



Find the value in business VoIP

A TDS White Paper



INTRODUCTION

Organizations today are increasingly compelled to allow and encourage employees to communicate and collaborate any-time, anywhere and from any device. Voice over IP has matured into a cornerstone technology for enabling these capabilities.

The continued refinement of VoIP technologies that convert voice into data packets that can be delivered over the IP network has revolutionized networking and telecommunications. With the ability to migrate all voice, video and data applications and services to a single, unified networking backbone, organizations can improve communication and collaboration, boost performance, lower network management costs, increase productivity, streamline customer service and improve business flexibility.

THE BUSINESS CASE

Telecom costs represent 10 percent of the typical IT fixed expense budget for most organizations. With traditional public-switched telephone networks (PSTN), a sizeable chunk of that expense may be waste. Some companies purchase more capacity than needed. With VoIP, and particularly hosted VoIP, a company gains more flexibility. If a business grows, experiences seasonal changes in capacity needs, or even downsizes, hosted VoIP enables a business to make adjustments as the business environment dictates.

In addition to hosted VoIP being scalable, various industry studies show that IP communications can reduce an organization's overall costs by anywhere from 3 percent to 40 percent. This is a major reason that VoIP adoption is expected to increase rapidly over the next few years. The research firm In-Stat reports that VoIP penetration among U.S. businesses will reach 79 percent by 2013, compared to 42 percent at the end of 2009.

End of life and end of support issues with circuit-based voice solutions are contributing to the upswing. In 1999, Y2K concerns prompted a significant increase in replacements of time-division multiplexing (TDM) private branch exchanges (PBXs). Those systems are now nearing the end of their useful lives, prompting organizations to re-evaluate their voice solutions.

Companies can save more than 90 percent on moves, adds and changes (MAC), depending on the company size and number of moves, adds and changes per year. Some companies have justified their entire IP telephony rollout through MAC savings alone.

While cost savings remains a key driver for VoIP, organizations are eager to experience the other benefits of IP telephony, including ease of administration and productivity-enhancing features. Many organizations are deploying IP telephony to create an integrated phone system across multiple locations. Scalability, flexibility and disaster preparedness are important considerations.

In general, the business benefits of VoIP can be grouped into four main categories:

1. Reduce communication costs
2. Improve operational efficiency
3. Enhance productivity and collaboration
4. Gain competitive advantage

Reduce communication costs

Deploying IP communications brings immediate savings by virtue of the fact that organizations only need to support, manage and maintain one network connection instead of two. This network convergence may produce significant reductions in hardware costs.

While the traditional PBX environment requires physical equipment on site, a VoIP solution can be more efficient as it converges multiple networks into a single shared voice and data network, and typically requires only half the data cabling. In addition, because in a hosted environment the hardware and services are in the cloud, businesses reduce real estate and cooling costs.

VoIP can allow organizations to cut long-distance charges by uniting branch locations and teleworkers over WAN and VPN links, and reducing toll-free number costs by effectively routing inbound calls. Additionally, combining VoIP with cellular technology allows businesses to leverage their own internal Wi-Fi networks when paired with dual mode cellular technology. This reduces charges for cellular calls.

The cost of moves, adds and changes (MAC) is dramatically reduced with VoIP. On average, companies spend \$105 on MACs, but the range is from \$60 to \$250. With VoIP, these changes are easily and quickly handled internally. Because

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extensions are no longer tied to a physical phone jack, employees simply plug their IP phone sets into the nearest data port and log in to accept calls and access phone system features. Companies can save more than 90 percent on MACs, depending on the company size and number of moves, adds and changes per year. Some companies have justified their entire IP telephony rollout through MAC savings alone.

VoIP also enables cost-cutting technologies such as video-conferencing, telepresence and unified communications. These technologies can allow companies to reduce the cost of travel by replacing many face-to-face meetings with effective alternatives. Organizations also can avoid the costs, carbon emissions and general wear and tear to their employees that accompany long-haul flights.

