Before You Start: Preparing for IP Telephony Deployment

Many organizations fear adopting Internet Protocol telephony because they do not understand the potential impacts on their networks. Asking the following questions will help ensure a safer, more stable conversion.

Many organizations feel mounting pressure to replace or upgrade their communications environments to IP. This pressure may come from vendors or from the media, but the implication is clear: If you haven’t yet found a compelling value in replacing your time division multiplexing (TDM) system, it can only be because you have not looked hard enough. In fact, although the business value of converting to an IP communications environment is becoming easier to identify, many customers still see little compelling argument to support this decision.

If you are considering a conversion to IP telephony, we offer seven important issues that must be evaluated before any decision is made. Depending on your situation, the most appropriate decision may be to delay IP telephony deployment until your network, or the available applications, are ready.

What Are Your Mission-Critical Operations?

Individual applications can be replaced or reintegrated, but are there specific operations or processes that cannot be interrupted? Mission-critical call centers, emergency response operations and the White House-to-Kremlin hot line are examples of operations that cannot afford to be out of operation. Delay any rollout to these groups until you have a stable, well-understood conversion process tested in other departments. In these operations, the pilot conversions should include redundant IP and TDM lines, to ensure that no calls are dropped and your attendants are never without live lines in case of a system error.

After the pilot implementation has proved to be stable and reliable, plan to support a small number of backup lines during the rollout, to ensure continuity in case of difficulty and to assure your employees that they have little to fear. Similarly, consider any upcoming events or plans that must not be impacted by the
changeover, and plan the conversion well in advance or schedule the relevant departments to convert after the critical dates have passed.

Your IP telephony conversion should improve, not impede, your operations.

What Are Your Mission-Critical Applications?

Just as your vital operations must not be interrupted, similarly, there may be applications that cannot afford lengthy breaks. Recognize that these applications are often tightly tied into mission-critical operations, such as within the contact center or sales support desks. Often the IT department may not appreciate the importance of certain departmental applications, so actively involve your business unit managers as you build your transition plans. This strategy will serve two purposes: It will ensure that you have incorporated plans for all sensitive applications, and it will enlist support from all of the business units.

Design your pilot projects to include these applications (either through redesigned integrations or replacement applications) to ensure that your conversion to an IP environment does not include a step backward in system functionality.

What Is the Cost of Transporting Custom Applications or Integrations to the New Environment?

The primary consideration here is the impact on professional services cost, as well as the project time. As more applications become available for IP environments, it may be more appropriate to convert your voice mail system to that offered with the new server, for example, rather than invest in converting your existing applications.

You may also use this conversion as an opportunity to consolidate related products (for example, multiple interactive voice response servers) onto a single new server, managed centrally and consistently. If you decide to carry your existing applications into the new environment, fixed-price contracting can help ensure a migration within operational and cost guidelines.

Is Your Existing Infrastructure Able to Support the New Traffic Volume on Your Network?

No, almost certainly not. LAN and WAN traffic patterns will change dramatically with the introduction of IP telephony, and even the newest networks will likely need to address Power over Ethernet to support new IP handsets. Bolstering your existing
network can be costly, and these costs should be well understood before making any decision regarding an IP telephony deployment.

A number of Network Readiness Assessment products and services are available that can simulate voice traffic on your network, to help identify potential bottlenecks and anticipate constraints on growth. Examples include Brix, NetIQ, Integrated Research and Psytechnics. In addition, many equipment manufacturers and large system integrators offer products of their own to assess network readiness, such as Avaya Global Services and NextiraOne. Also, to ensure that those changes in network traffic are appropriately anticipated, a vendor such as SecureLogix can help characterize the traffic on telephony networks due specifically to voice.

Failure to properly prepare your network not only will result in extremely poor voice quality, but also will slow response time for other existing applications. This risk increases significantly if you plan to deploy video as well.

What Drives Your Conversion to IP Telephony?

The change should happen on your terms, not according to the interests or schedule of your vendor. If you have identified immediate cost benefits or require specific IP applications, this may impact your vendor of choice, but it will also influence the network build-out, the timing of the stages of your rollout, and the order in which you will likely convert sites or departments.

On the other hand, the purpose of the conversion may be driven more by a need to replace outdated equipment, with an eye toward supporting an IP environment in the future. In this case, do not rush into any conversion simply for the technology’s sake.

How Much Can You Afford to Spend Today?

In a complete build-out of a new site, the cost of implementing a complete network is likely factored into the cost of the new building. However, the conversion of an existing infrastructure should more often be done in stages: Network assessment and upgrade, followed by private branch exchange (PBX) conversion or replacement, desktop set purchase, custom application integration, new application development or purchase, and (throughout the activity) training for both users and the IT organization.

Each of these stages carries a cost, and they each can be performed independently. If cash-flow considerations constrain
your spending, manage the timing of your rollout to match your budget. Such projects commonly span several budget cycles.

Be sure also to include the cost of planned outages that may become necessary during your implementation, to support installation of patches or system restarts as you migrate additional teams into the new environment, as well as the incremental cost of having IT personnel on hand for after-hours activities to minimize business disruption.

**Who Is Best-Suited to Project-Manage This Implementation?**

Most organizations do not inherently possess the skills required to implement advanced voice applications on a data network and would be better served by enlisting an implementer that has already learned how to manage converged networks. While this will certainly increase the cost of the implementation, it will invariably save time and frustration, and will help educate your own IT organization about the intricacies of this new communications environment. This education becomes especially valuable if the voice and LAN teams have little history of working together.

In addition, an experienced project manager will already know how to help you address each of the aforementioned questions, relating them specifically to your unique environment. Pay special attention to the knowledge gaps that may exist within your chosen vendor’s solution, and attempt to supply those skills through your services team. For example, a vendor with a great understanding of data networks would be well-balanced by an implementation team that brings extensive voice experience, because IP telephony is fundamentally a voice application environment.

**Bottom Line:** While Gartner believes that IP telephony is inevitable, it should never be forced on you. The timing of your implementation, the speed with which you convert your organization and the number of applications that you carry into the new environment must all meet your own needs, not the needs of your vendor or implementation team. Begin assessing your network’s readiness now, but delay converting your communications environment to IP telephony until you have identified real benefits in terms of measurable business value.

For related research on this topic, see "Network Assessments for VoIP Help Improve Service."