

# White Paper: How to Prepare for a Successful VoIP Deployment

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## Introduction

Voice over Internet Protocol, or VoIP, is a term used to describe the transmission of telephone calls using a data network, rather than over traditional phone lines. It is a simple concept, but one that is having a very significant impact on the world of business communications.

VoIP is itself enabled by a much broader technological evolution, namely the convergence of multiple forms of communication, including voice, video and data, into a single network. This transformation is creating a revolution in the way communications works, and it has the potential to offer major benefits to your business. It can help your company grow by broadening your communications capabilities, it can save you money on your telecommunications costs, and it can enable more productivity, mobility and flexibility in your workforce.

A myriad of small and medium-sized businesses (SMBs) around the world are already benefiting from the advantages of VoIP systems, many of which are well suited to these kinds of organizations. Here are some examples of why VoIP is making a major impact on business communications for SMBs:

- It provides the ability to use an integrated voice and data network at a lower cost than the separate parts.
- It offers the SMBs communications capabilities on a par with the largest of companies.
- It can open the door to new services and applications that can drive additional revenue and help cope with expansions in customer demand.
- It can lead to increased employee productivity by giving staff a more flexible means of communicating and allowing more mobility, while increasing the flow of information.

There are different ways for SMBs to take advantage of the benefits from VoIP. An upgrade to an existing phone system, when available, can allow VoIP communications between different locations, without any major disruption to the infrastructure in each office. Alternatively, a new VoIP system can be purchased to replace an old phone switch and open up new capabilities. Yet another option is to pay monthly for a Service Provider to provide a hosted VoIP system, without buying any capital equipment at all.

Small and medium sized businesses are often good candidates for VoIP systems, and have represented a majority of the early adopters of technology. While large companies have complex networks, with a mul-

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titude of different phone systems that can be difficult to integrate into a single converged network, small companies' networks are more straightforward, allowing an easier transition to VoIP.

However, some companies have found that there are complexities or difficulties that get in the way of them maximizing the impact of the new technology. Lack of good advice, a misconceived plan or a deployment by inexperienced personnel can all lead to problems.

The keys to a successful transition to a VoIP-based network start with a clear understanding of the business case behind it and an implementation plan that best fits the company's overall objectives.

There are certain circumstances, however, where the technology is likely to have a more significant impact than others. If your company is in one or more of the following situations you will tend to get a faster payback:

- expanding and need or likely to need larger offices
- have a significant percentage of employees that travel on business or work full-time or part-time from home, using laptops
- making acquisitions and need to integrate with other business
- have international offices
- have a growing volume of incoming calls
- have not replaced or upgraded their phone infrastructure in the last 5 years
- have a good penetration of Ethernet cabling and have communications equipment that is less than 3 years old
- operate in an industry with dynamic competition where strong customer service levels are essential

Overall, VoIP based phone systems offer great potential for small companies and can help to keep costs under control while growing a successful business.

### The Transition

Voice over IP (VoIP) is a major milestone on the road to next-generation convergence, enabling service providers to offer revenue-generating services today by delivering voice, data, and video over a single network.

The successful transition to a VoIP solution depends on promptly making the right business, technology, and deployment decisions. Service providers are under growing pressure to deliver the seamless communications experience that customers demand. This is evident in the integrated devices that customers use today.

As consumers and workers use their highly connected devices at home, at work and at play, they begin to expect more from their service providers' networks. Adding VoIP and other IP services to a carrier network can be a daunting task, especially when the build-out involves a multi-vendor, multi-technology network. That's what makes your vendor / integrator's expertise invaluable. They should have a comprehensive set of professional services that support service providers from VoIP-readiness analysis to optimal planning and design, all the way through to integration and implementation of the overall VoIP solution.

