

Virtual IP Trunking: A Great Way to Get Started with VoIP

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Executive Summary

Many businesses have yet to take advantage of the cost efficiencies and benefits associated with IP communications, because they feel tied to their legacy, on-premises phone system. Owning, or leasing a PBX or Key System causes many businesses to feel they only have new options when they reach the end of a lease or depreciation cycle. Virtual IP trunking eliminates these concerns by allowing businesses to maintain their phones and phone system hardware, while getting the cost-saving benefits of VoIP (Voice over Internet Protocol).

Virtual IP trunking offers many benefits to businesses considering their first VoIP solution or for those who may have examined VoIP in the past but felt the solutions were too complex and not cost effective. This analysis details the key benefits of virtual IP trunking, and finds:

- Virtual IP trunking is a great way to get your feet wet with VoIP.
- Virtual IP trunking is a relatively easy solution to install and provides quick Return on Investment (ROI) with minimal Total Cost of Ownership (TCO).
- Virtual IP trunking is a good solution during an economic downturn.
- Virtual IP trunking is a good way to leverage full value out of legacy Time Division Multiplexing (TDM) PBX investments.
- Virtual IP trunking is a good interim step to future IP solutions and has 3–4 year window of opportunity (as Y2K Key and PBX solutions still provide good value).
- The virtual IP trunking solution provides transparency of feature functionality.

Businesses considering Virtual IP trunking can benefit further by choosing a solution that is broadband carrier agnostic. In doing so, they can leverage these benefits at multiple locations where various broadband carrier options exist. The solution should also be agnostic as to the equipment being enabled.

Table of Contents

Executive Summary.....	1
Introduction.....	3
Now Is the Right Time for Virtual IP Trunking.....	4
Virtual IP Trunking Overcomes the Complexity Experienced by SMB VoIP Shoppers.....	7
Cost Savings Need to Be Compelling.....	8
Cost Savings is a Major Driver of VoIP Adoption, But Other Considerations Exist.....	10
IP Trunks are Already Well Proven in VoIP Deployments.....	11
Virtual Trunking Can Overcome Other Inhibitors to VoIP Adoption.....	12
The Packet8 Virtual Trunking Solution.....	14
Methodology.....	15
List of Tables.....	16
List of Figures.....	16

Introduction

While VoIP has become prevalent among large business in the US, penetration among small businesses only reached around 25% at the end of 2007. As small and medium-sized businesses (SMB) have begun to explore VoIP solutions for the first time, they quickly become aware that multiple options exist. For many businesses, a single VOIP solution is not always feasible. Hosted and equipment-based alternatives are often used, based on varying needs among businesses with multiple locations.

Broadband IP Telephony (BBIPT), which involves a VoIP service that rides on top of a cable or DSL connection, is the most popular VoIP solution in this space. However, while most small and medium-sized businesses start with BBIT services designed for the single line, residential market, this solution is rarely the sole voice solution owing to its lack of business-grade characteristics and scalability. Over time, many of these businesses migrate to hosted IP solutions that emulate PBX functionality without the need for equipment investments, such as Packet8's Virtual Office Hosted PBX service.

For businesses that have already invested in PBX equipment, the benefits of migrating to VoIP can be compelling. However, purchasing a new IP PBX is a costly and time consuming alternative that many businesses simply cannot afford. Getting more life out of existing PBX and Key System equipment is often preferred in the short run, but many of these solutions involve managing and maintaining an IP-enabling gateway and often involve changing out the existing telephone sets to new IP handsets.

In-Stat believes many small businesses could benefit from the use of a virtual IP trunking solution that requires only a simple edge device and allows businesses to lengthen the life of their PBX or Key System. An added benefit of virtual IP trunking is that businesses can combine their voice and data traffic on a single connection, eliminating the need to maintain separate voice and data networks.

This paper presents primary research data that shows how virtual IP trunking meets the needs of the SMB market and provides them a good first step in realizing the cost savings of VoIP.

