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Introduction

Voice over Internet Protocol (VoIP) has emerged as the industry standard for business telecommunications, offering the unbeatable combination of steep savings and improved performance. How does the new technology deliver the best of both worlds? The short answer: efficiency. VoIP integrates voice communications into the existing data network, eliminating the need for separate public switched telephone network (PSTN) hardware and wiring. A converged voice-data network simply commands fewer resources, resulting in both lower overhead costs and enhanced productivity features.

Most businesses realize a significant return on their investment within eighteen months of implementation. According to a recent study by PC World, businesses realize an average net savings of 20 to 30 percent when they switch from their legacy phone system to VoIP. The initial investment can come with a hefty price tag, however. To justify the migration to IP telephony, it pays to predict exactly how the return on your investment will play out. This paper maps the ten stages of VoIP savings.

Solid Cost Savings Ahead

When it comes to implementing a major infrastructure upgrade, nothing speaks louder than hard metrics illustrating a return on your business’ investment. Depending on the existing communications infrastructure, the initial investment could be considerable--but future savings are likely to be much more. Some of these hard returns are obvious, some are hidden. Here’s a comprehensive look at the financial benefits of a VoIP solution.

1. Long Distance Savings. For many companies, long distance savings alone justify a VoIP migration. Traditional phone service providers own the PSTN network over which the voice signals travel, and charge a toll for each call. VoIP eliminates dependence on this costly network, sending voice signals over the same IP network companies already own or access through an internet service provider.

Businesses with multiple offices or supply chains worldwide stand to benefit the most from the elimination of per-call charges. Data networks make no distinction between local and international transmissions, and neither does the VoIP bill.

2. Equipment Savings. The savings of bringing all communications—both data and voice—onto the IP network manifest in two ways. First, the business saves on hardware purchase costs simply by virtue of eliminating one of its two communications networks. Second, IP networks require less hardware than PSTN systems. The PSTN involves a physical private branch exchange (PBX) switchboard, key system, multiple T1 lines, hard wiring, and phone handsets. In contrast, VoIP systems can operate in a digital or even a wireless environment via IP PBX software, computer workstations, a server, and
local area network (LAN) hardware such as routers.

The hardware savings become especially dramatic in the context of network expansion and multiple office locations.

Expansion. In an IP environment, adding users or lines is simply a matter of reconfiguring a software application. A PSTN expansion, by contrast, calls for additional wiring and at a certain point, a higher-capacity PBX switchboard and additional T1 links.

Multiple Offices. VoIP offers businesses the option of hosting call processing equipment at one centralized location and deploying the service features across remote locations. All offices can enjoy standardized, high-level functionality without maintaining their own on-premises PBX equipment.

3. **Maintenance Savings.** As above, maintenance savings extend beyond the obvious and dramatic benefit of eliminating an entire network. Data networks are cheaper to maintain—adds, moves, and changes happen via a software interface. In contrast, PSTN maintenance involves the manual rewiring and re-routing of office phone lines. Hosted IP services such as Packet8 and Vocalocity eliminate the telecom maintenance budget altogether by maintaining the switchboard software on site. Users perform daily maintenance via a web dashboard, and system upgrades are the provider’s responsibility.

4. **Facility Savings.** Savings on overhead costs constitute an indirect yet easily quantifiable advantage of VoIP. Operating over the company LAN or wide area network (WAN), VoIP reduces dependence on a central facility. Workers can access the network from anywhere. Many companies have taken advantage of this flexibility to save on facility overhead and real estate costs.

5. **Service Options.** VoIP offers a range of different service options not available through PSTN providers. The ability to choose between different service models and price structures results in a significant cost advantage for users. VoIP is available both as an on-premises system and as a hosted service. The more cost effective setup depends on the size and configuration of the company. A small, rapidly growing company will probably find an advantage in subscribing to a hosted service, which offers low maintenance and high functionality on demand.

**Productivity Gains**

Arguably the most significant benefit of a VoIP system is the least visible one: the productivity gains. When factoring improved productivity into your metrics, consider the following:

6. **Access to the Network.** 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.

7. **Access to Advanced Functionality.** Many of the productivity-enhancing features previously available
only via expensive, top-of-the-line PBX equipment come standard with VoIP. This means that companies of all sizes can take advantage of functionality previously available only to large enterprises. These features include:
- Advanced call routing
- Auto attendant
- “Follow me” call forwarding

In addition, VoIP offers new functionality not available through the PSTN. Unified messaging, for example, integrates voicemail, 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 technology to integrate into other business applications such as instant messaging offers even broader productivity gains.

