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The Smart And Safe Way To Transition To IP Telephony

BY MICHAEL DURANCE

When IP-based telecom solutions first became available in the mid-1990s, predictions for market acceptance were very aggressive. Some analysts predicted that 5 to 10 percent of the market would adopt IP-based telephone systems by the year 2000. The reality was less than 1 percent. Hindsight being 20/20, we know that there are a lot of reasons why the adoption rate has come nowhere near the initial predictions. From the Y2K scare to the tech industry's bubble bursting, economic factors dramatically affected IP telephony's rise to power, but what has held it back the most has been acceptance of the technology itself.

Today, analysts estimate that by the year 2006, as much as 40 percent of all new PBX telephone stations sold to enterprises may be IP-based. This is an ambitious leap from today's estimated 12 percent installed base of IP systems, but there is no doubt that it is beginning to take hold.

TRADITIONAL PBX VERSUS IP-PBX

Perhaps it is just human nature not to want to jump in to find out if you can swim, but wade in gradually, testing the waters as you go. Or perhaps it's a new conservatism driven by today's economy that says, "If it ain't broke, don't fix it." Or, perhaps more simply, knowing that telephones are the core of their communication and having experienced downtime with their computers, users are simply afraid to take the leap of faith to an IP-based system.

The rock solid reliability of traditional TDM-based PBX systems cannot be argued. They almost never go down, and when paired with durable digital telephones, they offer all the telephony features anyone could need.

The reason that IP-PBX systems go down more often is that they operate in a pure IP environment, based upon PC server technology, using a single network of communication devices and wiring for both data and voice traffic. This network consolidation is designed to result in decreased network administration, thus making deployment of services and applications easier. However, being a server-based application, it does not have the reliability of a traditional PBX system.

That's not to say that today there aren't IP-based systems that are impressively reliable. Even so, they simply cannot match the 24/7 undaunted reliability afforded by a traditional TDM-based PBX system. For decades, traditional

Despite the reality shock, the promise of IP telephony is very alluring — and it can deliver if implemented correctly.

TDM-based telephone systems have kept working day and night through disasters of all kinds, manmade and natural, and through untold abuses by employees (such as teenagers working the phones at the local pizza place) to environmental (the dirt and grime of an auto repair shop for example). In many businesses, you'd be hard pressed to find users who can remember their telephone system ever being down, but if you ask them if their computer network has ever gone down, well, it's another story.

INVESTMENT TO MOVE TO IP TELEPHONY

It can also be expensive to move to an IP-based system. Viewing IP telephony strictly from a financial decision, does it make sense? Don't we all want to make most long-distance calls for free anywhere in the world? It sounds good enough until you look at the fact that you have to replace your existing telecom system and start all over.

Even after spending the thousands for the new IP system plus the time and effort to re-train employees to use the new system, does it mean you can really make long distance calls for free anytime, anywhere? Unfortunately not. With most systems, users actually need one at each end of where calls are being made. If users have satellite offices all over the world, especially in places where things like T1 lines are virtually unheard of, it can make sense, but for most systems, there still has to be an IP telephone system in each office. One way to work around this is to set up remote IP telephones that act as extensions on the main system back at the headquarters office, which is effective on some systems, but doesn't work on others.

Moving to a completely new system also means the users need re-training, which can be costly and result in time away from their other work.

Users also need to make sure the system either has an integrated voice processing solution or find one that's compatible. So IP is not necessarily an inexpensive proposition, nor can it do everything that a TDM-based PBX can, at least not today.

HYBRID SYSTEMS PROVIDE THE BEST OF BOTH WORLDS

Despite the reality shock, the promise of IP telephony is very alluring — and it can deliver if implemented correctly. IP telephony has the potential to not only deliver free long distance, but a completely integrated and unified communications system with full anytime, anywhere mobility and near 24/7 reliability. So what is today's answer to IP telephony?

A hybrid system provides the best of both worlds, mixing the best of a traditional TDM-based digital telecommunications system with IP telephony where it makes sense for the enterprise. With an IP-enabled digital communications system, users simply get the 24/7 reliability, durability, and virtually industrial strength of traditional PBX systems, but all the benefits of IP telephony applications. The blending of a hybrid system does away with the financial issue of having to forklift to a completely new system while delivering today's promise of IP in a non-threatening way that is

unlikely to bring down your entire network. Adding IP telephony to a traditional PBX system protects the enterprise's investment in existing voice, video, and data networks and represents a low-risk, less-disruptive migration path.

