

The Benefits of VoIP



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Chapter 1

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Chapter 1

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One of the key drivers of converging voice and data networks is cost savings. Money can be saved, with the right Voice over IP (VoIP) solution, in almost all areas—from deployment and management time and costs to ongoing toll and lease charges. VoIP can also help your organization gain a competitive advantage, boost employee productivity, and enhance customer service. However, there are important considerations to analyze when deciding on a solution, including: equipment costs, which include the cost of the infrastructure equipment (voice switches) and handsets (analog or IP telephones or a mix of both); operational startup costs, including the time and resources it takes to plan, install and troubleshoot the solution once it is deployed; and finally, maintenance costs, which includes the cost of labor to maintain the equipment plus whatever costs must be paid to the solution vendor for maintenance and upgrades. This chapter will highlight the benefits of VoIP and go over the costs in details so that you can make decisions about your deployment.

The Savings

When you consider what most businesses pay for long-distance, you wouldn't see a huge need to move to VoIP necessarily. Large corporations can be paying pennies per minute for long-distance within the U.S. So while companies beyond North America may realize significant savings on toll charges, these savings are not usually enough to convince a North American company to switch to VoIP.

Savings for most enterprise networks come from consolidating the voice and data network and using fewer circuits from the public switched telephone network (PSTN). In addition to circuit cost savings, as mentioned earlier, an IP infrastructure requires less time for moves, adds and changes (MACs) and often eliminates the need to hire an outside vendor or service provider to handle them. Moving an IP telephone station temporarily or permanently or adding a new user usually simply entails carrying out a quick and simple GUI-based command. With traditional PBX systems, moving an employee can cost hundreds of dollars in labor. In other words, with VoIP, each user has their own IP phone profile and the network doesn't care where anybody is located at any particular time, so MACs are simply a matter of conducting a few commands and can often be easily handled by the user.

With VoIP, management savings are usually immediate since the information technology team can support the voice network as well as the data network because they're now one in the same. There is no longer a need to have two teams of technical professionals to handle each entity, which adds up to tremendous savings. Further savings are seen right away when an enterprise needs to make a change, such as re-locating an office temporarily in the case of construction. The IT staff simply makes the changes from anywhere on the network (or remotely if need be) and a new temporary office is up and running without outside callers ever being the wiser.

Finally, infrastructure tools like physical ports are no longer needed for VoIP because physical circuit-switched ports aren't necessary. An IP connected voice mail server is all that's needed.

All of these cost savings are tremendously appealing characteristics of VoIP. When you add to them the features that are available for employees, call centers and receptionists, it quickly becomes obvious that VoIP is going to continue winning converts.

The Added Capabilities

Call centers in many enterprises today are extremely expensive because dedicated buildings are often built to accommodate the many staff members. When a company needs to add additional call center

staffers, traditional PBX-based phone systems must also grow in blocks because ports are bought in groups, rather than scaling seamlessly with each new hire. These factors make call centers very expensive to maintain and scale. However, with an IP telephony solution, call centers can grow one phone at a time and call centers can span several buildings across many states. There is no longer a need for one huge building to house all of the call center agents. In addition, enterprises are able to leverage expertise across entire organizations, rather than hoping to find a highly skilled team in one location to answer incoming inquiries. With a VoIP solution, a user can sign in from wherever they are (even at home) and is instantly online and available as part of the call center team.

Another customer service feature available in VoIP solutions is the hunt group. This feature makes certain that all calls are answered by a live person rather than voice mail, which can be frustrating for callers. With various hunt groups enabled, a call into an organization rings extensions in a specified sequence or rings multiple extensions at once (depending on the company's preference), ensuring callers reach the person they need without navigating through menus or being forced to wait in a queue.

Remote sites are also easy to bring online. With traditional PBX systems, adding a remote site often requires adding a PBX extender, which can cost almost \$1,000 per user for the equipment alone. With VoIP, again, a user can log in from anywhere and have all the same capabilities as if they were working at headquarters or within the call center building. With VoIP, to the outside world, it can seem as though you have call center locations scattered around the globe to be available 24/7, when really you are simply utilizing VoIP features such as time-of-day routing and call forwarding to make sure calls are answered quickly by a live human being; these people can be working out of geographically-dispersed branch offices, at remote locations, or even at home. Callers always reach a qualified customer service representative, regardless of what time it is. You are also able to manage peak calling times by having the ability to add other employees, regardless of their location, to the call center to help meet the overflow demand.