Improve Operational Efficiency

The ability to access VoIP services on the fly remotely allows cost-effective support for an increasingly mobile workforce. Business users can take advantage of their VoIP services from hotel rooms, branch offices and homes and remain productive. Beyond the ability to communicate remotely, they get access to information available in the office.

VoIP has revolutionized business communications systems by enabling voice calls to be linked with information from email, contact management, customer relationship management (CRM) and other applications. The integration of voice and data represents one of the most powerful tools in the service-focused organization's arsenal. It enables sales people, customer service reps, help desk staff and others throughout the organization to view customer data when a call arrives. This ability to quickly gain access to customer information on inbound and outbound calls drives consistent, measurable improvements in every business process, enabling closer relationships with customers and helping to achieve new levels of profitability.

Organizations also gain flexibility with the ability to leverage desktop devices as multi-purpose clients through the use of softphones. Softphones are not actual physical phones, but rather software that has been installed in the computer to allow



users to talk through the computer using a microphone and speakers or a headset.

Having remote access to VoIP features can greatly enhance network-based disaster recovery. The beauty of VoIP in a disaster is that the decentralized design of the Internet was specifically meant to accommodate routing disasters. The user can access a web portal to redirect calls, or in some cases, anyone with a VoIP phone and a broadband connection can establish communications when wired telephone lines are out of commission.

Enhance productivity and collaboration

The ability to stay connected to the company communications network anywhere and anytime offers a significant boost to worker productivity. Missed calls and connections are no longer a problem. Workers can collaborate easily, even across remote locations and while traveling.

Many of the productivity-enhancing features previously available only via costly add-ons to traditional PBX equipment come standard with VoIP. These features include advanced call routing, auto attendant, “find me/follow me” call forwarding, call waiting, three-way calling, voice mail and caller ID. In addition, VoIP offers functionality frequently not available through a traditional PBX. Unified messaging, for example, integrates voice mail, email and fax capability. Studies attempting to quantify productivity benefits have found that unified messaging can provide 25 to 40 minutes of added employee productivity each day. The ability of VoIP to integrate with other business applications offers additional productivity and collaboration gains. Many offerings come with IM and presence type services as well as CRM integration.

In a pilot study at one of its corporate sites, Intel was able to document dramatic productivity increases with VoIP. The company measured times to perform a range of tasks with the VoIP system compared to its legacy phone system and received astonishing results. For instance, scheduling a conference bridge was 27 times faster with VoIP and receiving a fax was 31 times faster. Calculating the time saved on a range of tasks,

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Intel determined that the typical worker saved 2.7 days per year.

Gain competitive advantage

Traditional phone systems are unable to deliver crucial information on a timely basis beyond the corporate voice mail system. A VoIP system can effectively break down silos by integrating applications and technologies, resulting in the delivery of important communications in seconds rather than hours. Services like call notification and message notification can alert users on any device. This allows organizations to make faster decisions in order to exploit new business opportunities, close sales, resolve issues and improve customer service.

Some VoIP services enable real-time collaboration tools such as telepresence and videoconferencing that increase business agility, shorten product development timelines and improve time to market.

VoIP can have a significant effect on customer service, retention and acquisition. The ability to increase responsiveness to customers and prospective customers separates businesses from the competition. In a struggling economy, responsiveness to customers can play a substantial role in revenue generation and business success. VoIP offers a range of capabilities, such as managing voice mails and emails in a single inbox, which allows for prioritization and forwarding of messages to colleagues for faster follow-up.

TOTAL COST OF OWNERSHIP

The benefits of VoIP are unquestionable. That doesn't mean it's easy. Implementing VoIP isn't just a simple matter of grafting voice on top of data. While there is a clear business case for convergence, it remains a complex undertaking that creates new technical, operational and managerial challenges. The reality is that few organizations can count comprehensive voice/data design, implementation and support capabilities as being among their core competencies.

