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Implementing the Appropriate VoIP for Your Business

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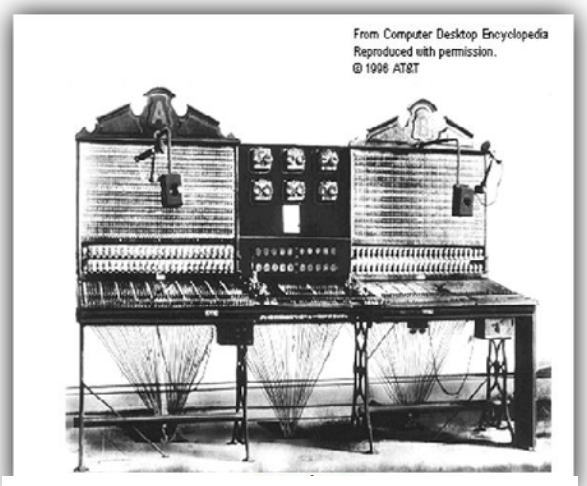

Image 1. Retrieved from http://www.pcmag.com/encyclopedia_term/0%2C2542%2Ct%3DPBX&i%**3D48914**%2C00.asp

Abstract

Voice over Internet Protocol (VoIP) has become a popular telephony option in residents and businesses. Most have found VoIP is less expensive than a normal telephone line and have saved hundreds of dollars by converting to VoIP. By implementing VoIP, businesses recognize employees are more productive, customers are satisfied, and the company's bottom line benefits from a cost savings solution.

Introduction

By now, most businesses have heard about VoIP and are speculating whether their business would benefit from implementing this new technology. Some are questioning whether VoIP is secure, time efficient, and/or worth the investment. Choosing the appropriate VoIP solution can make or break a business. The suitable VoIP solution can be determined by knowing the business' expectations of the VoIP system. Fonality's trixbox appliance preloaded with trixbox Pro VoIP software is a solution to your telephony tribulations.

"VoIP (Voice over Internet Protocol) is simply the transmission of voice traffic over IP-based networks."
- tech-faq.com

Analysis of Telephony Problem

In 2007, Eve Tahmincioglu wrote an article indicating in the year 2009 there would be 14 million American workers telecommuting. Fifty-eight percent of Sun Microsystems' employees are teleworkers (Tahmincioglu, 2008). Cisco has over 2,000 teleworkers (Cisco.com). The POTS (Plain Old Telephone System) can hinder a business' productivity with a high percentage of teleworkers or travelers. Long distance calls between employees and the main office can sky rocket phone bills. While traveling, employees could neglect important customer calls on the home office landline. POTS does not provide the advanced telephony options that VoIP systems can make available to management and employees. With the popularity of telecommuting and "going green", businesses are searching for better communication tools without a vast reduction to the company's profits. Rapidly growing SMB's discovered the more employees hired, the higher the phone bill was because of long distance charges, additional phone lines, and maintenance fees. Companies are finding the monthly fees of POTS are more expensive than VoIP.

> **"teleworking** (employment at home while communicating with the workplace by phone or fax or modem)"
> -wordnetweb

> "It's expected that 32 million Internet phone lines will be in use by 2009" (Lyman, 2006).

Potential Solutions

After deciding to implement VoIP, management needs to decide what type of VoIP solution would best fit the company. A couple of secure, cost effective VoIP solutions are available based on a company's budget and resources.

VoIP Service Provider

Purchasing a VoIP service contract through a service provider (e.g., Vonage, Jive, Vocalocity) avoids purchasing VoIP equipment and software, training employees, and/or hiring outside contractors to implement onsite VoIP. A hosted PBX appliance is located at the service provider's site. Most features available with an internal VoIP appliance are available with a service provider. On the negative side, if the VoIP provider's network goes down, the customer's VoIP telephone system goes down as well. VoIP service providers can charge $30 to $40 monthly per activated phone line. The customer is charged for each phone line that is added and/or deleted and any other modifications.

> "Virtual PBX products offer no PSTN back-up, so, if your Internet service goes down, your business telephone line goes down with it — which is unacceptable in a dynamic business environment."
>
> - trixbox.com

Internal VoIP

By purchasing VoIP equipment for hosting an internal VoIP, a business can control the maintenance of the VoIP system. A business can select the appropriate features that best fit the employees' phone requirements when choosing a VoIP appliance and software. When hiring new employees or relocating employees, the business no longer needs to call the phone company to add and/or delete extensions and incur additional fees. Expanding the company internal and external is more convenient. Administrators and users can connect to a user-friendly, secure web interface to change configuration settings based on permissions set by the administrator. Cisco, 3Com, and Fonality's trixbox sale appliances that serve as an IP-PBX (Internet Protocol Private Branch Exchange) and a VoIP router. The image below shows the setup of an internal VoIP system. Hybrid VoIP has the benefits of an in-house VoIP and a POTS reliability. Trixbox offers a hybrid IP-PBX VoIP.