With VoIP, users can also easily re-route their calls so that they are reached wherever they will be working—they can make these changes themselves, without asking for IT assistance. This “find me” feature also enhances customer service as well as productivity by ensuring a caller reaches the right person, regardless of where he or she might be working. An employee can even program his or her extension to ring based on status—ring through when he or she is in the office, forward to a cell phone when there is no answer, or forward to a colleague when the line is busy.

The Customer Service Advantage

VoIP offers organizations tremendous customer service value-add. First of all, VoIP systems provide thorough information right at the time a call comes in by popping data onto an agent's screen. This information can include the most basic of information, such as caller ID information. By integrating specific business applications with the VoIP system, more in-depth information can populate the screen, including

VoIP Savings

- Toll charges – least cost routing avoids toll charges.
- **Management costs**
 - System management labor – time and money saved.
 - Users' personal profile changes – handled by users, not IT staff.
 - MACs – quick and easy to handle from anywhere on the network.
- Physical circuit-switched ports no longer required.
- Fewer circuits from the PSTN needed.

the caller's buying patterns, address, current account status, and more. Many VoIP systems also provide for operators significant background information on the current caller's experience, such as where the call originated, how many times he or she has been transferred, and whether or not the right person is available to take the call. When the person is again transferred, VoIP systems eliminate the chance of a caller being asked the same question twice (which is frustrating for callers, and frankly, poor customer service) because the most current information, including notes taken during the present call, populates the next person's screen.

VoIP systems also allow organizations to implement skills-based routing, whereby calls are routed via an automatic attendant (attendant prompts the caller to choose from a selection) to the most appropriate agent based on criteria like language, experience, technical expertise, and other details. Advanced features that most service providers charge for are also available "free" with VoIP, including three-way calling and a built-in conference call bridge. This can further aid in customer service when more resources are required to fulfill a customer request or inquiry, and it also allows conference call access by international parties, a feature most expensive conference call services do not provide.

Finally, VoIP enables self-service options. For instance, when a caller simply wants to find out information about their own account, interactive voice response (IVR) within VoIP systems enable callers to securely access that information by providing specific information. This eliminates the need for a call center agent to take time to answer a call, and it also eliminates the frustration that can occur if a caller is put in queue on hold for the next available agent to find out information that is readily available.

The Productivity Boosts

VoIP productivity programs can often transform a company's desktop application, such as Microsoft Outlook, into a multi-media communications center for integrated messaging, providing such features as directory dialing, contact screen pop, caller ID, call waiting, and calendar integration. Employees have more control over both voice and e-mail messages, in one centralized system, and can forward voice mails to colleagues for improved collaboration and customer issue resolution. VoIP system reports also keep a history of calls made and received, which is helpful in meeting various compliance regulations. Sophisticated features include on-the-fly document sharing and dial-by-name capabilities. Workers are dialing one another, conferencing, transferring calls between locations, and changing their voice mail preferences all with the click of a mouse. There is no longer a need to call the help desk to make such changes. The bottom line is that employees spend less time navigating complex telephone systems and more time performing critical, revenue-producing tasks.

Soft phones further free people from their desks, delivering telephony capabilities to any PC. With calls directed to a laptop and a headset plugged into the USB port, employees can work from anywhere using their computer and its built-in microphone. Employees who travel a lot appreciate the power and simplicity of a soft phone and customers appreciate not having to dial different numbers to reach someone who is traveling.

The Growth Factor

VoIP systems allow for quick and easy scalability to accommodate new locations or growth within existing locations, as well as the ability to add people one at a time as needed, rather than investing in equipment that will handle more than an organization needs at the time. Scalability benefits also work downward: when an organization reduces its staff count, it is simply a matter of removing those users'

profiles from the VoIP solution. Companies are no longer tied to long leases for equipment that remains underutilized.

The Management Ease

The best VoIP systems have intuitive browser-based management interfaces, allowing companies to manage the entire system—from switches to voice mail, automated attendant, and desktop applications—from anywhere on the network. The best management interfaces make adding a new user a snap and automatically update every switch and directory feature, including the dial-by-name and number attendant and online directory. System updates are also quick and easy, taking an hour or two at the most when vendors release new code.

