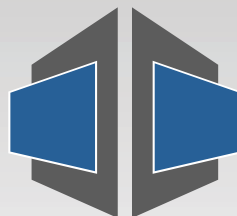


# What to Do with Your Legacy PBX



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# Introduction

Should you retain your existing PBX, modify it, or replace it altogether with a software-based solution? That's the question many enterprises face today, and the makeup of their voice system must be considered when reviewing long-term plans for their organization's IT strategy.

## If It's Not Broke...

Abandoning a legacy PBX system altogether simply isn't feasible for some enterprises. After investing thousands of dollars into equipment, from handsets to the PBX itself, retiring the system might be out of the question. If you are reading this whitepaper, however, it has become evident that your enterprise has outgrown its current system, your legacy PBX is lacking modern features that could help you gain competitive advantage, and/or your enterprise is expanding rapidly. Obviously, simply retaining your legacy PBX and hoping that it will continue to meet future demand is much like an ostrich hiding its head in the sand.

Businesses that are well-served by their existing PBX and looking to avoid the cost of new equipment may opt for legacy PBX integration. Integration solutions allow an enterprise to keep its existing PBX and free up the capital expense for other expanding business needs. According

to PCWorld's Zack Stern<sup>1</sup>, SIP hardware and software companies are eager to undercut traditional office systems; as such, some enterprises might be able to save by making the switch.

"Your biggest savings could come from cutting your current ISDN PRI/BRI cord—the phone 'trunk' into your business," Stern says. With SIP trunking in its place, you instead connect through your ISP, sharing phone traffic with your Internet service. "The switch can streamline your monthly fees. But you'll have to add hardware to make this transition. Many SIP systems can work with your currently installed PBX hardware. You'll connect from the PBX phone system into border controller hardware, which in turn connects to your Internet Telephony Service Provider (ITSP). The ITSP finally taps into the public phone network, reaching anyone on any phone."

However, integration is a poor choice for enterprises where:

- Business growth has exceeded PBX limits
- The business requires remote office integration
- The business requires telephony features not supported by existing PBX

According to TechDay, the rising costs of keeping a legacy PBX reliable under increasing demand—not to mention a more competitive

<sup>1</sup>[http://www.pcworld.com/article/170275/Keep\\_Your\\_PBX\\_But\\_Save\\_With\\_SIP\\_Phone\\_Calls.html](http://www.pcworld.com/article/170275/Keep_Your_PBX_But_Save_With_SIP_Phone_Calls.html)

business environment—is simply not viable for most modern enterprises.

## Answering the IP Telephony Call

As budgets for most businesses have been contracting in recent years, a growing number of enterprises have abandoned their legacy PBX systems and turned to IP technology to lower telecom costs and improve their bottom line. Moving voice traffic to the data network allows businesses to cut—or eliminate entirely—the costs associated with the maintenance of a dedicated voice network, including staffing and equipment.

Businesses today have more choices than ever when it comes to telephone systems. The world of telephony has come a long way from the days when choosing a phone system was relegated to the PBX/key system/Centrex toss of the dice. As Jon Arnold, principal at J Arnold & Associates<sup>1</sup> explains it<sup>2</sup>: “Businesses have never had so much choice ... when making decisions around telephone systems. Prior to the advent of IP (Internet Protocol) telephony, the choices were pretty simple: Buy an expensive PBX, a less-expensive key system, or pay-as-you-go with Centrex.

Back in the dark ages of telephony (less than

a decade ago), plain old telephone service (POTS) was the standard for both consumer and business telecommunications. POTS is the analog, voice-grade telephone service that runs on public switched telephone network (PSTN), a global network of public, circuit-switched telephone networks. Business users would invest in a private branch exchange (PBX) to serve its office, route ingoing and outgoing calls, and to reduce the cost of internal phone calls. Available since the late 19th century, POTS remained largely unchanged for decades.

