InfoTech
Building Client Value

Strategies for IP Telephony Evaluation and Migration:

Best Practice Considerations for Deploying IPT in the Enterprise

An Executive Briefing Paper

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Methodology

The quantitative data contained in this Executive Brief were developed by the senior analysts associated with InfoTech's *InfoTrack* market research programs. InfoTech has conducted primary research on business telephony since 1990, and on voice and data convergence since 1999. Analysis is based primarily on research conducted with a standing panel of more than 1,000 higher-end enterprise and over 900 small and mid-sized business decision-makers. Panel input is augmented with frequent face-to-face interviews with business and IT leaders.

The InfoTech research findings are accompanied by direct verbatims and attributed perspectives based on interviews with three enterprises that have adopted IP Telephony – Oregon-based *PremierWest Bank* (**www.premierwestbank.com**), *Dougherty County School System* in Albany, Georgia (**www.dougherty.k12.ga.us**), and Dallas-headquartered *Hitachi Consulting* (**www.hitachiconsulting.com**).

Purpose

Whether your company has already embraced convergence or is still evaluating options, use the latest decision-maker research backed by candid insights from real businesses to compare and validate your own perspectives for selecting and implementing an IP Telephony solution.

The State of the Market – *IP Telephony gets a decisive green light*

For decades, enterprises have viewed voice communications and data processing as necessary, but separate, business tools. The mid-1990's signaled the beginning of a fundamental shift in business communications with the emergence of *convergence* – a new approach that would allow voice and data traffic to be integrated onto a single packet network.

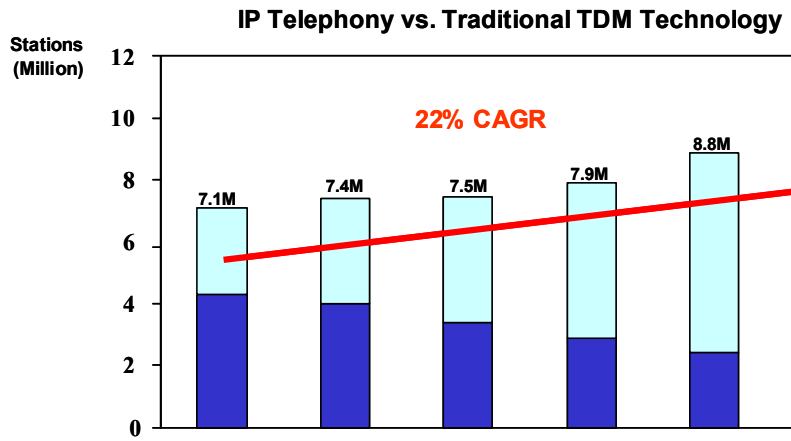
By the late 90's, media pundits and technologists alike were in high gear predicting a broad set of convergence-enabled business benefits – from significantly reduced spending on network transport and long distance calling, to enhanced employee productivity and end-customer satisfaction.

As with most advances in technology, the practical benefits trailed the vision. Although interest in convergence was immediate, it took more than a half-decade for the overall market to reach a consensus that IP-based communications was fully enterprise-ready.

Once the major manufacturers were able to demonstrate that converged *IP Telephony* (IPT) systems could actually deliver the performance and features that businesses had come to expect from traditional PBXs and Key Systems, the rate of IPT adoption really took off.

Based on our most recent 2005 research involving over 1,000 enterprise decision makers, purchases of IPT platforms now exceed those of traditional TDM (time division multiplexing) systems. By 2008, IPT solutions are expected to make up 80% of new enterprise system deployments.

Total U.S. Enterprise Communications System Shipments Figure 1



	2003	2004	2005	2006	2007	2008
% IP Telephony Systems	40%	46%	55%	63%	73%	80%
% Traditional TDM Systems	60%	54%	45%	37%	27%	20%

InfoTech Primary Research, *InfoTrack for Converged Communications*

> *The findings leave little room for ambiguity – IP Telephony has replaced TDM as the clear going-forward standard for voice communications systems.*
> – Mark Ricca, EVP, InfoTech

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A Best Practices Approach to IP Telephony

InfoTech's formal research into convergence began more than five years ago. Over the years, our interaction with enterprise leaders has given us a behind-the-scenes perspective on the different approaches for choosing and implementing IP Telephony solutions.

An entire White Paper could easily be devoted to presenting a best practices approach for developing the initial TDM vs. IPT business case. Although we will reference the main reasons enterprises adopt IP Telephony, the intent of this Executive Brief is to focus on the challenges and success factors that come into play *after* the basic convergence decision has been made.

