

WHITE PAPER

prepared by
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CONVERGED VOICE AND DATA NETWORKS:

WHAT'S THE BOTTOM LINE?

A CEO's Guide to Evaluation & Implementation

Would you like to realize a 136% ROI (Return on Investment) on an IT investment? Reduce network management costs and still implement advanced applications? Increase employee productivity by 25 to 30 minutes per day?

These are just some benefits of a converged voice and data network cited by equipment manufacturers and vendors. As a decision-maker, how can you cut through all the hype to evaluate if, when and how your organization should migrate your separate voice and data infrastructures to a converged network?

CONVERGED NETWORKS: THE TECHNOLOGY HAS ARRIVED

From our perspective, converged networks using IP (Internet Protocol) Telephony have arrived. Globally, there are an estimated 2 million IP Telephony users on converged networks. Regionally, our company has an installed base of over 5,000 users. Over 40% of businesses with more than

500 employees have begun to implement converged networks. In mid-sized businesses, analysts expect 70% penetration by 2004.

Why this mass migration? While converged networks do reduce costs, more significantly, they create a platform for the advanced applications that will give your organization a competitive edge now and in the future.

WHAT ARE THE BENEFITS?

Beyond reducing toll charges by sending voice and data over your wide area network (WAN) rather than the public-switched telephone network (PSTN), a converged network offers reduced administration costs, greater productivity, worker mobility, enhanced customer service and the potential for customized future applications.

REDUCED COSTS

Cisco Systems reports that customers who have installed their IP communication systems have found “a positive financial result . . . with an average pay-back of 16 - 18 months.” These financial benefits can be attributed to:

- Reduced Network Administration Costs
- Savings on Telephone Extension Adds, Moves and Changes
- Lower Equipment Costs
- Savings on Connections and Internal Wiring

(cont.)



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- Reduced toll bypass
- Reduced voice circuit costs
- More flexible use of office space



Photo 1

PC as phone:
"Road Warriors" can access their phones outside the office using a "Softphone" application that runs on their PC.

(Photo courtesy of Avaya, Incorporated)

GREATER PRODUCTIVITY

Besides these immediate savings, a converged network increases productivity through applications such as Unified Messaging. With Unified Messaging, workers receive e-mail, voice messages and faxes in a single inbox, saving approximately 2.5 hours daily. Messages can be accessed from a telephone, PDA or PC. Although Unified Messaging has existed for over 5 years, in the past there were difficulties integrating software over multiple networks. Now, a single converged network built on an open standards platform makes Unified Messaging a reality.

SUPPORTING A MOBILE WORKFORCE

There are currently more than 78 million remote and mobile workers in the United States. How will your organization support this increasingly mobile workforce? One answer is through converged network technologies like IP SoftPhone and IP videoconferencing. Remote workers with high-speed access could access their phones outside the office by using a "soft phone" application that runs on their PC (see photo 1). IP videoconferencing is another major reason to move to a converged network. Previously, videoconferencing required a costly separate network. With IP video over a converged network, videoconferencing becomes more cost-effective and available - right on the desktop.

ENHANCED CUSTOMER SERVICE

A further benefit of a converged network is the ability to create a "multi-channel contact center". For instance, your customer is online trying to place a catalog order. They have a question that needs to be answered before they place their order. Rather than abandon the shopping cart, what if they clicked a button on your site which would allow them to see and talk to your agent while online? Think of the potential for increased customer satisfaction and retention!

"Think of your migration to a converged network as an evolution, rather than a evolution."

TRASH THE PBX AND START OVER AGAIN?

Considering all these benefits, you may ask, "Should I immediately trash our PBX and start over again?" Not necessarily. As with any change you implement, it's best to have a road map. The ideal time to begin to migrate your network is when you are:

1. Building a new office or moving to a new location
2. The lease or maintenance contract for your PBX is ending
3. You need to upgrade your data network
4. You are unable to expand your voice network



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Think of your migration to a converged network as an evolution, rather than a revolution. In any of the scenarios above, you have the opportunity to begin this evolution - and realize immediate savings - by diverting long distance voice traffic between circuit-switched PBXs over your data WAN. Other steps you can implement gradually would include a LAN telephony pilot at your headquarters and cutting over a branch office to IP Telephony. Your ultimate goal is to completely remove your circuit-switched PBXs and have a converged network running IP Telephony and other advanced applications.

SUCCESSFULLY NAVIGATING THE OBSTACLE COURSE

Before you implement this project, be sure your plan addresses these issues:

“Before you implement a converged network, be sure your infrastructure can handle the increased traffic, build an internal team of both data and telecomm staff, partner with an experienced vendor and pay close attention to network back-up and security.”

- Prepare your infrastructure
Ensure that your data infrastructure can handle increased traffic, that new equipment will be compatible with existing systems, and that your wiring is up to date.
- Build your internal team
In our experience, the most successful installations are the ones overseen by both telecomm and data staff.
- Select your technology partners carefully
Assure a smooth transition by partnering with a vendor with expertise in voice and data. Ask prospective vendors how many IP Telephony projects they have installed, for how many users and what kind of ongoing support they offer.
- Can you maintain your present telephone equipment?
The manufacturer of your current PBX system may offer a migration path that will allow you to maintain your investment in your present telephone equipment. For instance, Avaya, Incorporated recently introduced their Avaya Enterprise Class IP Solutions (ECLIPS), including Avaya MultiVantage™ software, providing their customers with a gentle migration path to IP telephony on a converged voice and data network.
- Address network back-up and security issues
With a single network running voice and data, back up is critical. Pay particular attention to assuring uninterrupted telephone service with server redundancy and registering each telephone to several servers in case of failure.

Since access for mobile workers is an additional security risk, any system you install should include a comprehensive VPN/firewall.



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ON THE HORIZON: CUSTOMIZED XML APPLICATIONS

We are definitely seeing an increased demand for converged network as organizations realize the potential for productivity and cost savings. But as mentioned in the introduction, the real benefit is the potential for advanced

applications. In particular, we envision vast potential for XML (Extensible Markup Language) based applications. Many IP Telephones feature large XML displays. (see photo 2). This XML capability offers targeted communication and exchange of information.

“Many IP Telephones feature large XML displays, which offer vast potential for targeted communications.”



In addition to the standard options of accessing stock quotes and local weather reports, organizations can easily write custom XML applications. These applications could be very simple or very sophisticated, like the one a

Connecticut electronics company uses in their manufacturing area to log lot numbers and critical production information. This is a perfect example of converged technology where a telephone is essentially functioning as a personal computer.

In the future, the lines will blur even more as devices like IP Telephones integrate color displays and built in video cameras. Other exciting XML developments on the horizon include voice activated prompts, emergency broadcasts, and even web conferencing. With a converged network, the potential for these technologies - and your organization - is unlimited.

Photo 2

Phone as PC:

Some IP (Internet Protocol) telephones feature large XML displays. With this capability, you can write custom XML applications that essentially allow you to use your telephone as a PC.

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