Just plug it in; turn it on and you're ready to go. This can be applied to satellite offices, home offices and even hotels, giving users maximum flexibility without any interruption or indication to the caller.



User Experience – PBX Benefits

All communications to and from VoIP phones must do so through a server. The server can be located anywhere. As long as it's connected to the Internet, your phones and server will find one another. VoIP servers are unique because they can replicate the many calling features available from a typically expensive PBX phone system. These include automated attendant; call forwarding; conferencing; transfers; voicemail and vmail-to-email delivery. With a proper strategy, a VoIP system can integrate with other Internet-based computers or software. For example, VoIP systems can be programmed to email your voicemail messages to your PC or PDA. Another example includes the ability to automatically dial your telephone through other programs such as Outlook or the Velvet Search Management System. These custom programming possibilities are almost endless.

Financial Experience – Infrastructure Cost Benefit

Because VoIP uses the Internet as it's "wiring", there is often no need to house technology locally. A server can be housed offsite at a hosting facility where it will be secure and maintained effectively. Some providers can eliminate your cost for the server by leasing server space from the offsite host. For small offices this solution is common. Telephones are high quality and professional, and include the looks and features common among typical office phones, including headsets, programmable buttons, lists/directories, transfer, conference, etc.

Owner Experience – Security & Reliability Benefits

It is often misunderstood that VoIP telephone calls are less secure than landlines. In fact, both systems have the same risks associated with tapped calls, but is extremely rare.

A VoIP phone system server hosted offsite has extra advantages as it relates to security. Hosting facilities are designed for security and reliability and are often unaffected by power outages, etc. They also tap into the highest levels of bandwidth/cabling and therefore don't run into the issues offices and homes face with local cabling cuts, etc.

In the event your local office or home office is without power you can rest assured the server is still up and running at the hosted facility. This means your main phones are still being answered by the server's auto-attendant and callers reaching your voicemail. Because of the



customization available, calls can also be routed to your cell phones too. In fact, you can also re-route your calls to another working office location address this temporary scenario.

Challenges of VoIP Technology

The most important challenges that face VoIP today are voice quality and tolerance issues. Bandwidth: VoIP systems rely heavily on having proper bandwidth to avoid static or occasional drops. Echo: VoIP systems must connect from Internet (four wires) to landlines (two wires) in order to reach cellular phones and other landline users - which can sometimes cause an echo. The echo is the result of the VoIP system constantly trying to align its speed with that of the traditional landlines. In most cases the echo is only detectable to the VoIP user. If echoes become a major issue, the server might require an echo canceller which can be extremely expensive.

Training – Managing Expectations

VoIP telephones are easy to learn and require little training. However, the most critical aspect of implementing VoIP is setting the right expectations for users who are used to the perfection and simplicity of more expensive PBX landline phone systems. Users should be prepared to experience occasional issues such as echo, etc. while the systems are fine-tuned. Unprepared users tend to unfairly blame the VoIP phones for many issues such as dropped calls to cell phones (more likely the cell phone's fault), etc. For user training it's important to point out the differences of these systems from traditional landlines, too. For example, a landline allows users to enter phone numbers very slow over the course of 30-60 seconds. VoIP systems may require users to enter the entire phone number within 7-10 seconds before timing out. In these situations the phone may appear to dial and drop before making a connection, but in fact the phone only dialed part of the phone number resulting in an incomplete call. Another example is that landline phones use recordings to notify the user of misdials, wrong numbers, etc. Many VoIP phones will simply hang up when it discovers such an error. Users commonly mistake this as a drop.

An informed, patient user is of critical importance when implementing a VoIP telephone system.

VoIP Models

Hosted VoIP

A hosted system means the server is hosted offsite. Depending on the vendor you may or may not share a server with other VoIP customers. Depending on the vendor there may be feature limitations to a hosted model.

Pros: Low or no up front costs. Offsite means faster upgrades and repair times with no internal costs for local support personnel. Cons: Lack of control and feature limitations.

Managed VoIP

Managed VoIP means the service provider installs the VoIP server on your premises, but manages it for you.

Pros: Little or no up front costs. Removes the burden of you managing the converged network. Cons: Lack of enterprise control and limitations on vendor choices.

Hybrid IP

A Hybrid IP model is commonly used today in larger companies that have already invested significantly in landline PBX systems. The Hybrid IP model is when the company places an IP card in a traditional PBX, routing toll calls via the Internet to lower cost. Local or point-to-point internal calls remain on the landline.

Pros: Leverages existing equipment/investment. Company can migrate at a slower pace. Cons: Doesn't allow for the same level of application.

Pure IP

A Pure IP application is a software-based PBX located on an appliance dedicated solely to your company, located in your space. A pure IP application replaces a traditional PBX and can be very expensive, but can reduce PBX number significantly in a large company.

Pros: Flexibility in deployment strategies and control. Cons: Expensive up front costs. Requires "hot-cut" (immediate switchover). May have problems migrating landline phone numbers to VoIP system.

Other Models

Skype

Significant presence with consumers and growing for business purposes. However, users have little or no control of features and have security concerns.

Vonage

Mostly consumer-oriented and viewed as a complementary phone in small business. These are cable-based and are more susceptible to outages.

Yahoo!

Too young, but will make a presence directed at consumers and individuals using laptops.

When assessing which one of these models to go with, first you have to assess the real needs of the business.

- Are there enough long distance calls occurring?
- Is voice quality critical to the success of your business?
- Is cost savings for phones a critical issue?
- Do you have limitations in up front investment for a phone system?
- Do you require PBX-style custom features?
- Do you have distributed employees or users, satellite or home?

Deploying VoIP

- **Be prepared and fully understand whether you are ready for IP telephony.**

Before embarking on the project, have a consultant perform a network-readiness assessment to determine the cost to install or upgrade. Understand all the components of the solution and be prepared to explain to the business executives what the underlying costs are.

- **It's about the applications, not the technology.**

Once the costs are fully understood, you must be able to see the benefits in business terms, not technology terms. Business leaders really don't care about IP, SIP, telephony or other technical terms.

- **Leverage existing technology wherever possible.**
By bringing together all of the corporate applications and infrastructure, companies will recognize greater efficiencies and reduce the amount of excess and waste in many IT organizations.
- **Remember that one size does not fit all.**
Pick the solution that fits the business best rather than trying to force the business to change to take advantage of the technology. In many cases, the latest and greatest technical solution isn't the best thing for the business.

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