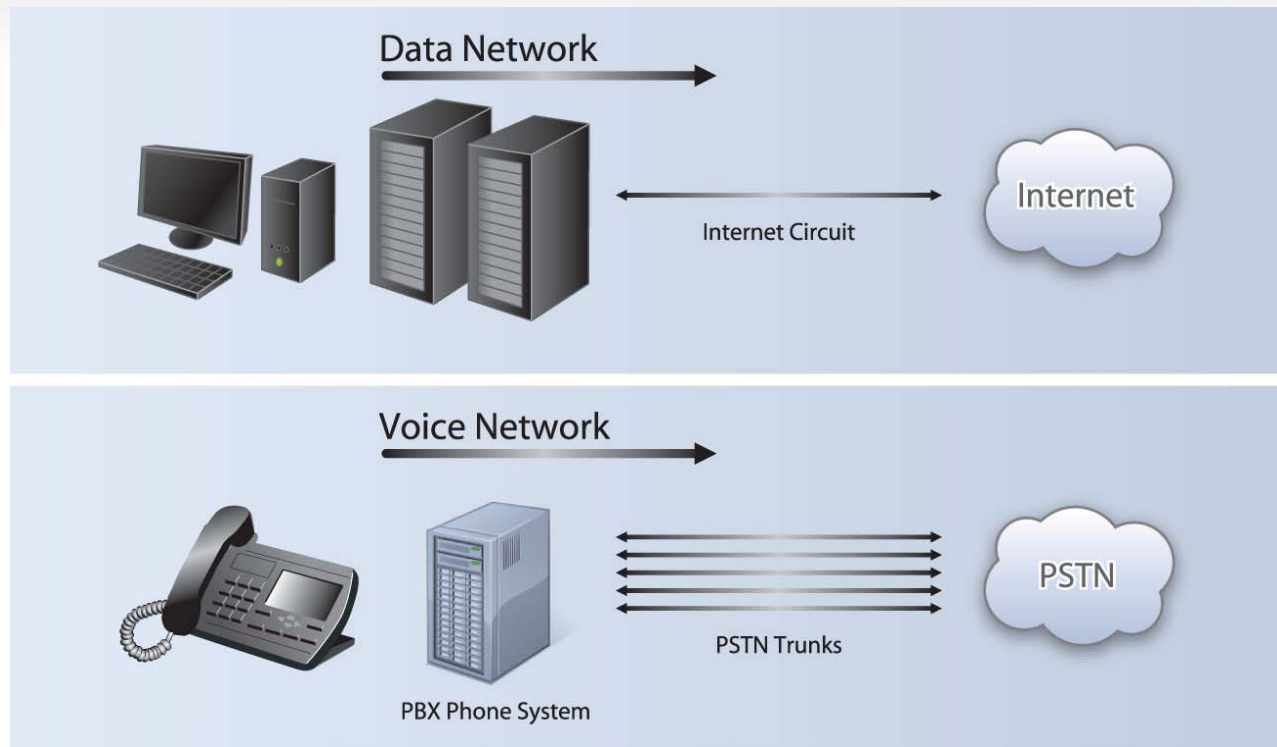
Now Is the Right Time for Virtual IP Trunking

Approximately 75% of SMBs have not deployed a VoIP solution. For the majority of these businesses, separate voice and data networks still exists. Often the voice solution is a TDM PBX, or a hybrid PBX that has IP capabilities, but is used as a traditional TDM PBX. While IP PBXs now represent 84% of total shipments worldwide, it has only been in the last four years that they have outnumbered TDM PBX shipments. Additionally, the TDM PBX market experienced explosive growth in 1999 and 2000 during the pre-crash boom in the technology sector. Y2K planning contributed to the growth spurt. In 1999 and 2000, TDM PBX line shipments reached 8 and 7.5 million respectively. Shipments dropped significantly in the next several years, but many of these TDM PBXs are still in place today.

In the years since, traditional PBX manufacturers have become victims of their own success. They built a very good product with well utilized feature functionality that can scale to meet the changing demands of the business customer. They also last a long time. While TDM PBXs are typically depreciated in a 6–7 year period, they typically have an effective service life of 10–12 years, or beyond. As a result, many businesses are not inclined to change out this reliable equipment unless there are compelling reasons to do so. Savings on long distance has traditionally been the primary factor triggering VoIP adoption, but even in the absence of significant long distance expenditures, virtual IP trunking can provide significant cost savings on local voice access as well as data access.

Figure 1 shows how many SMBs continue to operate their voice and data networks today. Private leased lines and ISDN PRI or BRI (primary rate, or basic rate interface) circuits are typically used separately for voice and data network needs.