In our experience, once an enterprise has decided to "go converged", their ability to achieve the hoped-for business benefits is directly tied to the rigor of three inter-related activities:

1) ***Choosing the converged solution vendor and support model***

2) ***Deciding on a specific IP Telephony solution***

3) ***Implementing the IPT solution***

Without a doubt, the on-going maintenance and management of the network are also critical activities that impact a business' success with convergence, but the best practices associated with those activities could likewise be the sole focus of a White Paper.

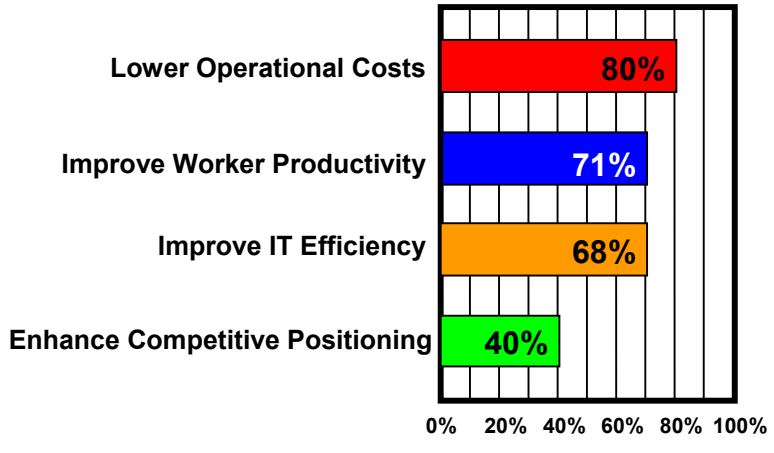
To help illustrate the key dynamics and considerations involved in each of these areas, we interviewed three enterprises that have adopted IPT and were willing to share their real-life experiences and (sometimes painful) lessons learned. Although each business is in a different vertical market, their conclusions about *best practices for convergence* are highly consistent.

The Business Drivers Behind Convergence

Although a company's motivation for adopting IPT can be as unique as the enterprise itself, our research findings have found that the most common expected benefits include:

- ***Lowering Total Operating Costs***
- ***Enhancing End-user Productivity***
- ***Improving IT Organization Efficiency***
- ***Reinforcing Market Differentiation and Brand Image***

Business Drivers for Adopting IP Telephony Figure 2



% of Enterprises In Agreement, 2004 - 2005 Purchase Decisions

InfoTech Primary Research, *InfoTrack for Converged Communications*

The expectations of the three spotlight enterprises track closely with our research findings on other businesses making convergence decisions in the 2004 – 2005 timeframe.

PremierWest BANK

Financial Services

Delivering a Uniform Customer Experience in a Climate of Rapid Growth

With 30 branches located along the Interstate 5 corridor in southern Oregon and northern California, ***PremierWest Bank*** (*PremierWest)* looked at converged communications and saw a way to better serve their current and future customers. With an acquisition-oriented business plan and year-over-year revenue growth in excess of 30%, *PremierWest* needed a standardized communications solution that could easily keep pace with aggressive growth.

Dougherty County School System

Education

Maintaining a Superior Academic Environment Despite Tightening Budgets

As one of a handful of K-12 school districts that has attained *ISO 9001* certification for their best-in-class business processes, ***Dougherty County School System*** has leveraged those practices to supply its 28 member schools with an advanced technology infrastructure that is highly cost effective.

Hitachi Consulting

Professional Services

Reinforcing Market Reputation With Leading-edge Technology

As the U.S. business and technology consulting division of Tokyo-based Hitachi Ltd., ***Hitachi Consulting*** clearly needs to lead by example when it comes to its own business practices and infrastructure. With coast-to-coast branch offices, *Hitachi Consulting* needed an easy-to-manage communications platform that offered powerful, user-friendly applications.

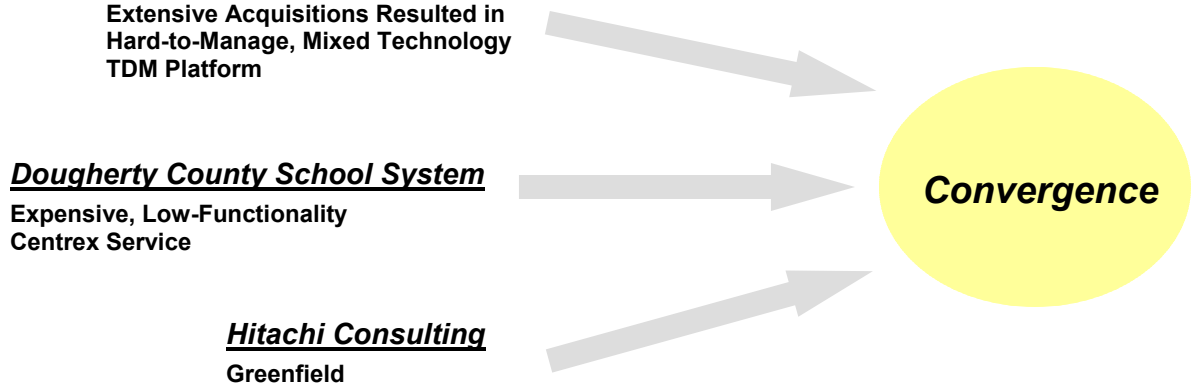
Enterprise Summary: *The Business Drivers Behind Convergence* **Figure 3**