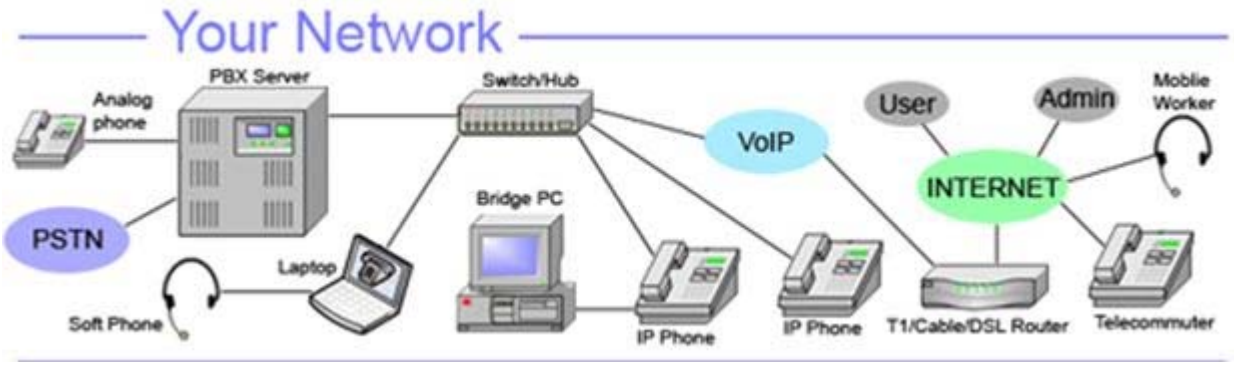

Image 2. Retrieved November 16, 2009, from http://www.voip.com.sg/voip-products/ip-pbx.html

Criteria for Evaluating VoIP Solutions

Whether VoIP is hosted externally or internally, before researching VoIP providers or services, determine the essential VoIP options that are necessary for employees to complete their jobs efficiently. Security, ease of use, and sound quality should be a few features on the top of a business' list of must-haves. Fonality's trixbox appliance with installed trixbox Pro software offers many of the VoIP elements required in a successful hybrid IP-PBX solution. Besides VoIP, trixbox has a PSTN fallback which guarantees telephone service even if the Internet is not operating. Trixbox has been installed in thousands of small businesses (trixbox.com).

Some of trixbox features are (Lyman):

- Unlimited extensions and voicemail
- Multiple auto-attendants (IVR)
- Unlimited call queues (ACD)
- Telecommuters – even for call queues
- Uploading of professional voice prompts
- Scheduling – time and date settings
- Music on hold with up sell messages
- Parking, paging and call forwarding

> "But hybrid IP-PBX systems aren't just about VoIP and cheap LD, they also enable SMBs to improve their "communications image" – presenting callers with a professional (and time-saving) auto-attendant, allowing employees to work from home or the road, 4-digit dialing from anywhere in the world, blending Outlook into your phone system and more."
>
> -(Lyman, 2006)

- Integration with Outlook – Voicemail to Email
- Customizable caller ID
- Click-to-call from your website
- Extensive reporting for productivity analysis
- Real time and historical graphical reports
- Raid 1 hard drives for VoIP backup
- Redundant Power Supply
- Ease of adding branch offices
- Trixbox proactively monitors and maintains the system
- Supports a wide range of phones

"the software has received unparalleled industry recognition including 2006 Product of the Year by Communications Solutions, 2005 Product of the Year and 2006 Editor's Choice from *Internet Telephony Magazine*, and 2005 Editor's Choice and Best IP-PBX for SMBs from *Network Computing*."
-tribox.com

Conclusion

An increase in telecommuting and traveling employees, employers have been forced to think outside the brick and mortar office and into the future of VoIP. With the popularity of mobile phones and wireless notebooks, employers can implement a secure, reliable VoIP service to help keep "officeless" employees connected to the office. Deciding on the desirable features of a VoIP system before purchasing a system can facilitate in the success of employee acceptance and investment return.

References

Articlebase.com. (2009). Small Business VoIP PBX Phones. Retrieved November 14, 2009, from http://www.articlesbase.com/voip-articles/small-business-voip-pbx-phones-850147.html

Cisco Study Finds Telecommuting Significantly Increases Employee Productivity, Work-Life Flexibility and Job Satisfaction. (2009). Retrieved November 15, 2009, from http://newsroom.cisco.com/dlls/2009/prod_062609.html

Image 1 (PBX system). Retrieved November 15, 2009, from http://www.pcmag.com/encyclopedia_term/0%2C2542%2Ct%3DPBX&i%3D48914%2C00.asp.

Image 2. (IP-PBX system). Retrieved November 16, 2009, from http://www.voip.com.sg/voip-products/ip-pbx.html

Lyman, C. (2006). VoIP without Hype. Retrieved November 15, 2009, from http://www.trixbox.com/files/VoIP-without-Hype.pdf

Tahmincioglu, E. (2007). The quiet revolution: telecommuting. Retrieved November 15, 2009, from http://www.msnbc.msn.com/id/20281475/

Trixbox.com. Retrieved November 17, 2009, from http://www.trixbox.com/products/trixbox-pro

What is VoIP? Retrieved November 16, 2009, from http://www.tech-faq.com/voip.shtml

Wordnetweb. Teleworker definition. Retrieved on November 18, 2009, from http://wordnetweb.princeton.edu/perl/webwn?s=teleworking