In addition to managing the system itself, managing users and MACs is simplified tremendously. Employees can make most of the changes to their profiles without bothering the information technology professionals, and for changes that do require further expertise, VoIP systems make it simple. There is no longer a need to spend time and money on having a service provider come in. These costs alone can save an organization thousands of dollars a month.

Nemertes Research, which is one of the few research firms that focuses specifically on VoIP, suggests that you start the process of considering VoIP by carefully assessing the size of your rollout. This consideration is not dependent on company revenue but how many stations you need the solution to support. You will analyze solutions for the time it takes to install these stations, and estimate your growth and how your particular solution's scalability will affect the deployment.

The Costs

Nemertes Research interviewed IT professionals from a wide variety of companies and analyzed four leading vendors in specific areas, including total hardware costs, network upgrades, VOIP handsets, management tools, and conferencing/collaborative applications. From these in-depth interview came a comprehensive report entitled, "Convergence & Next-Generation WAN Technologies" (February 2006). This section will look at some of the costs involved in a VoIP solution deployment, as well as provide high-level results of the interviews conducted.

Capital costs are obviously the first line of investment for a VoIP implementation. This is determined based on how many locations and users you have and a knowledgeable and experienced integrator can help you with this. How many switches and telephones will you need? If you need to, make sure you can phase the solution in over time and use your existing analog lines for some amount of time before switching to IP

Some Features Available in VoIP Solutions (not comprehensive)

- Business application integration (for instance, tying VoIP to CRM database)
- Calendar integration
- Call waiting
- Caller ID
- Click-of-a-mouse simplicity—employees make or transfer calls right on their computer
- Conference call capabilities with on-screen document sharing
- Contact screen pop and comprehensive information about each caller
- Desktop application (i.e., Microsoft Outlook) integration
- Dial-by-name capability
- Features easy to navigate for users
- Four or five-digit dialing to anyone, regardless of location
- Mobility—users can work from anywhere
- Three-way calling

handsets. Nemertes Research calculated the cost of capital per user, by vendor solution (see Figure 1.1 below).

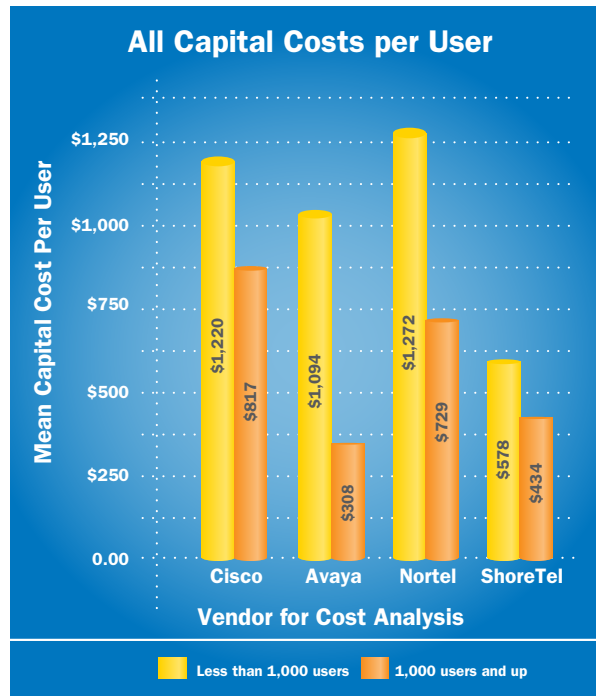


Figure 1.1 | All Capital Costs per User, by Vendor
Source: Nemertes Research

The planning and design phase of any rollout is one of the most important. Consider your team and think of how you will divide up responsibilities. Also, consider whether you will need to add to or reduce your team size. For the implementation, decide on a few team leaders who will commit to making themselves available in the off-hours when necessary until the deployment is complete. The best solutions are easy to implement rather quickly and seamlessly, but you will still want some key people available throughout the deployment.

Installation is the time it takes to physically deploy and configure the solution—it does not include training. Again, consider carefully who is available to help with the installation, taking all things into consideration such as work schedule flexibility, knowledge and expertise, and the ability to work under pressure. Consider your business and determine the best time to deploy the solution and when it will be easiest to switch over to the VoIP solution.

Next up is troubleshooting—the time it takes to make changes immediately after the deployment until it works properly. Who is going to be available throughout the deployment right up until the minute you determine that everything is working perfectly? Consider the first few days and how you'll staff the help desk around the clock with people who are substantially knowledgeable about the infrastructure, the configuration, and the features of the handsets.