But how does it work? IP-enabling existing PBX systems provide VoIP trunk access and remote telephone user applications over IP networks, which supplements access through the public switched telephone network. The IP-enabled PBX architecture typically involves the addition of IP trunk cards and IP station cards, with Ethernet interfaces, to existing PBX systems.

Hosting telephones connected through one IP network, either locally via a LAN or remotely in any location via a private Intranet or the public Internet, provides the flexibility of distributed configurations and remote telephone users. The IP network will provide all the call switching, regardless of whether calls originate from the public switched telephone network, digital or analog telephones, or IP telephones.

Choosing a hybrid system allows users to move into IP at a reasonable pace, testing the waters, seeing how users and budgets benefit, and allowing time to determine if an IP-only system is truly the right solution for their enterprise.

THE CHANNEL: A CRITICAL COMPONENT TO IP ACCEPTANCE

It sounds pretty easy to add IP telephony to your existing telephone system, so why aren't more users doing this? In some cases, it's because the distribution channel is struggling to play catch-up in understanding the hybrid play. There are interconnects struggling to become data players, and data players struggling to understand the traditional telecom world. And it's not just a learning curve — it's a whole new way of doing business.

Traditionally, in the telecom world, interconnects have sold their customers on a fairly substantial initial investment in a telephone system that came from a single manufacturer. After the installation, they are "on call" to handle their customers' changes, do repairs, and upgrade the system when new capabilities are needed, but are typically not providing service on a daily basis.

This is completely opposite of how the data world operates. The upfront cost is a pieced together system, depending on what the customer wants, with devices potentially coming from various manufacturers. PCs are a cheap commodity today, and network components, such as routers, can be had for less than \$100 at Best Buy. The data vendors aren't making their money upfront on equipment. Unlike interconnects who are hunters and gatherers always focused on making more sales, data vendors work really hard on selling a small number of clients and then farming each one, ostensibly for the life of each company.

For the channel to successfully sell IP-only or IP-enabled systems, they have to blend their cultures into a completely new selling and servicing environment. Manufacturers on both sides are realizing this, even as

they create their own blended cultures of telecom and data technology, and are putting into place programs to help bridge the gap. In addition, savvy interconnects and data vendors are reinventing themselves and the way they do business, but it is taking time.

So What Does The Future Hold?

While it may be years before organizations fully exploit the potential of the Internet and IP network technology, having a hybrid system provides a new way of communicating and conducting business. The successful implementation of IP telephony will not require business users to conform to the technology, but rather the technology will conform to the users and how they want to interact with the world. Adding IP telephony to the traditional PBX has the

potential to change the way enterprises communicate with their customers, vendors and each other. The successful manufacturer will have to both provide a sensible migration path for the enterprise as well as deliver the promise of IP to the end-user — not just the protocol itself.

Michael Durance is vice president/general manager of Toshiba Telecommunication Systems Division. Toshiba is a leading provider of business communication systems for small- to medium-sized enterprises. Toshiba markets its Strata CTX, Strata DK, and Strata systems through its network of authorized dealers. For more information, visit the company on the Web at www.toshiba.ca/opg.

TOSHIBA

Toshiba of Canada Limited
Office Products Group
191 McNabb Street
Markham, Ontario
L3R 8H2

Phone: 905-470-3500
Fax: 905-470-3459
E-mail: gkramer@toshiba.ca



Why Forklift When You Can Upgrade?

Making Product Investments for the Life of Your Business

BY MICHAEL DURANCE

Some telecommunication manufacturers are advocating that you replace all your existing equipment with a whole new system in order to get the cutting-edge technology and capabilities that you want. However, there's no need to forklift your existing system when you can simply upgrade it.

TAKE ADVANTAGE OF MANUFACTURERS' MIGRATION POLICIES

Many manufacturers offer migration and upgrade policies that help enterprises protect their original investment. Migration typically involves both hardware and software swaps, while upgrades are typically software-only updates to your existing system. Both allow you to keep much of your existing equipment, which translates to cost savings.

Whether it's a full migration or a simple software upgrade, smart telecommunication dealers and users work with their equipment manufacturers to take advantage of their migration policies rather than replace existing systems.

For example, you can add IP telephony as an upgrade to many communication servers or TDM systems. Upgrading one of these types of systems enables you to use IP telephony where it makes sense, allowing you to take advantage of IP while retaining TDM for other applications. This creates a hybrid system customized to the way you do business, allowing you to take advantage of technology innovations that meet your needs.

Upgrading your existing system to add IP gives you the best of both worlds — the cost savings, applications and flexibility of an IP system combined with the durability and reliability of a TDM system — while maximizing your original investment.

