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Covad Communications

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INTRODUCTION

Businesses are in a constant struggle to control overhead. Voice over IP (VoIP), along with the IP telephony (IPT) capabilities it enables, is a technology that offers small- and medium-sized (SMBs) businesses a choice of solutions that can lower telecommunications costs and, in many cases, enhance productivity. Additionally, using VoIP will allow these businesses to take advantage of future application development.

A straightforward way of controlling telecom costs is through network convergence--having a single point of connection for delivering services that customers need at a particular location. This means, of course, that a customer's telephone service provider is also the customer's provider of data services, such as Internet access, email, and Web hosting. Service providers understand the importance of being a one-stop shop, which is why they are expending large amounts of capital to build multi-service networks that support data, voice, and video services. Initially developed for data communications, IP is proving to be a highly flexible technology for multi-service delivery.

Looked at from the side of a customer, earlier concerns about VoIP are now less valid: thanks to advances made in improving all aspects of network convergence--e.g. quality of service (QoS), reliability, availability--businesses today have far less reason to be concerned about trusting their voice traffic to an IP network. Whether customers have invested in a key telephone system (KTS), a traditional PBX or an IP PBX, or are using Centrex services from the local phone company, they will find that by switching to a VoIP solution they are able in most cases to reduce telecom costs even as they increase their telephony capabilities for improved productivity.

A VoIP SOLUTION TO MEET EVERY NEED

It used to be that, until fairly recently, voice services were the exclusive domain of the incumbent local exchange carrier (ILEC). Customers had no choice. But new telecom regulations combined with rapid advances in technology have changed the competitive landscape. Today, ILECs as well as a variety of competing service providers are delivering multiple services over a converged network and, in the process, are rapidly changing the dynamics of the telecom market. For customers this often means better prices and more choices. Although ILECs and cable companies are largely marketing VoIP services to residential broadband customers, their embrace of the technology has helped allay concerns about VoIP because of their reputation for providing high-quality voice and video services. Businesses, for their part, can take advantage of a fast maturing market that offers them multiple sources for VoIP services, including ILECs, competitive LECs (CLECs), Internet Service Providers (ISPs), value-added resellers (VARs) as well as a number of emerging players. SMBs can now partner with a service provider that offers them the right VoIP solution for the price and also gives them the option of taking advantage of advanced applications to meet their evolving needs for increased productivity.

The benefits of competitive prices and advanced capabilities make VoIP the right choice for many SMBs. And once a customer decides to adopt VoIP technology, practically speaking the choice comes down to two solutions-- hosted VoIP and VoIP access service.

Hosted VoIP

Hosted VoIP, or hosted IP PBX/IP Centrex as it is also called, is a fully outsourced solution. All of the pieces of the VoIP infrastructure (e.g., softswitch, media gateway, application server, etc.) are located in the service provider's data center. This solution, however, should not be confused with the managed IP PBX model. Although in both scenarios the IP PBX is managed by the service provider, in the managed IP PBX scenario the equipment could reside either at a customer's location or in the service provider's data center. Additionally, in the managed IP model the IP PBX is dedicated for the use of a specific customer. By contrast, in a hosted VoIP solution the equipment supports multiple customers, although from a customer perspective it appears to be a dedicated IP PBX. Put another way, hosted VoIP is a partitioned, multi-customer solution, whereas managed IP PBX is a non-partitioned, single-customer solution.

A big advantage of opting for a hosted VoIP service is that upfront investment is minimized because the service is priced on a flat-fee basis, typically running around \$60-\$70 per month per station, or per user. In addition to an access line and a VoIP dial tone, the fee typically would include a-la-carte selection of advanced features and either an unlimited number or a favorably priced bucket of local and long-distance minutes. For a customer with multiple sites, hosted VoIP allows all locations to have the same telephony capabilities, an abbreviated dialing plan, hunt groups, and uniform voicemail and auto attendant appearance to outside callers. Another attractive feature of hosted VoIP is that the service often provides a Web-based service management interface for the customer's IT staff to expeditiously handle user moves, adds, changes and perform other administrative tasks. Users, for their part, may have the convenience of a desktop console or dashboard from which to configure their features and settings.

As the table below shows, the next several years will represent a nascent period for hosted VoIP services.