The telephony market began to change in the mid-2000s with advent of IP telephony. VoIP (Voice over Internet Protocol) relies on existing broadband Internet access, as users make and receive telephone calls in much the same way as they did via PSTN. The difference with IP telephony centers on the fact that calls travel on the Internet, rather than the PSTN.

## The Telephony Market Landscape

The telephony market has shifted to the point where most PBX vendors offer Internet Protocol PBX (IP PBX), allowing businesses the ability to move beyond the core functionality of yesterday’s basic desk phone. As a result, Voice over IP (VoIP) continues to gain market share, and many businesses are making the switch from Plain

<sup>1</sup> <http://www.jarnoldassociates.com/>

<sup>2</sup> <http://www.comparebusinessproducts.com/briefs/five-things-you-should-look-ip-telephony-vendor>

Old Telephone Service (POTS). “Hosted VoIP is becoming popular because it is low-cost, low-risk, and low-maintenance,” says Nicole Hayward<sup>1</sup>, marketing director at hosted PBX provider OnSIP. According to a report market research company TechNavio, IP telephony will rise to a compound worldwide annual market growth rate of 1.4 percent between 2010 and 2014.

According to Infonetics Research, the number of seats for hosted business VoIP services is on track to more than double between 2012 and 2016. “The revenue that service providers derive from their residential and SOHO [small office/home office] VoIP subscribers still eclipses what they get from businesses, but the business segment is growing about twice as fast, due in large part to the surging popularity of SIP trunking and hosted VoIP and UC [United

The number of seats for hosted VoIP services is on track to more than double between 2012 and 2016

Communications] services,” says Diane Myers<sup>2</sup>, directing analyst for VoIP and IMS at Infonetics Research. “Adoption of VoIP services across both the residential and business segments continues

to grow, and we expect strong global growth in VoIP service revenue over at least the next five years.” Myers surmises that “demand for cloud-based services helped push hosted PBX and UC service revenue up 33 percent and seats up 44 percent” last year alone.

## VoIP Gets a Boost from Mobile

“While so far, VoIP has been driven largely by the likes of cable companies that want to disrupt the incumbent phone companies, the next big VoIP boost is going to come from mobile [VoIP],” according to Om Malik<sup>3</sup>, executive editor of the GigaOM technology blog.

Market research firm In-Stat backs up Malik’s sentiment, estimating that, by the end of 2013, mobile VoIP users will number 288 million. In its recently published report, “Mobile VoIP—Transforming the Future of Wireless Voice,” In-Stat projects that more than half of these users will be associated with online mobile VoIP providers; less than one-third will utilize mobile VoIP with 3G MVNOs or mobile operators; and 11 percent will engage WiMAX/LTE operators.

Helping to drive adoption will be mobile VoIP dual-mode handsets (WiFi plus cellular) with well over 400 million units projected to be shipped in 2013. “This will enable a lot of people to use VoIP over WiFi, which will guarantee a great audio quality and a faster connection,” says Andrei

<sup>1</sup> <http://www.comparebusinessproducts.com/briefs/troubleshooting-your-voip-network>

<sup>2</sup> <http://www.infonetics.com/pr/2012/VoIP-UC-Services-Market-Forecast-and-SIP-Trunking-Survey-Highlights.asp>

<sup>3</sup> <http://gigaom.com/2010/03/04/voip-subscribers-300-million/>

Piftor<sup>1</sup>, communications manager at Nimbuzz. “All the technological improvements will make it more and more natural for everybody to use mobile VoIP rather than [to make] a carrier call.”

“The near-term opportunity for mobile VoIP is closely linked with the growing success of dual-mode phones and other Wi-Fi connected devices,” says In-Stat analyst Frank Dickson<sup>2</sup>. “However, mobile VoIP still poses a direct threat to operator voice revenue and operators are navigating how to balance new opportunity with the threat.” On the financial front, In-Stat projects that by 2013, mobile VoIP applications will generate annual revenues of \$35.2 billion. The EMEA region currently has more mobile VoIP-related revenue, but the Asia Pacific region will be the largest regional market in revenue terms by 2013.

