

IP or not IP, That is the Question?  
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Will the technology I invest in today be obsolete in 5 years? Will the only systems installed in 5 years be IP systems? Is it a mistake to consider digital phone systems? These are questions that I am frequently asked. The answers are not as cut and dried as some would think.

Some people are not even aware of what the term IP, let alone VoIP, mean in the current technology environment. Some people, when they see the letters VoIP, wonder first why the "o" is not as large as the other letters. Still others understand that VoIP has something to do with changes in current telephone technology but they don't know the first thing about what it means. Additionally, there are those that know that VoIP means "voice over IP protocol" which involves the conversion of voice packets to data packets and because it's the latest and greatest technology, they just have to have that technology NOW!

Before rushing into a technology purchasing decision there are items to consider. First, review your business and see if there is an immediate need for VoIP connection. There are several situations where VoIP technology can enhance business practices. For instance, take a company with a large main facility and one or more small remote facilities throughout the city, region or country. This facility could use a digital telephone system with digital phones in the main building but utilize data lines and IP phones at the smaller remote facilities. This allows the users in the small remote facility to connect to the main facility through existing internet or private line wide area network connections and take advantage of all call handling features without installing unnecessary equipment at the remote locations. The remote equipment can also be configured to address local 9-1-1 identification and the ability to survive at a minimum level without the connection to the main facility.

If the facility in question is hard to wire and available cable is sparse, there may be a need to share a single data connection between the telephone and desktop PC. With the introduction of IP phones sharing that single data connection is now a reality. On the flip side, a business may have limited space and requires data functions over a device the size of a telephone. By using certain IP phones a user can now have some web browsing and/or data sharing capability on that telephone - - saving space and maximizing your data resources.

Finally, a business that has two or more large facilities that while spread out geographically must function as one entity can benefit by using VoIP technology. Many times a single data connection can be used for voice as well as data applications. The days of segmenting wide area network lines are now in the past. With VoIP technology the computer network can use all/most of the wide area bandwidth for data processes while the voice traffic is inactive or at a minimum.

In reviewing a telephone system that uses IP technology, do not assume that an existing data network is able to accommodate the voice traffic on top of the data traffic that it is already carrying. To start review the routers, switches and bandwidth available within and between the buildings to determine if the proper equipment is in place to accommodate a new telephone system. One thing to do is identify the amount of bandwidth required for a 2-way conversation for the telephone system solution being provided. Second is to have a trusted data vendor (if different than the telephone vendor) or an independent third party provider perform a network assessment before choosing a solution or beginning a project. The assessment should be run for no less than a week. In order to provide the best snapshot of the network it is wise to select a busy week. This will provide vital information to your IT staff/consultant and assist in identifying if any data equipment is required to facilitate the new voice solution.

When examining a network assessment, remember that voice transmission is much more precise and requires a level of reliability above that of data traffic. With data information, a computer can accept packets out of sequence or some loss because it fixes or waits for the rest of the information and places it where it needs to go or drops unnecessary information altogether. However, in voice transmission a lost packet or certain levels of inconsistencies (latency/jitter) on the line could result in some very broken conversations.

If a course has been plotted for an IP telephone system, spend a little bit of extra time and money up front to have a professional network assessment completed to ensure all of the proper equipment is in place to go forward. The VoIP system, whether it be from CISCO, Inter-Tel, Avaya, Toshiba, or Comdial will all have to connect to the data network in some way and if the system is insufficient it may cause an exponential increase of the voice equipment budget to cover costs to update the data system. Forward thinking helps protect the time, budget, technology AND productivity of a business.

Will the technology I invest in today be obsolete in 5 years? Will the only systems installed in 5 years be IP systems? I believe our region will not see the digital telephone system disappear within 5 years. However, we will see a much greater installed base of "hybrid" systems. These are systems that share digital technology with IP technology. Redesigning an existing system may protect an original investment. In conclusion, before giving in to that "gotta have it now" routine and ripping out all of the equipment in the business investigate the options.