Figure 1. Traditional PBX and Data Networking Solutions

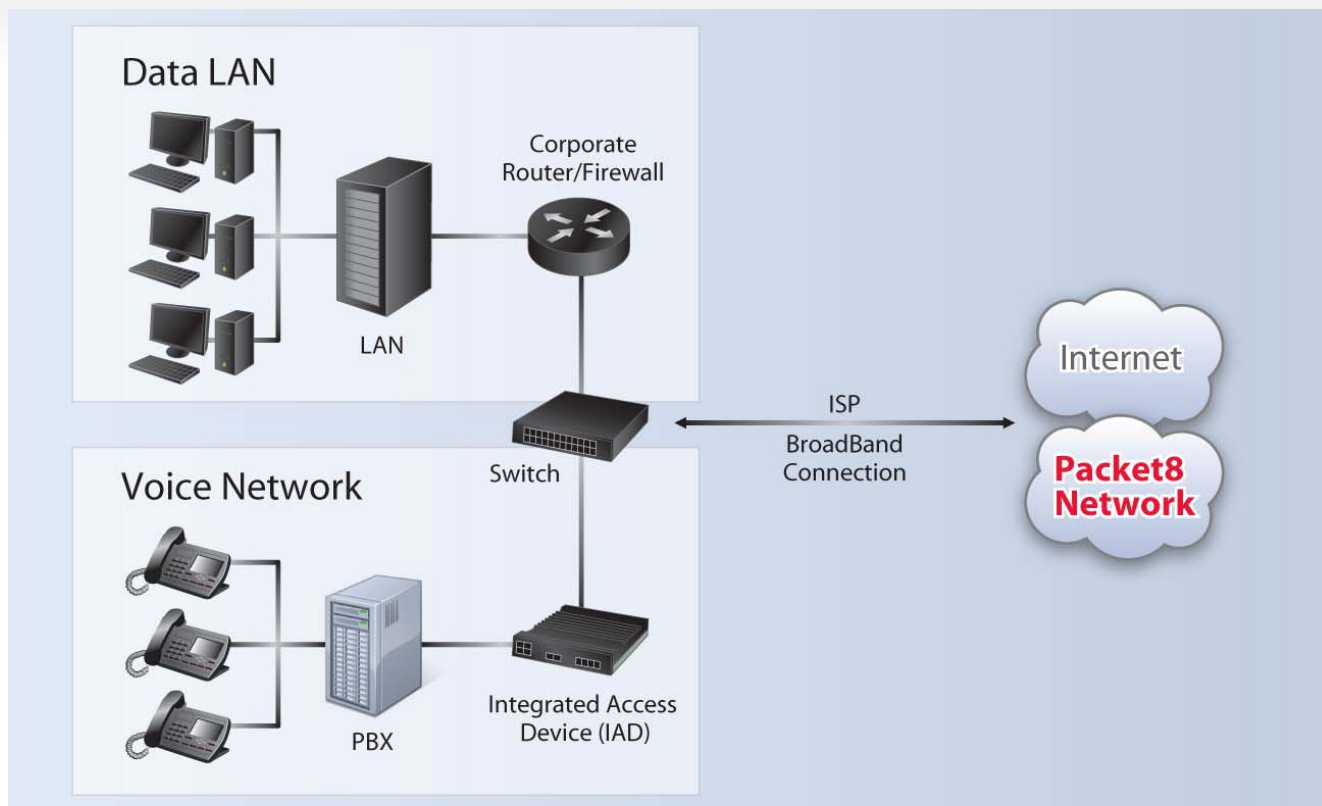


Source: Packet8, 7/08

Many businesses have excess bandwidth capacity because their data networks were engineered to meet peak needs. This may also be the case for many businesses on the voice network side, particularly if calls are bursty, or clustered into particular times of day, or on particular days of the week.

With virtual IP trunking, both voice and data network transport can be accommodated on a single line to achieve better bandwidth utilization. As a result, the need for costly BRI and PRI ISDN lines is eliminated. Figure 2 shows how a virtual IP trunk deployment would work.