## BYOD Enters the Enterprise

Mobile VoIP is also getting a boost from the Bring Your Own Device (BYOD) trend. Workers are demanding advanced enterprise VoIP services for their smartphones and tablets as well as video and collaboration functionality, regardless of whether those devices are corporate-issued or personally owned, says Infonetix's Myers<sup>3</sup>.

As the BYOD trend continues, IT departments will need to develop strategies for securing rogue mobile devices on campus. Infonetix predicts

that the mobile segment of the security client market will grow at a compound annual growth rate (CAGR) of 35 percent through 2016, growing five times as fast as the larger desktop segment. “The emergence of the BYOD phenomenon has forced companies to re-evaluate the types of computing devices their employees can and will use, and how they will be securely connected to corporate networks,” notes Jeff Wilson<sup>4</sup>, principal analyst for security at Infonetix. “This will have a major impact on the growth of the traditional client security market, the mobile device security market, and the relationship between the two.”

## The Benefits of VoIP

Less than a decade ago, in the “bad old days” of telephony, plain old telephone service (POTS) was the standard for both consumer and business telecommunications. POTS—an analog, voice-grade telephone service—runs on the public switched telephone network (PSTN), a global network of public, circuit-switched telephone networks. Available since the late 19th century, POTS remained largely unchanged for decades, and is still in widespread use by both consumers and businesses.

But, as the market began to change in the mid-2000s with advent of IP telephony, a more versatile and less expensive new technology was poised to disrupt the market landscape. VoIP (Voice over Internet Protocol) relies on existing

<sup>1</sup> <http://blog.nimbuzz.com/2010/03/05/voip-in-2013-trends-and-predictions/>

<sup>2</sup> <http://www.instat.com/index.html>

<sup>3</sup> <http://searchunifiedcommunications.techtarget.com/news/2240073994/Enterprise-VoIP-spending-up-UC-pros-demand-advanced-mobility-features>

<sup>4</sup> <http://www.infonetix.com/pr/2012/2H11-Security-Client-Software-Market-Highlights.asp>

broadband Internet access, as users make and receive telephone calls in much the same way as they did via PSTN. The difference with IP telephony centers on the fact that calls travel on the Internet, rather than the PSTN.

The appeal of VoIP is straightforward: By converging voice and data into a single, unified network, businesses can lower costs and increase productivity. This scaled-down infrastructure “is easier and less expensive to maintain,” CDW’s *VoIP and Beyond*<sup>1</sup> report explains. “Furthermore, migration can be gradual without abandoning legacy systems. While VoIP offers benefits to businesses, the technology comes with a promise to alter the way businesses do business.”

## VoIP’s Secret Weapons

More than just a cheaper replacement for legacy voice systems, VoIP moves voice out of its traditional IT silo in the enterprise environment. And with that move comes the opportunity for businesses to grow and expand in ways that traditional voice solutions never allowed. As CDW explains: “Now [VoIP is] becoming another application on the network and therein lies a large number of efficiencies.” Hidden benefits of VoIP include the “ability to provide **rich media services**. ...and with proper IP connectivity, VoIP offers number **mobility** with a phone device capable of using the same number virtually anywhere.” And perhaps the most potent arrow

in VoIP’s quiver is its ability to enable **Unified Communications (UC)**, which in turn will feed the growing popularity of the **virtual workplaces**.