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To make a successful transition onto VoIP you should:

1. Assess and analyze all the fiscal factors that can affect an integration initiative, helping mitigate financial risk and achieve return on investment (ROI) projections.
2. Use a readiness assessment to understand what needs to be done to get your networks VoIP-ready. As part of this process, create a complete picture of network connectivity and capabilities.
3. Conduct a detailed financial and technical comparison of potential VoIP solutions - ones that will meet your current business goals and scale as requirements change.
4. Multi-vendor hardware and software integrations should be carried out to transform disparate products into an efficient, cost-effective VoIP infrastructure.
5. Fine tune, maintain and manage your system reducing up-front risks and easing the integration of voice and data networks and applications.
6. Determine whether not to discard your existing system altogether, but build up a hybrid system which combines both VoIP & PSTN as there are quite a few rough edges still existing in the domain of inter-operability between the current system and VoIP.
7. Do a proper survey of all the VoIP service providers and ask about their service quality with special emphasis on the type of algorithms they employ because the voice quality depends to a very large extent on the algorithms. Also get to know about their answer seizure ratio (ASR) it is a measure of the number of calls properly terminated, that's why it can give you an insight into the quality of the routes the service provider uses. So a good ASR would mean that the VoIP service provider is offering quality services.
8. Look for players who have expertise in various applications of VoIP like video conferencing, toll free numbers, direct inward dialing number (DID), and calling cards; because if the VoIP service provider is able to handle applications of various hues that would mean that the system used is stable and that he has an all encompassing expertise of VoIP.
9. Make sure to ask about customer support services, as initially you would need a great deal of expert help to get your VoIP bandwagon rolling.
10. Consider deploying a network assessment tool, such as Ethereal, to maintain the quality of service (QoS) and integrity of your system.

As with anything new, a proper approach can guarantee that you reach the objectives you had set out for and in the case of VoIP it's even truer. Follow these rules and the transition of your business onto VoIP would surely be easy.

### How to Prepare

VoIP is a brand new technology and as such, networks don't perform the same with VoIP as they do without it. Here are several ideas for planning the transition to VoIP, and ensuring that it is done with a capable business partner.

Comprehend the vision you have for your business

There are many different deployment models and options, which can be furnished by system integrators, resellers, service providers and carriers. It is important to identify the primary business strategies that rely on voice and data infrastructure. Business capabilities should be available before deployment schedules are set. Some decisions hinge on facility plans and changes while other initiatives are influenced by business processes that will assist in change management. It's mandatory to understand business needs before sending out an RFP or working with a vendor.

### Getting to know the market for goods and services

Large enterprises and small and medium-sized businesses are at either end of the VoIP spectrum. Until the present, large enterprises have preferred premise-based IP Telephony solutions. The enterprise's business relationship with its service provider and its VoIP deployment model are similar to that of traditional telephony. Large enterprises have many telephony and network assets to manage and thousands of employees in their communications infrastructure so they don't want to take large risks with new technology.

SMBs have to manage a limited number of onsite assets and less staff. They are seeking the cost savings provided by VoIP. They are also looking for features such as conference calling, remote forwarding to cell phones and call forwarding. Smaller companies also need to establish a comfort zone with their system installation. Small enterprises will opt for doing business with smaller VoIP solution providers with the ability to offer services such as "pay on demand".

### Infrastructure Evaluation

It's best to take an inward view of your network and IT staff before seeking out any VoIP solutions or vendors. Overall network performance could degrade if your network has not run VoIP before. It is possible to segregate voice and data traffic into separate LANs. This will prevent the degradation of call quality from happening when a large file transfer is initiated over the network at the same time. There may also be staff issues, since the new applications and skills used to support corporate VoIP may be lacking.

Data-oriented staff will need to be trained in order to learn about voice. Performance expectations in these two worlds are very different. A data person's expectations for uptime might be 95%, while a voice person would be looking for 99.99%. VoIP vendors that you select should be aware of these factors.

### Investment Management

Current telephony and network equipment should be managed to the end of their life cycles. This is a primary reason why transitioning to a VoIP solution should be gradual, with many implementation phases, decommissioning older equipment and replacing it with VoIP. For enterprises attempting to make their ROI work out, asset management is essential. Ensure that you work with a vendor that can respect an asset management scenario in their deployment and pricing options.

Although most companies intend to stay with their current suppliers, others intend to consider new vendors. First it's better to conduct an assessment of your existing vendor relationships. Have you been satisfied? Do the vendors appear to be growing with your company and will they be able to meet your future needs for technology? You might want to stick with the incumbent's track record of good performance and solid delivery. If this is not the case, there may be other options available to you. Even if you decide to stay with your current vendor, you may still wish to enter into a bid procurement and Request for Proposal (RFP) process to remind the incumbent that you expect a good offer.