Figure 2. Combining Voice and Data Solution



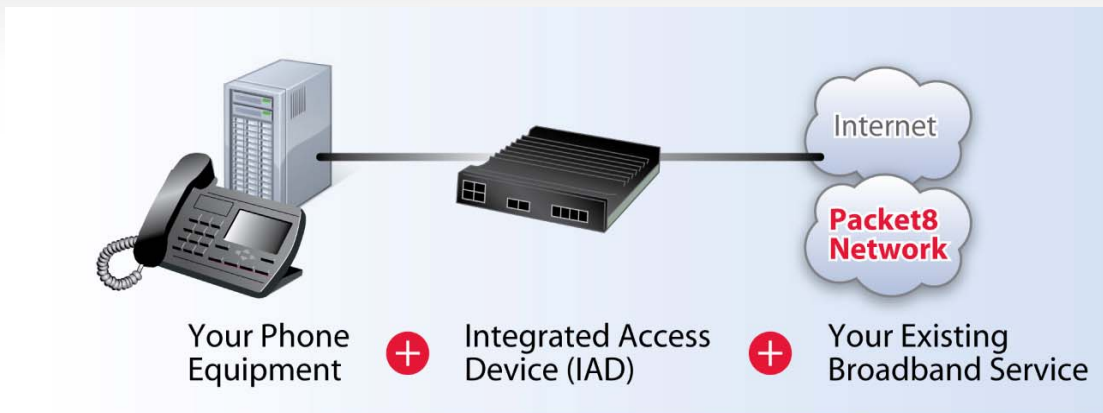
Source: Packet8, 7/08

One of the benefits of combining the voice and data traffic onto a single pipe is the ability to maximize available bandwidth. Upon implementing IP trunking, many businesses realize they had over provisioned their total bandwidth needs when voice and data were engineered separately. As a result, these savings can be significant right away, as well as moving forward.

The changing needs of the business are also simplified with virtual IP trunking, which allows for lines to be added one at a time. With TDM solutions, enterprises that need to add capacity ultimately trigger the purchase of a new PRI connection, which has 23 lines of capacity (30 in Europe), even if only one additional line is needed.

Another benefit of IP trunking is the ability to continue using the same equipment and same feature functionality as before. For businesses with significant voice traffic needs, Figure 3 shows how virtual IP trunking voice solutions are achieved.

Figure 3. Virtual IP Trunking Deployment



Source: Packet8, 7/08

A simple Internet Access Device (IAD) is used to provide the benefits of VoIP, without having to change the existing PBX or Key system, or the existing phones. Additionally, employees are able to use the same calling features they have become accustomed to without having to learn new interfaces or access codes. This is particularly attractive to businesses that want to get more life out of their existing investments and avoid the loss of productivity often associated with introducing an entirely new phone system.

Virtual IP Trunking Overcomes the Complexity Experienced by SMB VoIP Shoppers

Businesses planning to implement a VoIP solution often find themselves changing their plans as soon as they begin to understand the complexity and costs associated with many of the VoIP solutions. In-Stat’s analysis of 149 businesses that had not yet deployed a VoIP solution but were planning on doing so in 2007, revealed that many businesses planned to purchase a new PBX to either support legacy telephones or VoIP. Table 1 shows that this was particularly true among small and medium-sized businesses.

Table 1. Planned Equipment-Based VoIP Deployments Among Non-VoIP Businesses

	Total Business n=149	SOHO and Small n=38	Mid-Sized n=51	Enterprise n=60
Upgrade existing PBX to support VoIP and legacy/traditional telephones	40%	21%	39%	52%
New PBX to support VoIP and legacy/traditional telephones	42%	53%	47%	32%
New PBX to primarily support VoIP	15%	21%	14%	13%
Don't know	3%	5%	0%	3%

Source: In-Stat, 3/07

In the same analysis, In-Stat surveyed 182 businesses that had purchased their first VoIP solution within the last 12 months. Actual purchases tell a very different story than what had been planned. Updating existing PBXs to support VoIP and legacy telephones was the most common solution deployed, as shown in Table 2 below.

Table 2. Actual Initial Equipment-Based VoIP Deployments

	Total Business n=182	SOHO and Small n=28	Mid-Sized n=50	Enterprise n=104
Upgrade existing PBX to support VoIP and legacy/traditional telephones	49%	53%	46%	49%
New PBX to support VoIP and legacy/traditional telephones	29%	25%	22%	34%
New PBX to primarily support VoIP	15%	11%	24%	12%
Don't know	7%	11%	8%	6%

Source: In-Stat, 3/07

The most commonly cited reason for not deploying an IP PBX solution is the cost and complexity involved, coupled by the lack of internal expertise within the organization to effectively manage the solution. Another consideration is the need to change out telephone sets and adjust to new feature functionality interfaces. This is particularly a concern among businesses with more than one location, where employees of the same company may have to use different interfaces between company locations.