Lower Operational Costs	- ***PremierWest Bank*** - ***Dougherty County School System*** - ***Hitachi Consulting***
Improve Worker Productivity	- ***Dougherty County School System***
Improve IT Efficiency	- ***PremierWest Bank*** - ***Hitachi Consulting***
Enhance Competitive Positioning	- ***PremierWest Bank*** - ***Hitachi Consulting***

Three Different Paths to Convergence

Even though the three spotlight enterprises shared many of the same business benefit expectations around IPT, their business circumstances differed considerably.

Enterprise Summary: *Point of Departure Into Convergence* **Figure 4**



For ***PremierWest Bank's*** Cameron Frasnelly, a period of aggressive expansion through acquisition left the bank with a highly varied infrastructure that was expensive to manage and anything-but-transparent to customers.

> *The bank has grown rapidly by acquiring other properties, and we found ourselves with a variety of traditional PBXs and Key Systems – a real mix-and-match assortment. One of PremierWest's key market differentiators is our easy-to-do-business-with approach, and the lack of a common communications platform and features was really getting in the way of presenting ourselves as a single, integrated financial institution. From an internal IT perspective, network management and administrative was also a real headache.*
>
> We did our research and saw that a converged infrastructure – not TDM – was our best path forward. In addition to providing a uniform, customer-friendly communications experience across all of our branches, a converged network would also give us an easy-to-manage technology platform with tremendous flexibility for future growth.

At ***Dougherty County Schools***, Bill Freeman was dealing with a slightly different technological bottleneck.

> *The school district has been a leader in adopting progressive business practices, and this has given us new ways to improve our academic environment despite continuous budget pressure. Dougherty County Schools had been a long-time Centrex user, but when we took a fresh look at the cost vs. benefit equation, it was clear that Centrex was an expensive approach that delivered mediocre functionality and performance. When we ran the same analysis on IP Telephony, there was no question in our minds where we wanted to go.*

The limitations of a previous infrastructure were fresh on the mind of Richard Aronson at ***Hitachi Consulting***.

> *Hitachi Consulting was formed as a spin-off, and before moving to our new locations, we used the parent company's voice infrastructure – traditional PBXs that were all from the same vendor. One of the things that really stood out with this platform was how labor-intensive it was from an administrative point of view.*
>
> *Since Hitachi Consulting was going to occupy a new set of offices with no pre-existing infrastructure, we were looking at a complete greenfield situation. It was very clear from the start that we wanted a solution that required far fewer resources to manage.*

Choosing the Right Converged Communications Vendor

Without a doubt, a business' choice of technology vendor is one of the most important decisions they will make when it comes to convergence.

Based on our research, enterprise decision makers generally have three main areas of expectation that contribute to their choice of vendor:

1) ***Convergence Experience, Expertise and Vision***
2) ***Expert, Responsive Support***
3) ***A Customer-focused Approach to Business***

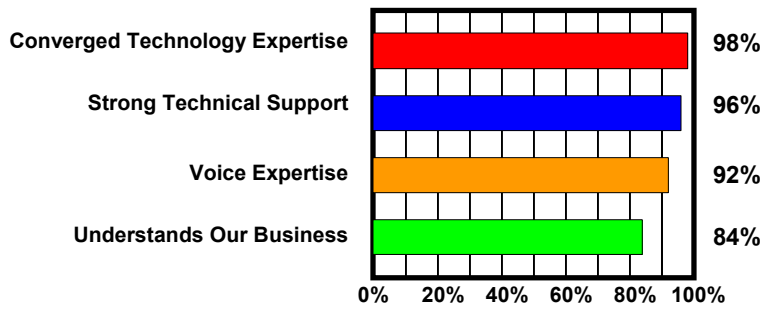
Each of these care-about categories contains a number of sub-attributes. Included in the first *technical competence* category, for instance, is the expectation that the manufacturer is committed to IPT and has engineered their solutions to provide maximum flexibility, scalability and component re-usability. These attributes generally appear on the expectation short list for nearly all enterprises.