Hosted IP Telephony and VoIP Access Service Markets: IP Centrex/Hosted IP PBX Lines (North America), 2004-2010		
Year	IP Centrex/ Hosted IP PBX Lines (Million)	Growth Rate (%)
2004	0.11	---
2005	0.17	60.4
2006	0.29	67.8
2007	0.45	57.5
2008	0.70	54.6
2009	1.04	47.6
2010	1.51	45.9
Compound Annual Growth Rate (2004-2010): 55.4%		

VoIP Access Service

As with hosted VoIP service, VoIP access service may offer a package of local and long-distance calling minutes in addition to a VoIP dial tone. Because many businesses currently have their own KTS or PBX/IP PBX and will want to protect their investment in this equipment, a VoIP access service can serve as an introduction to converged network services—a single connection for customer data and voice traffic. Because a single connection typically translates into reduced cost and convenience, VoIP access services are expected to have fairly rapid growth in the near term, as the following market data indicates.

Hosted IP Telephony and VoIP Access Service Markets: VoIP Access Lines (North America), 2004-2010		
Year	VoIP Access Lines (Million)	Growth Rate (%)
2004	0.18	---
2005	0.35	90.2
2006	0.65	87.9
2007	1.12	72.3
2008	1.66	48.5
2009	2.33	40.3
2010	3.10	33.0
Compound Annual Growth Rate (2004-2010): 60.5%		

At a minimum, VoIP access service, also called VoIP trunking, offers, a number of business trunks (i.e. lines) to customers. Each trunk represents a concurrent call or voice channel serving a customer's key system, PBX/IP PBX. There is not, however, a one-to-one relationship between the number of access lines and the number of customer stations; instead, to ensure efficient usage of the access lines, a customer typically will have a ratio of 3- or 5-to-1 stations for each access line. A key benefit of VoIP access service is that, depending upon what VoIP capabilities a service provider has in the data center, the service could offer advanced features beyond those supported by a customer's telephony equipment. An abbreviated dialing plan, a VoIP VPN and a hosted voice mail solution represent typical value-added services that service providers can bundle with a VoIP access offering.

THE RIGHT VOIP SOLUTION

Because a converged network underpins both hosted VoIP and VoIP access services, this in itself translates into lower network costs while also offering customers the option of taking advantage of the many advanced features enabled by VoIP. In fact, VoIP technology can support very sophisticated services -- for example, contact center capabilities such as advanced routing, account codes, and authorization codes -- thus making VoIP on par with customer premises-based solutions. Whether a customer chooses a hosted VoIP or a VoIP access solution, each offers benefit of cost, convenience, and flexibility.

Advantages of hosted VoIP

As a fully outsourced solution, hosted VoIP offers customers a number of advantages, not the least of which is that a customer has the full benefit of the service provider's investment in a VoIP infrastructure:

- No need for customers to train a dedicated staff, which would be especially important for many SMBs
- As the customer's business grows, it is much easier to add stations or provide services to geographically dispersed locations and/or telecommuters. All customer locations are part of the same "virtual" IP PBX
- Customers can save on inter-office communications and also on local/long distance calls because service providers typically offer a bucket of minutes
- Service providers can offer a number of advanced features that can include anything from voice mail to unified messaging and find-me/follow-me services
- Features may be offered bundled and/or a la carte, so customers pay only for those they need
- Web-based service management interfaces make certain tasks (e.g., moves, adds, and changes) easier for IT staff and users.
- Service providers have a vested interest in offering highly reliable services and regularly enhancing their solutions to ensure customer satisfaction

Advantages of VoIP Access service

Customers who self-manage their CPE will find several advantages to using VoIP access services, including:

- They will not have to deal with multiple service providers for their WAN, local ISDN PRI (integrated services digital network primary rate interface), and long-distance requirements. Instead, they will have one service provider for their voice and data requirements
- PRI will not be needed at each customer location for PSTN connectivity because the service provider will support connectivity to the PSTN
- If the service provider has the appropriate VoIP infrastructure, the customer will be able to augment its CPE capabilities with many advanced features (e.g., abbreviated intra-company dialing, hunt groups, and find-me/follow me)
- Buckets of local and long-distance minutes typically will reduce costs

THE SAVINGS BEGIN WITH INTEGRATED ACCESS

Each of the two described solutions benefits customers. However, one is not inherently superior. SMBs that have invested in CPE tend to have a trusted relationship with the VAR that sold them their phone system. If these customers have considerable funds tied up in the phone system, it is unlikely they will want to consider a hosted VoIP solution. For them a VoIP access service may be the right choice. Even so, there may be situations in which these customers might benefit from a hosted VoIP solution. For instance, if business is expanding rapidly into a number of geographically dispersed locations, it may actually improve voice service and save money on equipment and staff by opting for hosted VoIP service.