With virtual IP PBX trunks, much of this complexity and cost is eliminated, proving an effective way for many businesses to get their feet wet with VoIP and enjoy substantial cost savings.

Cost Savings Need to Be Compelling

An average legacy PBX voice solution costs a minimum of \$15,000 annually, on up, depending on the number of lines and long distance usage involved. For a medium-sized business looking to leverage toll-free calls into a call center, as well as out-bound long distance on a single trunk, the costs can climb dramatically. Table 3 shows that a medium-sized company using IP trunking to meet its in-bound call center and outbound long distance needs can save over \$93,000 per year.

Table 3. Typical Monthly Expenses for a Mid-Sized Call Center Application

	National Service Provider	Packet8
Monthly fee, transport (T1)	\$350.00	\$350.00
Monthly fee, voice services	\$1,325.00	\$575.00
Taxes & surcharges	\$1,977.00	\$1,149.00
Subtotal—fixed fees	\$3,652.00	\$2,074.00
200 International minutes	\$240.00	\$146.00
11,500 long distance minutes	\$690.00	\$0.00
155,000 toll-free minutes	\$11,625.00	\$6,200.00
Subtotal—toll charges	\$12,555.00	\$6,346.00
Total monthly charges	\$16,207.00	\$8,420.00
Savings:		
Total monthly savings		\$7,787.00
Annualized savings		\$93,444.00

Source: Packet8, 7/08

This scenario assumes the company keeps an existing dedicated T1 in place. Since Packet8's IP Trunking solution includes up to 500 minutes of nationwide calling per line, and toll-free inbound minutes are priced at only 4 cents per minute, many businesses are finding it beneficial to fully utilize these capabilities.

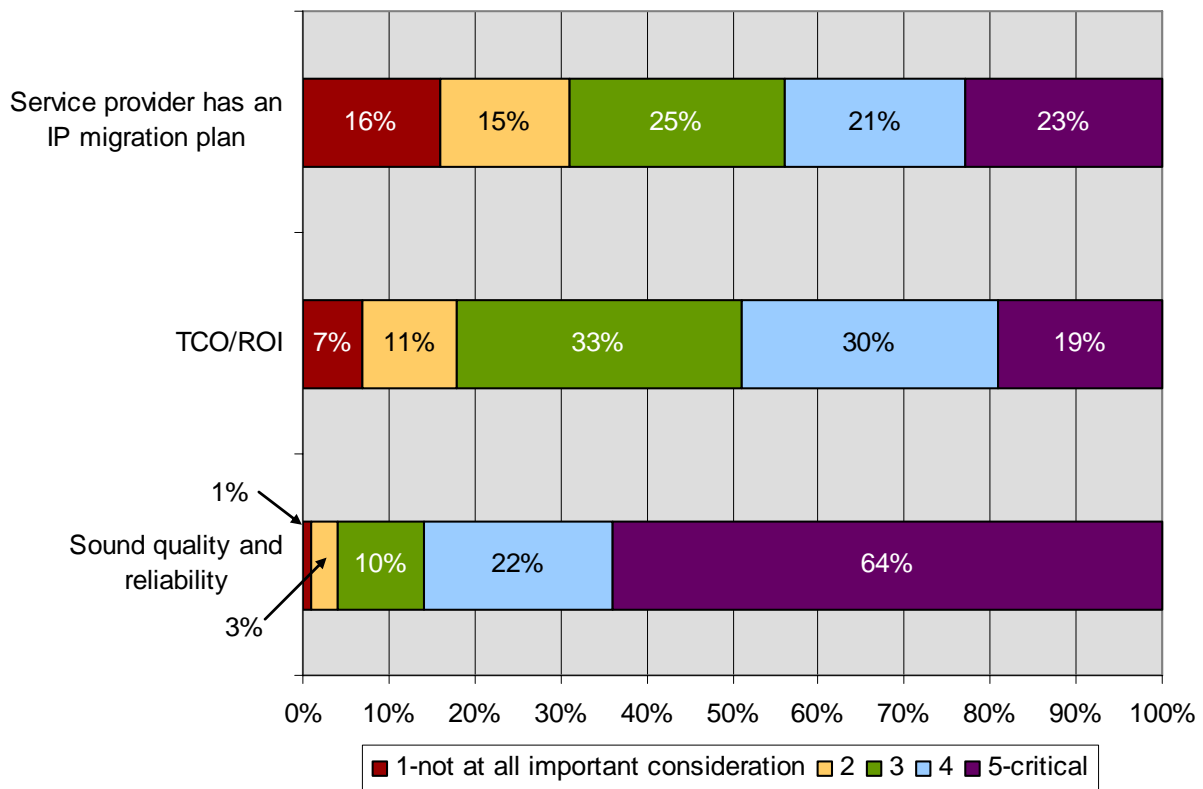
Savings of this magnitude are hard to ignore, even if substantial long distance is not used. As businesses face tough questions on how to deal with reducing costs, particularly those impacted by declining economic conditions, this becomes an even more attractive alternative to what is spent on voice and data networking today.