The *support* category includes attributes ranging from easy access to post-sales tech support to an expectation that the vendor is able to provide a full suite of maintenance and managed support services.

The final *business relationship* category includes expectations that the vendor will use a consultative "soft sales" approach that demonstrates their commitment to the customer's success, and then will remain highly responsive after implementation.

As we have conducted our enterprise research over the past six years, there has been very little change when it comes to the ranking of the top business criteria for selecting an IPT provider. As seem in Figure 5, the same four attributes generally reappear year after year and draw from all three expectation categories.

Top 4 Vendor Selection Criteria **Figure 5**



% of Enterprises In Agreement
2004 - 2005 Selection Decisions

InfoTech Primary Research,
InfoTrack for Converged Communications

The *technical competence* category dominated the vendor decision process for two of the three spotlight businesses. As *PremierWest* and *Dougherty County Schools* researched their competitive options, most potential vendors were eliminated for technological concerns and did not even advance to the point in the decision process where business style and "relationship chemistry" might have earned them points.

On the support side, *PremierWest* and *Dougherty County Schools* intended to have their internal IT organizations handle the majority of implementation and life cycle activities, so the *technical support* category received light weighting. *Hitachi Consulting,* on the other hand, wanted a vendor that could handle most of the on-going support activities on an outsourced basis.

Enterprise Summary: *Primary Reasons for Selecting Vendor* **Figure 6**

Convergence Expertise	Voice Expertise	Capital Expense Avoidance
- *PremierWest Bank* - *Dougherty County School System*	- *PremierWest Bank*	- *Hitachi Consulting*

For ***PremierWest Bank***, choosing the right vendor took two passes.

> *Since IP Telephony is all about moving voice packets on a data network, we – unfortunately – chose an initial IPT vendor had the traditional data side down cold, but as we found out the hard way, didn't have the voice expertise that was needed. We tried for a year to get their platform to perform correctly, but ultimately had to rip it out. Our first experience with convergence was a real eye-opener. We nailed it on the second try, and very carefully chose a partner that thoroughly understood voice and data.*

In choosing their vendor, ***Dougherty County Schools*** took a "chili cook-off" approach.

> *Once we decided to move off of Centrex, we took a good look at the different competitive IPT providers and wound up with four finalists. We expected each vendor to come out and demo their systems and prove to us that they represented the best solution for the district. Ultimately, only one vendor impressed us that they really had the right combination of convergence expertise and engineering vision. In addition to understanding the unique requirements of voice communications, they were also the only finalist that had a genuine IP solution. Everyone else tried to sell us a retrofitted TDM switch.*

Given their previous experience, ***Hitachi Consulting*** saw the greenfield scenario as a perfect opportunity to embrace a new voice communications approach.

> *The great part of a greenfield is that you can choose an infrastructure and support solution that meets your exact requirements. Our choice of vendor was based on two main factors: first, they had to be able to deliver the technology that*

met our feature, function and architectural requirements; and secondly, we wanted to have a very 'thin' internal IT group going forward, so the vendor had to have the ability to offer us a comprehensive set of outsourced support capabilities.

Selecting a Converged Solution That Fits Your Business

If the entire solution selection process could be reduced to a single guideline, it would be – *have a clear understanding of your business requirements*.

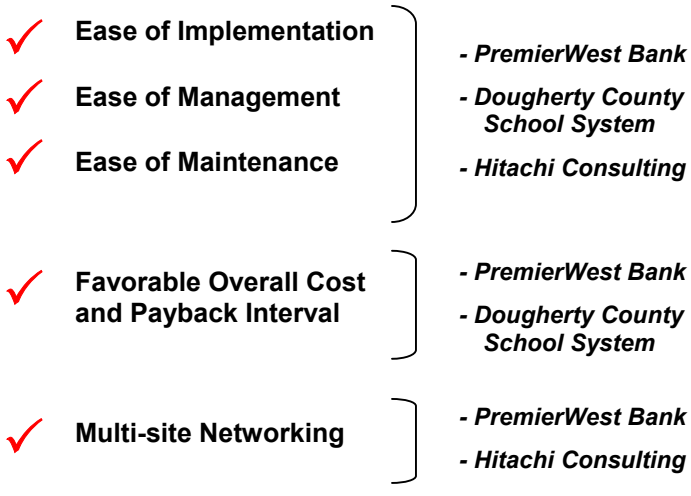
In our research findings, enterprises that chose an IPT system without a clear linkage to current and evolving business needs had lackluster experiences that delivered undistinguished results in the four benefit areas discussed on page 4. On the other hand, enterprises that approached the solution selection process with well-articulated requirements generally achieved the business benefits they were expecting.