For customers who have their own telephony equipment, a VoIP access service offers immediate benefits because it obviates the need for separate connectivity for their data and voice requirements—typically a T1 for Internet access and an ISDN PRI for their IP PBX. (As noted earlier, the convenience and economics of a single network connection for voice/data also apply to hosted VoIP.) Moreover, a customer would do well not to underestimate the difficulty involved in pricing T1 and PRI services. For one thing, prices for T1s and PRIs can vary greatly from service provider to service provider and from region to region—T1 Internet access, for instance, can typically range from about \$300 a month to twice that amount, a PRI will be closer to \$500 per month. Customers will find that looking for the best "deal," particularly in an area where there are multiple service providers offering these services, is no small task. And the effort can quickly become even more frustrating if a customer needs T1s and PRIs at geographically dispersed sites and has to use a different service provider for each location.

VoIP technology, on the other hand, offers the convenience of a single service provider for voice/data as well as the economics resulting from network convergence. As a result,

VoIP technology will not only save customers money but will represent a big step towards an end-to-end IP network that will serve as a platform for deploying innovative applications going forward.

VOIP IS GOING BUSINESS GRADE...AND INTO THE FUTURE

VoIP services can no longer be viewed as not-good-enough-for-business; VoIP is the technology for today and the future. For SMBs, VoIP offers the benefits of convergence, advanced features, control, scalability, and flexibility. Leading service providers currently are hard at work to turn the vision of wireline/wireless convergence into reality. The goal is to erase any distinction between wireline/wireless networks so that the same services are available to a person regardless of whether the person has a wired or wireless connection. All traffic in this vision of convergence will travel across an IP network.

SMBs, however, do not have to wait for that day. After evaluating their voice and data needs, they can decide which VoIP service model reduces telecom costs and enhances productivity.

COVAD'S VALUE PROPOSITION

As a leading service provider of voice and data services to SMBs, Covad's VoIP offerings are available as a hosted VoIP or as a trunking service. With its hosted VoIP service, called vPBX, Covad delivers business voice services over either one or two T1 lines (the two lines are for increased bandwidth and load-balancing) or, for the more price conscious customer, a single digital subscriber line (DSL). The vPBX service is particularly suitable for a site with 20 to about 250 stations.

As a fully managed solution, Covad's vPBX service offers a number of advantages, including:

- Savings of as much as 20 percent in total telecom costs*
- 24/7 customer support
- No changing of toll-free and business phone numbers, plus unlimited inter-office calls
- Easily moving, adding or changing stations as needed
- Routing calls to employee cell, home or any other phone to reduce phone tag
- Increasing productivity of sales/support staff through multiple call routing schemes

**Up to 20% total cost of ownership savings based on case studies by Covad comparing total cost of ownership of Covad's VoIP solutions versus KTS solutions*

PBXi, which is Covad's VoIP trunking service for customers who have invested in a telephone system, is offered via analog or PRI connections for a customer that has either an analog KTS or a digital PBX. Covad offers its analog service as eight or 16 trunks.

Because oversubscription is common for improved usage of available lines, Covad's 8-trunk PBXi service should be sufficient to support up to 30 stations, while the 16-trunk PBXi service supports up to approximately 50 stations. In its digital version, PBXi also supports up to about 100 stations and offers the additional benefit of direct inward dialing (DID).

Following are some of the benefits of Covad's PBXi service:

- Customer keeps existing equipment (KTS/PBX/IP PBX)
- Reduces cost and eases manageability by consolidating voice/data on one network
- Enables evolution to new technology when ready
- Predictable monthly fee for phone service, Internet access, email, and Web hosting
- Peace of mind with service level agreements on service performance

The broad product portfolio represented by Covad's vPBX and PBXi services allows Covad to offer VoIP services to a wide range of customers, regardless of whether a customer has a few or several hundred employees at a single location or has a number of sites each with a small number of employees. Customers protect their investment regardless of whether they deployed an analog, traditional or IP-based phone system or a mix of systems. Customers can, moreover, outsource all of their voice needs to Covad or, alternatively, use Covad's vPBX service at some locations and PBXi service at other locations for a hybrid solution. The voice optimization technology deployed by Covad gives priority to voice packets over Covad's network, assuring a high quality for customer phone calls.

Selecting either Covad's vPBX or PBXi service can enhance customer productivity and/or reduce telecom costs. Additionally, the generous buckets of minutes that come with the vPBX and PBXi services (up to 101K minutes) in effect amount to free domestic calling

Frost & Sullivan believes that Covad, a winner of Frost & Sullivan 2005 Market Leadership Award, is a noteworthy VoIP service provider because its product portfolio and geographic coverage give it a broad addressable market.

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