As with any significant technology implementation, organizations must do the proper upfront work to measure expected costs against projected benefits in order to justify the necessary

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investment and set realistic expectations. VoIP costs can vary significantly, depending on the flavor of voice solution desired. For instance, an on-premises IP PBX may involve significantly greater capital costs than a hosted solution, in which ownership of the hardware is shifted to a service provider. Conversely, a hosted solution may have higher recurring costs. In addition, so-called “green field” deployments in which an entirely new communications infrastructure is being established can be less expensive than projects that must integrate with an existing network and communications platform.

In general, the total cost of ownership of VoIP must consider the sum of acquisition costs, monthly recurring costs and ongoing maintenance costs.

Acquisition Costs

Acquisition costs involve anything that must be paid for up front. This includes — but is not limited to — the equipment that must be installed for a VoIP rollout. Equipment costs include an IP PBX, phones, routers, switches, cabling and power backup. However, organizations must incur some important planning costs before even considering capital expenditures on equipment.

A baseline network assessment, typically requiring the services of a vendor or systems integrator, is essential to laying the foundation for VoIP. This involves a thorough review of the equipment, including the cabling being used. Organizations that are tempted to skip the assessment or conduct one with inexperienced internal staff to trim implementation costs run risks. They could get a nasty surprise down the road when their vital phone communications are beset with delays, awkward pauses and interruptions.

Unless the network is new or recently upgraded, odds are good that some sort of upgrade will be required. This is particularly true of organizations that wish to leverage VoIP to service multiple branch locations from a single, centralized IP PBX. That often requires more advanced networking gear to carry voice traffic back to the central location without causing a negative effect on data traffic. Such upgrades can run up to 50 percent or more of the cost of the telephony system itself. While that

adds to the implementation costs and delays return on investment (ROI), other areas of the business are likely to benefit from the network upgrade as well.

Installation costs must also be added to the equation. Even low-end turnkey systems will require staff time. More advanced installations will require the professional services of IP telephony experts who not only install the system, but make sure it is properly integrated with other office systems and can customize it to deliver specialized capabilities and features.

Monthly recurring costs

While VoIP can reduce monthly recurring costs, it doesn't eliminate them altogether. Some service providers charge per-minute usage fees for local and long-distance calls along with a fixed monthly fee for the data circuit. Others offer bundles of unlimited voice minutes and unlimited data access for a flat fee. While such fees may only be a fraction of the costs of operating a circuit-based phone system, they still must be considered for an accurate picture of your TCO.

Annual Maintenance costs

Support costs typically come in two categories, internal and external. While administration will be easier and less expensive, organizations still need dedicated internal IT staff to oversee the system and conduct moves, adds and changes. Additionally, a maintenance contract with a vendor or systems integrator is a necessity for ensuring the reliability of hardware and software.

RETURN ON INVESTMENT

A persistent myth about VoIP is that organizations will immediately realize huge cost savings. That isn't always the case. In addition to the initial capital expenditure associated with VoIP hardware, adopters often face network upgrades, interoperability issues and quality of service challenges that increase deployment costs.

Calculating the return on investment (ROI) of VoIP requires consideration of both "hard" and "soft" benefits. Easily demonstrated hard benefits include the cost reductions cited previous-



ly, centralization of services and staff optimization. An abundance of soft benefits such as increased productivity and improved customer service are much more difficult to quantify. To accurately calculate VoIP ROI, organizations must develop key performance metrics for measuring those soft benefits.

Performance metrics likely will be unique to each organization, depending on the nature of the business, the number of users, the number of branch locations, and the relative importance of voice communication to company success. For example, call centers have an explicit understanding of their performance metrics, such as the number of calls an employee makes per day and the number of problems he or she resolves. Some organizations can measure productivity improvements in terms of full-time equivalent (FTE) hours, labor and staffing costs, and workforce productivity benchmarks.