When we ask enterprise decision-makers what they look for when selecting a specific IPT solution, eight attributes consistently rank at the top of their lists:

1) ***High System Reliability / Availability***
2) ***Equivalent Voice Quality to TDM***
3) ***Easy Scalability***
4) ***Multi-Vendor Interoperability***
5) ***Full Suite of Communications Features & Business-enabling Applications***
6) ***Ease of Implementation / Management / Maintenance***
7) ***Efficient, Integrated Multi-site Networking***
8) ***Favorable Overall Cost and Payback Interval***

Although each of the spotlight enterprises took the time to develop a clear set of requirements, the importance weightings they placed on the different attributes varied from business to business.

Enterprise Summary: *Primary Reasons for Selecting Solution* **Figure 7**



Enterprise Summary: *Primary Reasons for Selecting Solution* (continued) Figure 7

✓ **Voice Quality**	***- PremierWest Bank***
✓ **Easy Scalability**	***- Hitachi Consulting***
✓ **Multi-Vendor Interoperability**	***- PremierWest Bank***
✓ **Features and Business-Enabling Applications**	***- Dougherty County School System***

After their first unpleasant experience with convergence, ***PremierWest Bank*** took the learnings to heart and incorporated them into a revised set of specifications.

Superior Sound Quality

We developed a much tighter set of requirements after that painful initial IP scenario. A big disappointment with our first IPT system was the quality of the voice calls. Our original TDM network delivered great sound quality, and we expected as much from IP. We never could get rid of the echo – even after a year of trying. When you have a customer-centric business like ours, sound quality is vital. This became a no-compromise item in selecting the new solution.

Reduced TCO

Achieving a low Total Cost of Ownership for our communications infrastructure was a core expectation right from the start. Over time, the bank has evolved to an in-house approach for managing technology, so the ability to perform our own network deployments and maintenance is a big factor in keeping IT costs down. With the first system, we couldn't operate it, and neither could a team of factory engineers and technicians. That experience just reinforced for us that the new solution had to be incredibly easy to deploy and maintain.

Distributed Architecture

Architecturally, our first approach was built around a centralized design, which we discovered after the fact was not the way to go for a large multi-site network. In addition to reliability and survivability issues, a centralized server that distributes applications over the network to the local sites is inherently inefficient when it comes to consuming capacity on a Wide Area Network (WAN). The first vendor's approach was 'hey, what's the problem – just add bandwidth'. Bandwidth costs aren't negligible, so we wanted the new solution to be designed for optimal bandwidth utilization. We determined the hard way that a distributed, not centralized, architecture was the way to go.

Ease of Network Administration

Another area where we had big learnings was in network administration. The first vendor's reporting capabilities were a joke. If we wanted to analyze a group of calls, you'd first have to export them to a spreadsheet, then run a special macro to de-crypt the date and time fields. It was a ton of work. We resolved that the new solution needed to have report generation capabilities that were very straightforward and 'IT-friendly'.

Interoperability

Interoperability was also high on our list the second time around. We could never get the first vendor's system to work properly with our fax machines or the interactive voice response (IVR) unit in our call center. It was an absolute requirement that the new solution operate seamlessly in a multi-vendor environment. Plug-and-play was really what we were after.

At ***Dougherty County Schools***, the two biggest "must-have" requirements were reduced IT expense and improved productivity for the teachers and administrative staff.

Self-administration

With Centrex, any time we needed to add a new phone, it required the service provider to send a technician out. In addition to being time-consuming, it was costly. This was especially painful at the beginning of a school year when there are major shifts in personnel from one school to another, and from one office to another. Even to move an existing phone around, we would have to go out to the school and potentially have the service provider come out to move a line. Centrex is very labor-intensive, which means high cost. The new solution had to be easy to remotely self-administer, which would, in turn, drive reduced IT spending.

Investment Protection

Another big difference between the solutions we investigated involved re-use of existing assets. As it turned out, only one vendor's system would allow us to re-use all of the analog telephone sets that we bought for Centrex. When you're talking about having to replace 600 telephones, that's not 'pocket change'.

Productivity-enhancing Applications

In making the shift to IP, we were also looking to roll out new communications applications like voice messaging that were in keeping with our ISO 9001 business improvement efforts. With Centrex, voice mail is an optional feature that was just too expensive to roll out to the full staff. Most of the IPT systems we looked at had add-on voice messaging that required additional software or hardware beyond the basic system – all at an extra cost. We wanted the new solution to have built-in voice messaging that we could easily extend to all employees without extra cost or complexity.

For ***Hitachi Consulting***, it was important that the solution be tightly linked to their IT processes and perform in a way that would reinforce a professional corporate image to clients.