When preparing an RFP you should cover all aspects of your business and operations, which includes present and future needs; network, reliability and performance needs; training requirements; support and implementation needs; vendor references and financial stability; partnerships and potential for add-on VoIP application development; vendor metrics; warranties and Service Level Agreements (SLAs); project management capability; individual competencies of project ownership; pricing; capability for disaster recovery; and of course, the contract itself. It may also be prudent to select an outside consult for assistance with VoIP QoS standards.

### RFP Development

Although the components of an RFP are summarized above, in order to ensure that all important topics have been covered interview everyone in your employment that will be directly influenced by VoIP. Some of them might be able to suggest RFP criteria from different perspectives. A complete RFP includes a method of ranking its various categories. An RFP that has been drafted and answered thoroughly will guarantee that you don't miss in vendor, technology or deployment selections.

### Implementation Plan Establishment

A VoIP implementation plan must be understood and agreed to by all of the organization's impacted areas – IT and end users. It should also be mutually agreed to with the vendor. Due to the straightforward investments and infrastructure, very small organizations can often make the move to VoIP in one leap, and recognize cost benefits immediately. Phased-in VoIP is adopted by mid- to large-sized companies. They decide what is to be accomplished in each implementation phase based on cycles of network and telephony asset depreciation, the importance of switching over particular enterprise areas to VoIP, and cash and staff resource availability.

Since remote offices usually have unreliable and outdated equipment it's customary to switch these locations over first. VoIP implementation for headquarters usually proceeds in phases. Many organizations decide to remain on hybrid VoIP and TDM platforms with deployment plans running approximately two years. SMBs can usually run a switchover in a more rapid period of time.

### Conclusion

A successful VoIP deployment must take into consideration that there will be a significant price to your network. Not only must the network carry more traffic, but VoIP demands extremely high performance and is more sensitive to normal network problems. Even modest issues, which go unnoticed by users of most data applications, cause significant caller frustration and will not sit well with customers, business partners and internal staff.

Thus, before investing in a VoIP deployment, your telecommunications provider must properly assess your network ahead of time to truly understand the scope and type of work required to ensure a successful transition to VoIP. It is strongly recommended that pre-deployment analysis be carried out prior to the purchase or installation of any VoIP equipment. Whenever new equipment is introduced to a network, the chance for unexpected issues rises; therefore it is critical that post-deployment assessment be performed so any adjustments to ensure quality of service can be made in a timely manner.

It is important to re-evaluate your network regularly to identify any problems that impact performance so they can be corrected as soon as possible. Conducting ongoing assessments will help your enterprise increase quality, optimize system infrastructure and reduce costs. For companies about to take the plunge into VoIP, it is critical to deploy a network assessment tool that can enable one to take action quickly, accurately diagnose the issue, and resolve it, while minimizing its impact to the system as a whole.

Expectations for new technology should be defined by IT working hard with end users, regardless of the solution. Users could be strained a few weeks in advance of new deployments. Choosing the right VoIP vendor / integrator is one of the best moves a company can make to ensure the success of any VoIP project.

Characteristics of a good VoIP vendor / integrator:

- strong experience with both VoIP and traditional telephony;
- excellent training programs for IT staff and end users;
- record of success in installation, troubleshooting and problem resolution;
- investment in future technology directions that you need and trust.

#### About Dialexia Communications

Dialexia Communications is a pioneer in the world of IP Telephony and Call Processing. SMBs can make a significant transition towards a telecommunication system that will provide enhanced productivity by simplifying the complexity of their numerous needs; one system will be enough to manage telephony, Internet, e-mail and long distance thanks to Dialexia's low cost VoIP solutions. All their products are designed to work with the industry's leading gateways, facilitating installation and compatibility. Dialexia Communications offers a full suite of integrated IP Telephony applications. Their innovative Dial family includes: Dial-Gate a comprehensive web-based SIP proxy and centralized routing server with a traffic management system for pre/post paid billing services; and Dial-Office a powerful web-based 100% SIP IP-PBX. Visit Dialexia at: [www.dialexia.com](http://www.dialexia.com)



Dialexia Communications  
181 Hymus Blvd., Suite 300  
Pointe-Claire  
Québec, Canada  
H9R 5P4  
Tel: (514) 693-8500  
Fax: (514) 693-5352

[info@dialexia.com](mailto:info@dialexia.com)  
<http://www.dialexia.com>