REAL-WORLD UPGRADES DELIVER ON THE COST-SAVINGS PROMISE

What does it really mean to upgrade or migrate? For most companies, it means

significant investment protection, combined with improved business efficiencies. Pomp's Tire Service, a Green Bay, Wis.-based 50-store chain of tire and car service stores, was able to retain 70–80 percent of the value of their existing telecommunications system by reusing interface cards, telephones and their voice mail system when they migrated to a new system that allowed them to add VoIP. By putting in a frame relay system on their Windows-based WAN, they IP-enabled their Toshiba Strata CTX670 telephone system without having to replace the entire system.

Atlanta-based Professional Career Development Institute (PCDI), a leading correspondence college, has migrated its telecommunication system five times over the past 15 years. In fact, the institute's tremendous growth has demanded a significant capacity increase in its telephone system, from just 25 extensions to more than 250 extensions. Today, its Toshiba Strata CTX670 handles surges of up to 7,000 calls daily. Migrating saved PCDI more than 300 percent over buying a whole new system. (See article Five's The Charm At Professional Career Development Institute.)

DETERMINING THE NEED TO UPGRADE

How do you know when it's time to upgrade? As your business grows, your technology and capacity demands can outpace your system, and adding new technology can bring cost savings and/or improved efficiencies to your company. A need to add remote locations or users is also an excellent opportunity to add expanded capabilities to your system.

It's also time to upgrade if you have multiple locations with a variety of different systems that don't integrate. Migrating to an integrated system can allow centralized voice mail, three-digit calling, intercom and paging capabilities, and much more, regardless of where the offices are physically located. The cut in long-distance costs and improvements in productivity more than make up for the cost of upgrading.

Upgrading is also a smart idea if you want to add a new technology, such as IP telephony. IP telephony enables users to make calls over their IP data networks or the Internet, providing a significant savings on their long-distance costs as well as many other benefits. Upgrading can take you from a basic telecom system to a complete business communications solution that can deliver new technologies and capabilities from IP telephony and mobility to unified messaging and centralized voice mail.

WHAT DOES IT COST

Here's the bottom line. Upgrading your system lets you maximize your original investment. You'll gain increased capabilities and capacity, without having to buy a whole new system. For example, a new IP-based telecommunication system can cost up to four times as much as upgrading an existing system to add IP telephony capabilities. It makes good financial sense to keep what you already own and upgrade to enable new capabilities or extra capacity. Even if you're not adding IP, upgrading typically costs about a third or even half less than buying a new system. Telephone handsets alone can account for up to half of the cost of a new system. Being able to keep your existing telephones is a big advantage.

Most manufacturers understand users' need to migrate. In fact, many manufacturers now offer systems that are built specifically to migrate and grow, letting you add capabilities and capacity at a fraction of the cost of a new system. For example, with Toshiba systems, you can add capacity and capabilities, extend or integrate voice processing solutions, and build in IP telephony wherever it makes sense. You can even migrate the entire system to IP telephony if that's what is appropriate.

Very soon, you'll be able to wirelessly extend your Toshiba telecommunication system using any mobile IP-based device, such as a voice-enabled PDA or voice-enabled laptop

The Upgrade Checklist: What to Ask Your Dealer About Upgrading Your Phone System

- Does my manufacturer offer an upgrade and migration path?
- What options do I have in upgrading?
- Can I add capacity? If so, how much and in what increments?
- Can I add new technologies, such as VoIP?
- Can I enable VoIP on my existing data network?
- What other new features and capabilities can I add?
- Can I enable remote administration?
- What original equipment can I keep? Telephone handsets, telephone boards?
- Are there any downsides to upgrading over buying a new system?
- What is the cost of upgrading versus buying the new system?
- What cost savings can I expect with the upgraded system?

When can we start?

(such as a tablet PC), via any media for any application for remote access to your telephone calls, voice mail and e-mail.

Before you buy a new system, ask your dealer or manufacturer about the upgrade capabilities of your system. You need to request specific details and pricing, so you know exactly what you're getting if you decide to upgrade your system in the future. It's likely to save you both time and money, but you will want to make sure the upgrade gives you what you need. (See sidebar, Upgrade Checklist.)

If you do decide to upgrade, the benefits can be tremendous. In terms of cost savings, it's not uncommon to save 300-400 percent over the cost of buying a completely new system. Implementing VoIP by adding IP terminals at a remote or home office can act like an extension on your telecommunications system, allowing you to route calls through the company and even set up caller ID to look like your office extension. This also provides significant savings on long-distance. In fact, by using VoIP, many users are able to completely eliminate long-distance charges between their offices by upgrading their systems to allow intercom dial-

ing between employees, whether their offices are across town or across the country.