> Centralized Administration
> *From an IT perspective, Hitachi Consulting operates under a lean and mean business model. We don't want to post IT resources at each of our regional branches, so we needed a system that was designed for a highly distributed enterprise and would give us easy, centralized administration. With our TDM network, we had a stand-alone system at each location, and had to log onto each switch one-by-one. We were looking for a solution that would let us manage one unified phone system with 20 distributed devices as opposed to 20 separate phone systems.*
> *Distributed Architecture*
> *With our voice communications technology being so involved in our day-to-day client interaction, we needed to ensure that the new system could deliver the highest levels of network reliability. From the standpoint of branch-level survivability, we saw the old 'one site, one-switch' approach as introducing unnecessary vulnerability into the network. We wanted the new solution to use a more distributed, peer-to-peer architecture where any one IPT server could easily back up any other.*
>
> Easy and Cost-efficient Scalability
> *In a professional services business like ours, it's essential to have a flexible infrastructure that can easily accommodate branch-to-branch adjustments in staff. We wanted the new IPT solution to be as modular as possible – add a module when you need more phones, take one out when you need less. With some of the systems we looked at, if you bought a 128-port box and you needed to grow the site to 256 ports, you had to toss the chassis and CPU. We wanted a solution with maximum component re-usability.*

Implementation

The old saying "the devil is in the details" applies to many of life's undertakings, and deploying an IP Telephony system is no exception.

When we ask "converged enterprises" in our research to identify the main factors that contribute to a successful IPT implementation, four activities come up on nearly every list:

1) *Conduct an Objective Skills Self-assessment*

A successful IPT deployment starts with an enterprise asking itself – *do we have all of the necessary in-house expertise and skills to handle this ourselves?* Based on our research with enterprise IT managers, very few businesses can answer this question with a resounding *yes*.

This isn't to say that there aren't very talented voice and data specialists on staff, but when it comes to implementing a peak-performing converged network, there really is no substitute for having the right tools, processes and hands-on experience.

When businesses match their internal skills against the list of critical IPT implementation tasks, they may find some of the necessary expertise already within the IT department. If an enterprise has in-house resources that are cabling or cut-over experts, for instance, all they may need is to "fill in the gaps" with external specialists supplied by the vendor, qualified VAR (value-added reseller) or

system integrator. Other businesses may find they need to bring on a complete external team to handle the end-to-end implementation.

When ***PremierWest*** conducted their self-assessment, they recognized a need for specialized training.

> *Since we handle our technology internally, we wanted to be sure that our people developed the additional skills needed to deploy and manage the IPT network. Under the presumption that the manufacturers know their own solutions better than anyone else, we look to our vendors to help us identify the right training. With our first IP supplier, it was a painful process just to identify the right classes. For any particular skill, multiple classes were involved, and the training timeline was way too long. Our second vendor was like day and night when it came to training – they helped us quickly match our people to the needed classes, and the training was fast and efficient. The material was so well prepared it could probably have been self-administered.*

2) Appoint *a Competent Project Manager*

A successful implementation of IP Telephony requires tight planning and the coordination of multiple activities: conducting the up-front assessment, resolving identified issues, optimizing the network design, staging the solution for testing, working with the service providers to augment data network capacity, training the end-users, and synchronizing all of the players during the physical cutover – just to name a few.

Approaching an IPT implementation with the belief that "things will just fall in place" is a sure path for major headaches. Regardless of whether the resource is internal or out-sourced, an implementation project manager is one of the surest ways to tame those "devilish details."

For ***Dougherty County Schools***, months of preparation paved the way for a smooth IPT rollout.

> *We had 43 locations to bring onto the IPT network, and our plan called for cutting over one location per night. Since we were re-using one of the Centrex lines per site and disconnecting the rest, coordination with the Centrex service provider was essential. Our project manager had everything lined up. All the needed people were in place, and everyone knew what their job was. As a result, all the cuts went smoothly and we were always up and ready when business started the next morning. Moral to the story? There's no substitute for doing your homework.*

3) *Perform a Rigorous IPT Network Readiness Assessment and Resolve Any Deficiencies*

The feedback we've received from IT managers with converged networks has been emphatic – *do not implement IPT without first assessing the underlying data network.* The reason for this lies in the fact that voice calls have unique performance requirements that differ fundamentally from most other types of traffic on a packet network.

Since human conversations occur in real time, the packets containing voice information require priority handling by the converged network. This means that voice calls need the network to provide essentially 100% of the required bandwidth immediately upon demand. If other types of data traffic are consuming significant capacity at the same time, the sound quality of the voice call can be seriously degraded.