Next up are the costs for staffing to support the new implementation on a regular basis. How easy is it for your current staff to support the new VoIP system? Generally, it is very easy for existing network staff to support VoIP solutions because they work on the data infrastructure, which is what they already know well.

Management is the next cost consideration. What are your staff members doing each day to support the solution? Can things be handled in-house, without wasting time and money on an outside vendor or service provider to handle personnel MACs? According to Nemertes Research, MACs become very easy with VoIP: Research participants estimate the time involved for an IP MAC at a mere 10 minutes or less, compared to the 30 to 90 minutes required for a TDM MAC. This means that total cost savings, depending on the average number of MACs at a given organization, can be significant.

Nemertes Research ultimately calculated the total cost of ownership (TCO) for VoIP solutions from leading vendors (see Figure 1.2 below). These numbers were calculated considering all of the costs listed above. This gives you an overview of costs for each vendor's solution based on the implementation size.

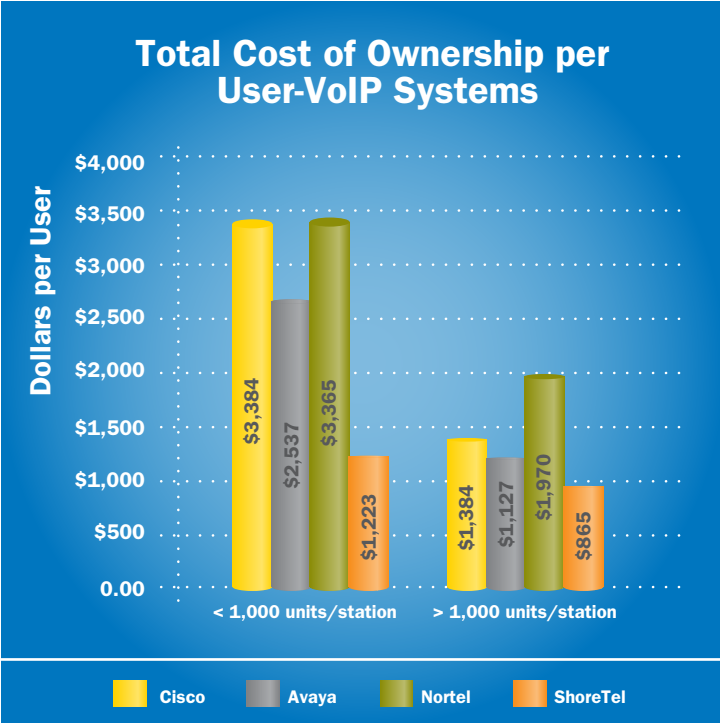


Figure 1.2 | TCO per User
Source: Nemertes Research

Ready to Make the Switch?

VoIP is the way of the future, according to Nemertes Research, for a number of reasons. First, vendors are no longer investing research and development dollars into legacy TDM equipment. Second, VoIP has simplified communications for numerous organizations and their positive results have been shouted from rooftops (or at least highlighted in well-respected trade journals). With TDM, there's no interoperability, transferring between offices is not an option, and employees are often on different voice mail systems so forwarding messages is not possible. With VoIP, companies instantly improve productivity with robust feature sets such as built-in conference call capabilities, four-digit dialing across locations, call center capabilities, and integration with desktop applications. Because of robust features like the ability for an employee to log in from any phone, employees are not tied to a desk.

A Network World special report suggests that organizations should consider transitioning to VoIP when:

- They are using IP Centrex lines that will support phone and Internet service on the same network. Moving to VoIP will immediately reduce costs because these lines are so expensive.
- The organization is moving to a new building. Since the wiring does not yet exist, it's simple to create a consolidated data and voice network.
- They are coming to the end of a PBX lease agreement or the current phone system is outdated, obsolete or unsupported by a vendor or service provider.
- The company has offices in different area codes and employees dial a lot of long-distance numbers. The reduction in toll charges will be immediate and significant.

You will also want to consider VoIP for your organization if:

- Your locations shift in size often
- Locations are added regularly
- You have a relatively small technology staff
- You use a great deal of outsourced telephony services that are beginning to add up
- Many of your employees frequently work remotely

Once you've evaluated your organization carefully, analyzing the costs of your current telephony solution along with your employee productivity and customer service needs, and decided that indeed, VoIP is the way to go, the next chapter will help you with the vendor evaluation and selection process.