Put in perspective, these costs are substantially lower than was the case in the 1990s when T1s were well in excess of \$1,000 per month and long distance was over 10 cents per minute. While businesses continue to enjoy the benefits of lower trunking and long distance rates, they are not averse to saving more. This may particularly be true as businesses grapple with the potential of an economic slowdown, coupled with increasing operating expenses due to energy costs.

Cost Savings is a Major Driver of VoIP Adoption, But Other Considerations Exist

When considering a VoIP solution, businesses look first to the quality of the service. Maintaining good voice quality is of paramount importance. Figure 4 shows that total cost of operation, as well as return on investment are also important considerations, as is choosing a service provider that has a IP migration plan in place, so that over time businesses have a reliable partner to navigate them through choosing which flavors of VoIP are best to meet their evolving needs.

Figure 4. Considerations in Selecting a VoIP Service



Source: In-Stat, 11/07

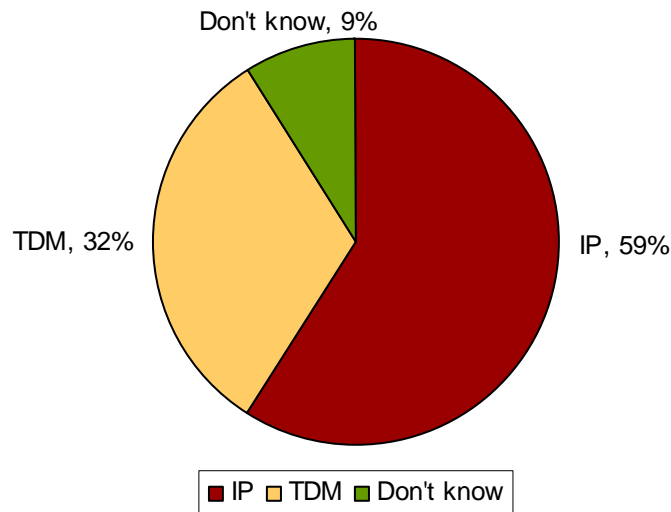
n=246

In the short term, virtual IP trunking is a relatively easy and inexpensive solution to employ, but businesses may want to consider a service provider with multiple VoIP options available now and in the future.

IP Trunks are Already Well Proven in VoIP Deployments

The November 2007 VoIP end-user analysis examined the connection between the customers' PBX and the service provider to determine the extent to which VoIP was being provided on an all-IP solution. Figure 5 shows this was the case 59% of the time.