Other technical attributes such as end-to-end packet *delay*, *jitter* (packet delay variability), or *packet loss* can also result in sound quality that is noticeably inferior to TDM systems. An up-front network readiness assessment can readily identify network issues that will impact sound quality. Fixes range from augmenting network capacity to optimizing the IPT solution to include *Quality of Service* (*QoS*) mechanisms that ensure appropriate prioritization of voice traffic.

If deficiencies are detected in the network, they need to be corrected before proceeding with the IPT deployment. It's generally a good idea to repeat the assessment after modifications have been made.

Hitachi Consulting's perspective on the importance of assessments is short and to the point.

> *"One of the first things you need to do when implementing convergence is to verify that your Local Area Networks (LANs) and WAN are capable of supporting high quality IP Telephony. If you neglect this step, prepare yourself for the possibility that your CEO will want to know why the sound quality isn't as good as the old system."*

4) *Ensure End-user Awareness and Training Prior to Cut-over*

In addition to having technical expertise, network assessments and project management, IPT implementations that were declared "rousing successes" had one additional common element – *end-user support*.

Although most IT organizations take the necessary steps to secure senior management backing and awareness for an IPT initiative, engaging the end-user community during the implementation phase seems to be the exception rather than the rule.

Businesses that have involved and trained end-users prior to cutover seldom regret it. When users understand how IPT will benefit them personally and know what to expect during the implementation, they are transformed from passive (and often negative) bystanders to active supporters. This good will can make a big difference between an unenthusiastic organization and one that that actively embraces convergence.

PremierWest Bank saw these dynamics at play during their own implementation.

> *"Every business has people that are uncomfortable with change, but if you give them hands-on training and let them feel part of the implementation, those 'reluctant adopters' are often the ones who would yell the loudest if you tried to go back to the old system."*

Reaping the Rewards

The "proof's in the pudding" according to another old saying, and the adage is highly apropos in any discussion of convergence. On page 4 we outlined the major business benefits that enterprises expect when adopting IP Telephony:

- ***Lowering Total Operating Costs***
- ***Enhancing End-user Productivity***
- ***Improving IT Organization Efficiency***
- ***Reinforcing Market Differentiation and Brand Image***

We end this Executive Brief with a post-implementation summary of "The Quantifiables" – *what business benefits were the spotlight enterprises actually able to measure?*

Enterprise Summary: *The Major Measurable Business Benefits* Figure 8

Lowered Total Operating Costs

- ✓ ***Deployment Expense Savings = $100,000***
- ✓ ***Long Distance Savings = Several $K/month*** — ***PremierWest Bank***
- ✓ ***Maintenance Savings = $15,000 annually***

- ✓ ***Reduced Carrier Costs = $7,000+/month***
- ✓ ***Reduced MAC Spending by 80%*** — ***Dougherty County School System***

- ✓ ***Total Annual TCO Reduced by $200,000*** — ***Hitachi Consulting***

Improved IT Organizational Efficiency

- ***Hitachi Consulting***

Enhanced End-user Productivity

- ***PremierWest Bank***
- ***Dougherty County School System***
- ***Hitachi Consulting***

When Cameron Frasnelly took stock of the changes at ***PremierWest Bank***, the measurables were primarily hard cost savings.

Reduced TCO

"*Our savings started with the new solution when we were able to deploy it ourselves. When we introduced the first IP system, we had to bring external resources in at a cost of over $3,000 per branch. By being able to implement the new platform internally,* ***we saved nearly $100,000 in deployment expense.***

One of the touted benefits of IP Telephony is the ability to drive down spending on PSTN (Public Switched Telephone Network) toll calls. Depending on a business' calling patterns, this may or may not amount to real savings. In our case, we have heavy voice traffic between the branches and our headquarters location. In the original TDM architecture, these were all toll calls. Now this traffic flows over our WAN on IP trunks at an incremental cost of essentially zero. ***Our long distance spending has dropped by several thousand dollars a month with IPT.***

Since deploying the new solution, we haven't had to go out-of-house to an external vendor for MAC (moves, adds, changes) or maintenance. ***Being able to handle our own lifecycle support is saving us well over $15,000 a year****.*

Enhanced End-user Productivity

With IPT, MAC is essentially instantaneous, which equates to a productivity boost for our end-users. This improves workflow efficiency for existing staff, and also increases the 'on-boarding speed' for new personnel. ***In the past, a typical MAC could take us 3 days to perform – now we can do it in 3 minutes****.*

At ***Dougherty County Schools***, Bill Freeman found similar reductions in IT expense and was also able to quantify the productivity impact to the district's staff.