Migrating your existing system also means that there's little or no learning curve for your end users. Everything just ports over to the upgraded system and it's business as usual, only with more capabilities.

Get the most out of your existing system and make your product investments last for the life of your business. Explore your migration and upgrade options with your dealer and manufacturer to find ways to increase cost savings, expand capacity, improve performance, and add new features and functionality. It will help your employees better communicate with customers, vendors and each other.

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TOSHIBA

Toshiba of Canada Limited
Office Products Group
191 McNabb Street
Markham, Ontario
L3R 8H2

Phone: 905-470-3500
Fax: 905-470-3459
E-mail: gkramer@toshiba.ca



Five's The Charm At Professional Career Development Institute

BY MICHAEL DURANCE

With more than 40,000 graduates, Atlanta-based Professional Career Development Institute (PCDI) is one of the top college correspondence schools in the country. PCDI has educational programs ranging from medical and auto mechanics to associate of arts degrees and high school diplomas, helping its students reach their academic and career goals while giving them the flexibility of studying remotely from anywhere in the world. The institute relies on its Toshiba Strata CTX670 business communication system to handle the thousands of calls it receives from current and potential students each week.

"Professional Career Development Institute has been growing by leaps and bounds every year," said Mike Rutsky, director of operations for the school, which currently boasts more than 150,000 students. "With more and more people returning to school to start new careers or further themselves in their current careers, we've seen our enrollments jump by more than 25 percent in the last four years."

As its attendance grew, so did PCDI's telecommunication needs. In fact, the Institute's telephone system grew from just 25 extensions with its first Toshiba system to more than 250 extensions today on its new Toshiba Strata CTX system, according to Rutsky. A Toshiba user for more than 15 years, PCDI worked with Authorized Toshiba Dealer ALT Communications, also based in Atlanta, to upgrade its existing Toshiba Strata DK424i to the Toshiba Strata CTX670 system.

ALT Communications CEO Larry Brown said, "With 3,500 to 5,000 calls coming into PCDI every day, the Institute needed a dependable system that would provide reliable call

handling for its nearly 100 operators. We recommended Toshiba because its products are absolutely the best choice when it comes to 24/7 reliability and durability." Rutsky added, "Since our telephones are our primary link to new and existing students, it's imperative that we have a reliable system, and that's why we chose Toshiba."

In fact, PCDI's management team has been so pleased with the reliability and migratability of its Toshiba systems that the Strata CTX670 is the fifth Toshiba system they've purchased. They first started with a Strata DK96 in the mid-1980s, moving to a Perception in the late 1980s. As the Institute grew, they upgraded to a Strata DK280 before moving to the DK424i in the mid-1990s. Continued growth spurred their decision to migrate to the Strata CTX670.

One of the benefits of PCDI's upgrade of its existing Toshiba Strata DK424i system to the larger-capacity, more powerful Toshiba Strata CTX670 is that the institute was able to keep all of its existing telephone handsets and many of the interface system boards, which added to the cost savings.

Brown estimates that the migration would have cost PCDI 300-400 percent more to buy a completely new telephone system. He said, "Toshiba's legendary migration path really paid off for PCDI. They kept much of their existing equipment, which provided them with a tremendous cost savings while affording them all the benefits of moving to the more sophisticated system."

ALT Communications was also able to migrate PCDI's existing Toshiba Strategy Enterprise Server (Strategy ES) voice processing

system for use with its new Toshiba Strata CTX670. Originally used with its previous Toshiba Strata DK system, the Strategy ES is the most powerful voice processing solution available from Toshiba and was designed for backward and forward migratability. Brown said, "Being able to keep the Strategy ES system saved PCDI the cost of a new voice processing solution, which would have been thousands of dollars."

In addition to cost savings, Rutsky estimates that the Toshiba Strata CTX system has improved productivity at PCDI by more than 50 percent. "With the Strata CTX, everything just flows better. From managing our incoming call capability to routing calls to our ACD groups, we can now better plan our staffing needs. In addition, being able to reduce our queue times also provides us with a substantial cost savings in our long-distance charges."

With its 50 percent increase in productivity, a dramatic increase in overall power and capacity, and cost savings in long-distance and migration path of more than 300 percent over buying a new system, Toshiba has earned high marks at PCDI. Rutsky said, "You could definitely say that Toshiba is at the top of the class here at Professional Career Development Institute."

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