Figure 5. IP vs. TDM Voice Trunking Between the PBX and Service Provider



Source: In-Stat, 11/07

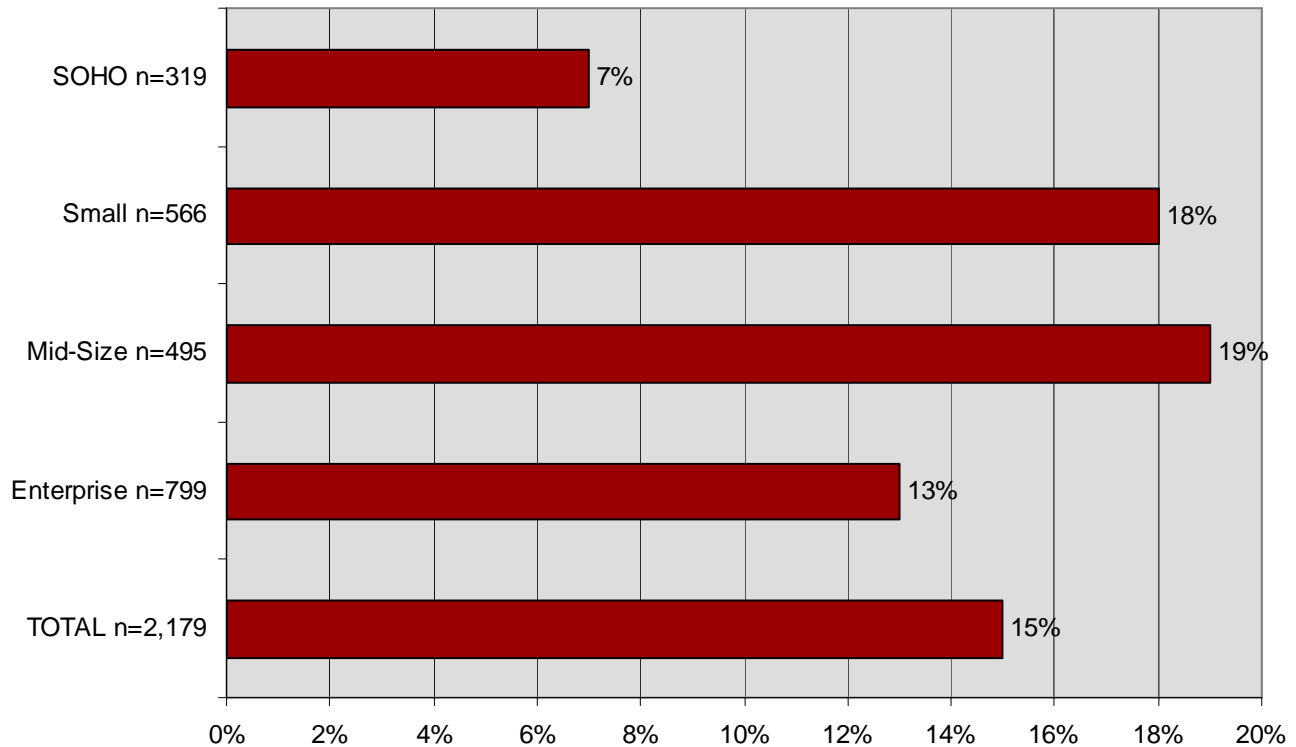
n=155

TDM trunks still retain a significant portion of PBX VoIP solutions voice transport, but In-Stat feels their presence will decrease over time as IP trunking becomes increasingly pervasive.

Virtual Trunking Can Overcome Other Inhibitors to VoIP Adoption

In two separate 2007 analyses of business decision makers and influencers for their organizations' communications services, In-Stat interviewed 2,179 businesses that had not yet deployed a VoIP solution. Among these, 15% were planning their first VoIP deployment within the next 6 to 18 months. Figure 6 shows that this was the case for 18% and 19% of small and mid-sized businesses respectively.

Figure 6. Organizations Planning to Deploy VoIP in the Next 6 to 18 Months



Source: In-Stat, 3/07 & 11/07

The SMB market is the sweet spot for virtual IP trunking deployments. As was shown earlier in this paper, many of these businesses will begin their quest for a VoIP solution with a particular plan in mind, but discover the costs and complexities involved are something they are not yet prepared to tackle. Virtual IP trunking provides these businesses with a painless first step.

Among those businesses not planning to deploy VoIP, the lack of awareness by decision makers, a general lack of *felt need*, concerns over quality, and no perceived cost savings are the primary inhibitors. Table 4 shows that SMB respondents had similar responses, with the exception of the lack of felt need, where small business respondents were significantly higher.

Table 4. Inhibitors to VoIP Adoption

Multiple responses allowed	Total n=593	SOHO n=117	Small n=153	Mid-Sized n=114	Enterprise n=209
Don't think my organization will be implementing it in next 6 months	55.0%	22.2%	52.9%	64.9%	69.4%
Don't feel the need to change from what I have	44.0%	66.7%	54.2%	35.1%	28.7%
Voice quality concerns	16.5%	19.7%	19.6%	15.8%	12.9%
Don't see any cost savings benefit	16.2%	23.1%	19.0%	16.7%	10.0%
Security concerns	15.3%	17.9%	7.8%	13.2%	20.6%
The technology is too new and unproven	10.1%	12.0%	9.8%	13.2%	7.7%
Don't understand enough about it	9.9%	10.3%	10.5%	9.6%	9.6%
Concerns about power/ISP outages and loss of phone service during outages	1.5%	5.1%	1.3%	0.0%	0.5%
Cost of implementation	0.8%	0.0%	1.3%	0.9%	1.0%
Reliability concerns	0.8%	0.9%	0.7%	2.6%	
Bandwidth concerns	0.5%	0.0%	1.3%	0.0%	0.5%
Use mobile phones for long distance rather than VoIP	0.5%	0.0%	0.7%	0.0%	1.0%
Other	2.7%	4.3%	2.6%	1.8%	2.4%
Not needed	1.3%	1.7%	0.7%	0.9%	1.9%