## Reaping the Rewards of Rich Media

A legacy phone system’s strongpoint is the delivery of voice and fax service. However, “the demand of users is much higher than that, as shown in today’s rich media communications through the Internet,” says Enterprise Networking Planet’s Patrick Park<sup>2</sup>. “People check out friends’ presence (such as online, offline, busy), send instant messages, make voice or video calls, transfer images, and so on.” VoIP enables rich media service, integrating with other protocols and applications. Among the rich media benefits are:

### Presence

Presence (also known as telepresence) will be “the dial tone of the future,” Blair Pleasant<sup>3</sup>, co-founder of UCStrategies.com says. Presence provides real-time notification of users’ current availability and ability to communicate. Pleasant explains the mechanics of presence: “Servers gather presence information from various sources and provide unified presence information to end-users or applications.”

<sup>1</sup> <http://webobjects.cdw.com/webobjects/media/pdf/solutions/voip-Whitepaper.pdf>

<sup>2</sup> [http://www.enterprisenetworkingplanet.com/unified\\_communications/eight-benefits-voip](http://www.enterprisenetworkingplanet.com/unified_communications/eight-benefits-voip)

<sup>3</sup> <http://searchunifiedcommunications.techtarget.com/feature/What-UC-is-and-isnt>



## Unified messaging (UM)

UM integrates voice, fax, and email messages with message notification. UM provides users with access to their messages, anywhere, anytime, from any device. With UM's store-and-forward capabilities, "most UM products add a variety of advanced call and message management functions, including desktop call-screening of inbound calls, find me/follow me, live reply or call return, and cross-media messaging. New presence capabilities mean that the need for UM systems to act as answering machines is being reduced, and the value of UM is moving toward enhanced, real-time connectivity with individuals," Pleasant says.

## Speech access and personal assistant

Personal assistants (or virtual assistants) allow users, via speech commands, "to access their inbox, calendar, directory and so on," Pleasant explains. "Personal assistants provide intelligent screening and filtering of messages and let users navigate their schedule, calendar, contacts, outbound dialing and so on, in addition to their UM system."

## Business process integration (BPI)

By integrating with business processes and

workflow applications, UC reduces the "human latency" that stalls business processes in need of human input or communication. "In many business processes today," Pleasant explains, "work comes to a standstill until someone can provide information needed to proceed to the next step. UC can reduce this delay by contacting the next person in a sequence of steps, or by initiating an ad hoc meeting or conference call to settle an issue. By communication- or voice-enabling business processes and applications, communications can be initiated within the application, making it easier to notify and interact with others to resolve a problem."

Back-office applications such as customer relationship management (CRM), enterprise resource planning (ERP), sales force automation (SFA), and supply chain management (SCM) are some of the applications that can be UC-enabled. For example, businesses can replicate CRM by using the number from an incoming customer call to identify the caller and then look up the customer's history. Thus, an agent can answer a call with all needed customer information on his or her screen.

BPI can also, for example, enable someone reviewing a document or spreadsheet to contact the document's author when additional information is needed. By mousing over the author's name, the reviewer can check the author's presence status, then initiate a click-

to-call conversation.

A manufacturing exception system, for example, can detect an issue, escalate the situation as needed, then notify the appropriate contacts via any communication mode. Responsible parties can be brought into a conference call to resolve the issue immediately.

## UC Brings It All Together

Unlike most other technologies, Unified Communications (UC) is not a specific solution per se, but a strategy enabled by various products that helps organizations to collaborate and communicate more effectively and efficiently. By leveraging VoIP-enabled UC technologies, businesses can boost employee interchange and help optimize business processes.

Pleasant explains is succinctly: “UC integrates real-time and non-real-time communications with business processes and requirements based on presence capabilities, presenting a consistent unified user interface and user experience across multiple devices and media types. ... UC enables people to connect, communicate, and collaborate seamlessly to improve business agility and results.”

UC enables conferencing and collaboration, which includes audio-, video- and Web conferencing, as well as capabilities such as

shared workspaces, whiteboarding, file-sharing, and document-sharing. Among the technologies in the collaborative portfolio, Pleasant sees Web conferencing as the fastest-growing in popularity. Web conferencing brings collaboration to the desktop via a Web browser and an Internet connection, “allowing participants to view presentations and other documents while participating in a real-time conference. Voice communications can take place over the Internet or through a separate audio conferencing bridge. Another collaboration component is shared workspaces, which enable participants to view, share, edit and save documents and files.”