Reduced TCO

Our recurring IT savings have clearly been the biggest change. Before convergence, we had 600 individual Centrex trunk lines and were spending $17,000 a month on line-related costs for all of our locations. When we adopted the IPT solution, ***we were able to reduce our monthly telecom spending by more than $7,000****.*

In the past, accomplishing a MAC could easily take days, and our technicians were constantly running around to the sites. Now we can perform a MAC remotely in just a few minutes. The travel time for the IT staff is way down, and in addition to reducing our vehicle expense, the IT staff has more time for special projects. With Centrex, ***we would typically spend six or seven thousand dollars external over the course of a year on moves. Now, we're spending about $1,500 a year – about 80% less****.*

Improved End-user Productivity

Our end-users that need a change with their phone are also more productive since they don't need to wait for a work order to be completed. Add that to the productivity gains from rolling out Unified Messaging, and ***the staff has reclaimed an extra hour in their day.***

For Richard Aronson at ***Hitachi Consulting***, IP Telephony represented an opportunity to reduce operating costs and improve IT efficiencies. The actual results have exceeded expectations.

Reduced HR Expense

One of the features we were able to add when we went with the new system was a centralized attendant that can handle all of our locations. ***If we had a receptionist at each of our 16 sites, we'd be spending over $300,000 a year more than we are now.***

Improved IT Productivity

Managing one unified phone system across 16 sites is a huge time saver. Under the previous approach, one of our key IT resources could spend 90% of their time administering the voice network. ***With the new IPT solution, that same individual spends only 10% of their time on network administration.*** *All that freed-up time can now be spent on more strategic IT activities and initiatives.*

Reduced TCO

Since implementing IPT, our toll by-pass savings have been huge. We have considerable traffic going between the branches on our WAN – essentially for free. We also use Least Cost Routing to get our off-net traffic to the PSTN via the local calling areas of our different offices. ***Originally, we were spending about $9,000 a month on long distance. We now spend about $2,000*** *– that's very impressive.*

Compared to the original TDM platform, we're able to maintain and manage the new IPT platform using far fewer IT resources. The new platform is ***saving over $80,000 in annual maintenance costs and more than $30,000 on network management****.*

When we added it all up, the savings from convergence are significant. When you include all IT expenses including required upgrades and installation costs, ***our recurring TCO has dropped by more than $200K per year****.* ”

The Inside Track: *Top 10 Convergence Take-aways*

So what have we learned when it comes to selecting and implementing an IP Telephony solution? When all the market research, decision-maker input and experiences from our spotlight enterprises are taken into account, ten key take-aways on convergence emerge:

✓ **Convergence is a safe bet for your enterprise**
IP Telephony is the clear going forward standard for voice communication systems.

✓ **The business benefits of IP Telephony are real**
The potential operating cost, end-user productivity and IT efficiency impacts that IPT system manufacturers and distribution channels promote are genuine and can be achieved regardless of whether an enterprise is starting from a TDM, Centrex or greenfield environment.

✓ **All IP Telephony providers are not equal**
There are significant differences between vendors when it comes to IPT expertise, experience and support capabilities, as well as business style. Take the time to compare suppliers. Talk to trusted peers that have already embraced convergence.

✓ **Architecture matters**
Your choice of vendor will largely determine whether your converged network will have a centralized or distributed architecture. Don't minimize the importance of this decision – your network design can have a real impact on reliability and ease-of-management.

✓ **Involve your end-users**
Understanding end-user requirements is critical to ensuring that the IPT features and applications you choose will meet their needs. Ease of use varies highly between vendors and is one of the most important factors when it comes to end-user acceptance of new technology.

✓ **Get the help you need**
Convergence brings business benefits as well as the potential for added complexity. If in doubt about the skill levels of your existing IT resources, don't hesitate to consult an expert.

✓ **Don't cut corners during implementation**
Bringing advanced IPT technology to your business can be a real career enhancer. Ensure a successful implementation – use a skilled project manager.

✓ **A network assessment is a must**
Don't assume that your underlying data network is ready to carry IPT traffic with high quality. Failure to conduct a rigorous IPT readiness assessment early in the implementation phase is almost certain to cause unwanted surprises later.

✓ **Go into convergence with your eyes open**
Having a clear up-front understanding of your business communications requirements – especially those involving network performance, total cost of ownership, interoperability, manageability and growth – is essential to realistically set expectations on the scope and magnitude of IPT benefits.

✓ **Do your homework**
If tracking the business benefits of IPT is a desired or required activity, proper preparation is essential. Ensure that you have baseline measurements of your key processes before IPT, and have created the necessary mechanisms to quantify the post-deployment improvements in operating costs, organizational efficiency and end-user productivity.

All direct quotations in this Executive Brief were made by Cameron Frasnelly at ***PremierWest Bank***, Bill Freeman at ***Dougherty County Schools***, and Richard Aronson at ***Hitachi Consulting***.