Source: In-Stat, 11/07

Virtual IP trunking is relatively easy to understand owing to its inherent simplicity. Dynamic bandwidth allocation, and the ability to continue using the same telephony equipment, with the same user interface and feature functions, while maintaining voice quality addresses many of these inhibitors.

The Packet8 Virtual Trunking Solution

Packet8 has been a market leader in the provisioning of hosted IP PBX service with its Packet8 Virtual Office solution for 5 years. While hosted solutions make sense for many businesses, some companies are not yet ready to abandon their legacy phone equipment. As a result, Packet8 has expanded its portfolio of VoIP offerings to include Packet8's virtual trunking solution, which meets the needs of small and medium-sized businesses that might have explored VoIP solutions in the past, but were concerned over cost and complexity, as well as for SMBs exploring VoIP for the first time.

The solution provides the following benefits:

- Businesses can keep their existing phone system in place.
- They can enjoy the cost savings of VoIP via the proven/patent-protected Packet8 voice network.
- They maximize the benefit of their bandwidth investments by sharing voice and data traffic.
- Businesses can pay-as-they-grow, one line at a time.
- Virtual IP trunking provides a seamless migration to VoIP.

Here is how the service works:

- 500 minutes of nationwide calling are included with each line.
- On-site installation and termination equipment is included with new accounts.

The customer needn't worry about how to install, operate, or maintain the new VoIP solution. Trained installers perform the service set-up, usually within 90 minutes. Since the same handsets and feature functions are used, most employees won't even notice anything different. This solution presents substantial cost savings opportunities for businesses.

The Packet8 virtual IP trunking solution addresses many of the key issues important to SMBs:

- Substantial cost savings are realized.
- The complexity associated with many VoIP solutions is eliminated.
- Companies are able to get more life out of their investments in legacy PBX and Key Systems.
- Voice quality is maintained.
- Packet8 provides businesses with IP migration options for the future.
- Packet8's virtual IP trunking solution is agnostic toward ISP and carrier choices.

Methodology

A variety of sources, including In-Stat's own proprietary market research, were used to develop the opinions provided in this paper. These sources include, but are not limited to, government data and research, primary end-user research, supply-side market research, and secondary sources, as well as interviews with key decision-makers in the high-tech industry regarding their market strategies for specific business segments.

Primary research results presented in this paper were taken from two separate In-Stat surveys: the November 2007 VoIP End-User analysis of 249 business VoIP users and the March 2007 Business IP Communications survey of 1,004 business communications decision makers. The Technology Adoption Panel is a dynamic, online panel of more than 18,000 technology users and decision makers interested in contributing their opinions and insights about technology usage and technology issues in the workplace and at home. The panel is comprised of a diverse group of people who represent a wide range of company sizes, industries, and areas of expertise. The diversity of the panel allows us to gather information on a variety of topics from many different perspectives.

List of Tables

Table 1.	Planned Equipment-Based VoIP Deployments Among Non-VoIP Businesses.....	7
Table 2.	Actual Initial Equipment-Based VoIP Deployments	8
Table 3.	Typical Monthly Expenses for a Mid-Sized Call Center Application	8
Table 4.	Inhibitors to VoIP Adoption	13

List of Figures

Figure 1.	Traditional PBX and Data Networking Solutions	5
Figure 2.	Combining Voice and Data Solution	6
Figure 3.	Virtual IP Trunking Deployment	7
Figure 4.	Considerations in Selecting a VoIP Service.....	10
Figure 5.	IP vs. TDM Voice Trunking Between the PBX and Service Provider	11
Figure 6.	Organizations Planning to Deploy VoIP in the Next 6 to 18 Months	12

[Return to Table of Contents](#)

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