## UC in the Real World

Imagine arriving at the office each morning and taking care of all of your emails, voicemails, and other communications in a fraction of the time you spend responding and reaching out now. Picture yourself connecting with colleagues, customers, and partners when and how it's most convenient for you. Imagine how much of your workday you could salvage from the many interruptions that stanch your productivity, so you could spend the bulk of your time in the office getting actual work done. Now picture a strategy that not only helps you achieve all this, but also enables you to collaborate faster, more effectively, and more efficiently with your staff and customers. These are the potential benefits of UC.



As Technet's Microsoft Small Business<sup>1</sup> blog explains, UC adoption allows you to “stop being interrupted and instantly bag some increased productivity.” Being in control of your communications enables you to handle all your communications all at once, at a time that suits you.

This is beneficial in two ways: “Firstly, you can bundle up all those calls, emails and texts and deal with them in one go, which is handy,” according to the blog. “But, more importantly, UC uses the concept of ‘presence.’ If you’ve ever used Instant Messenger or Facebook Chat, you’ve already

Being in control of all your communications enables you to handle them all at once, at a time that suits you.

used presence. With one or more customizable presence options (‘online,’ ‘do not disturb,’ ‘be right back,’ etc.), you can inform contacts of your availability before they phone or write.”

Although it sounds somewhat counterintuitive, presence allows clients, staff, and partners to feel more connected to you, even when you are displaying your virtual “do not disturb” sign. When others gain insight to your availability, they

can reach out knowing when you are receptive, instead of calling you blindly and hoping to get through.

## The Virtual Workplace: Tomorrow's Office, Today

Companies with employees who work from home can now appear as authoritative as—and compete with—the largest multinational enterprises, while affording teleworkers anonymity. “On the occasions when you take calls at home, you might prefer customers not to have your home phone number. By giving out only your presence details (i.e. a name) or a mobile which cascades down to a home phone number, there’s no need to give out home/personal details at all,” according to Technet.

Greg Brashier, COO of hosted PBX provider Virtual PBX, sees the growing trend<sup>2</sup> of virtual workers fueling the move toward VoIP solutions. His company surveyed more than 600 business owners and employees about their use of virtual offices, and found that more than 60 percent of respondents work from a virtual office almost all the time, while another 27 percent work two to 10 days per month outside the office. Fifty-seven percent of survey-takers indicated that half or more of their workforce uses a virtual office during a typical month.

<sup>1</sup> <http://blogs.technet.com/b/smallbusiness/archive/2012/06/01/demystifying-unified-communications-for-small-businesses.aspx>

<sup>2</sup> [http://www.virtualpbx.com/company/press-releases/110308\\_surveyvirtualoffice.asp](http://www.virtualpbx.com/company/press-releases/110308_surveyvirtualoffice.asp)

The survey revealed that today's virtual worker is tethered to his or her cell phone, with 87 percent of respondents saying they use their mobile devices for business communications. Also popular are VoIP phone lines, used by 25 percent; and computer-based VoIP soft phones, used by 20 percent of respondents. As Brashier interprets the data, this means vendors will move toward support for a portfolio of devices that includes VoIP phones, mobile devices, traditional analog phones, or a blend of all three.

## Conclusion

As VoIP extends its reach into businesses, enterprises will benefit from migrating from their legacy PBX systems and realizing the cost savings and simplified management inherent in VoIP technology. The days of basic, old-fashioned voice/fax capabilities are long gone, now that IP-powered telephony has moved to the forefront. Today, companies can reap the well-known rewards of VoIP, and gain competitive advantage with VoIP's "secret weapons":

- Rich Media
- Mobility
- Unified Communications
- Virtual Workplaces