Other key productivity metrics could include:

- IT staff time saved due to faster moves, adds and changes
- IT staff time saved as end users can control features such as conference calls or call forwarding without help
- IT staff time saved as service provider manages data switched network and hosted phone system
- Reduced need for IT staff to travel to branch locations for phone support
- Improved response time to customer calls
- Fewer missed calls due to find me/follow me services
- Improved customer satisfaction due to rapid availability of account history through CRM integration.

IP PBX vs. HOSTED VoIP

There are several different VoIP services available in the market today. The two major options to consider are hosted solutions or on-premises deployments. While either choice offers substantial business benefits, understanding the difference is important to organizations in deciding how to best implement VoIP to reduce cost and gain efficiencies.

IP PBX

With an on-premises IP PBX deployment, the organization may own and operate its own equipment, or it may be owned and managed by the service provider. An on-premise solution may provide greater control over the telephony environment, including the ability to manage features, expansion and security. Conversely, these could all be cared for by your service provider. Organizations may have greater flexibility to develop custom solutions to meet specific requirements. If the organization has the proper in-house management expertise, an on-premises solution may also deliver lower monthly recurring costs for management and maintenance services.

However, organizations lacking that expertise could wind up with a poorly performing system that does not meet their needs. In addition, on-premises solutions involve significantly higher initial equipment and set-up costs as well as higher long-term maintenance costs.

Hosted VoIP

Hosted VoIP delivers all of the business-class telephony features without the up-front costs and management expertise required of purchasing an IP PBX. A provider houses most of the equipment and handles all the resources the phone system requires to operate. Service is typically delivered on a simple “per-seat, per-month” cost basis, and up-front costs are a fraction of those for traditional PBX equipment. Since the equipment is owned by a service provider, organizations are relieved of the risks of equipment obsolescence.

Considerations

When investigating options for VoIP implementation, organizations should ask the following questions of vendors and service providers to help in making the right call:

Maintenance and Upgrades: Are there costs for additional maintenance and upgrade fees so your business can maintain functionality and stay competitive? Are there additional fees for server and operating system maintenance?

Capacity: Are there additional costs if your business grows?

About TDS

TDS Telecommunications Corp. (TDS®) is the seventh largest telecom provider in the U.S. For more than 40 years, the company has been connecting people with high-speed Internet, phone, and TV entertainment services in hundreds of rural, suburban, and metropolitan communities across 30 states. Today, TDS has more than 1.1 million equivalent access lines in service and 2,700 employees. Business customers select from the latest technologies, including: VoIP (*managedIP*) phone service, dedicated Internet, data networking, and hosted-managed services.

Licensing: Are there licensing costs associated with IP functionality for the system and/or handsets?

Expense: Does the solution require an upfront capital purchase or is it a monthly fee?

Data Switched Network: Is the best-in-class data switching gear included along with the maintenance and configuration of the equipment?

Trunking: Are there any impacts with call set up and call routing within the IP PBX at the customer's site versus a hosted VoIP solution? Will your customers receive a busy signal with either option?

Disaster Redirect: In the event of a power interruption or a cut circuit, will the system re-route incoming calls to a cell phone, voice mail or remote location?

SUMMARY

With VoIP gaining traction in recent years, organizations are realizing that its benefits exceed mere cost reductions: Merging voice and data in a single network provides a better communication experience. Therefore, they are increasingly interested in the convergence that IP communication grants and the integration of multiple applications in a single interface or device.

Unified messaging boosts productivity and improves collaboration by giving employees one in-box for all types of messages — voice, email and fax. VoIP systems can also be combined with business applications to streamline workflows and enhance customer service. These benefits up the ante of the VoIP system and ideally should be considered in the initial planning stages.

VoIP can revolutionize an organization's communications and, more importantly, provide real bottom-line benefits in terms of cost savings, productivity gains, customer satisfaction and more. With upfront planning and foresight, organizations can gain a rapid return on their VoIP investment.



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