**8. Data Integration.** Another source of worker productivity is the integration of voice and data. The sales force, for example, benefits from instant access to customer data through Customer Relationship Management (CRM) software. Operations managers enjoy instant access to relevant supply chain data when communicating with suppliers. And all workers can access and share data ‘live’ as they collaborate by phone or conference call.

**9. Scalability.** VoIP offers the ability to grow or downsize the communications system instantly to meet changing business needs. The impact of this hassle-free scalability plays out in several ways. First, workers have exactly the features they need when they need them. Second, the company pays for no more phone system than it needs at present. Traditional PSTN networks required owners to maintain unnecessary lines and PBX capacity in anticipation of future needs. VoIP eliminates wasted resources on an outsized system without risking the reduced productivity of an insufficient system. Hosted service providers take scalability a step further by hosting the system and parceling out capacity and features to offsite subscriber. A la carte functionality available on request represents the ultimate in scalability—in most cases subscribers can make the necessary adjustments via a web portal.

**10. Flexibility.** Flexibility is also a source of indirect savings. In addition to sizing the network appropriately, the client can configure the network as needed. A Cisco study comments on the productivity implications of a system that can be rearranged and relocated at will: “An interesting development driven by the enhanced mobility of VoIP is that many organizations are now able to move their employees more frequently to better align them with the changing dynamics of the business.”

**Case Studies**

**Oracle Financial Services Software**
Oracle’s financial services software (OFSS) division faces a challenge common to most businesses today—a workforce scattered across the globe. With main offices in the U.S. and India, OFSS’ fourteen thousand employees regularly crossed time zones to collaborate by phone. The senior vice president of infrastructure
support, S. Hariharan, identified interoffice communications as one of the biggest drains on the IT budget, and set to work revamping the organization’s conventional phone infrastructure.

The need to reduce costs amid increasing demand for global communications brought OFSS to VoIP. By updating the organization’s phone technology in a phased migration, OFSS was able to reduce telecom costs by 80 percent without any downtime. The decision to introduce enterprise-wide VoIP would seem to require a major overhaul to the telephony infrastructure. But the new system required minimal new hardware, despite security and redundancy measures such as triple-routed calls between India and the U.S. First, OFSS repurposed its legacy PBX equipment for IP with a software upgrade. Next, it implemented VoIP trunks and provided for the necessary bandwidth, using a combination of new hardware and existing, underutilized equipment. Since the VoIP system runs on power over Ethernet (POE), additional power cabling was unnecessary. Between reduced international communications costs, low hardware overhead, reduced power consumption, and productivity gains due to data communications features, OFSS estimates a return on its investment that exceeds even the dramatic reductions in monthly costs.

**Nationwide Equity**

The combination of enhanced performance and lower costs seems too good to be true, but is the direct effect of the efficiencies of updated technology. Hosted VoIP provider Vocalocity offers small and mid-sized businesses access to enterprise-grade services at an affordable cost. Vocalocity client Nationwide Equity, for example, realized 70 percent savings on its monthly phone expenses while implementing productivity-enhancing features such as unified messaging and one-button interoffice call transfer. The small mortgage branch office also projects a professional image through 800-number service and advanced call handling features. Manager Mark Daniel comments: “I expected to have to pay significantly more each month for the level of quality we experience. It feels like we’re underpaying for the incredible value we’re receiving.”

**Conclusion**

Voice over IP simply offers better value in telecommunications. The technology that enables high-quality voice transfer over a company’s data network has made advanced communications more affordable than ever. Hosted VoIP services even eliminate the upfront infrastructure expense, removing the last barrier to the new technology. Packet8’s director of corporate communications Joan Citelli explains that the hosted service offers SMBs “the kind of PBX system that a large company would employ… All of the PBX features are deliverable over the internet. Businesses experience all of the functionality of a normal PBX without the capital outlay for premises equipment and support.” A software and internet-based technology reduces the capital outlay, while the data communications technology reduced the monthly phone bill. Accounting for these hard savings as well as the soft savings of increased productivity, VoIP offers the sort of return that makes major IT upgrade decisions easy.

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