Packet8®

Inadequacies of Traditional Phone Service

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Network Computing Editor's Choice

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I. The Telecommunications Dilemma

Small businesses are faced with a difficult task when it comes to selecting or upgrading their telecommunications system. Very often, companies will conduct research based on their current size and where they project they will be in a year.

Typically, the economics of investing in a business phone system that is feature-rich and can scale to their potential growth precludes them from purchasing these powerful tools in the initial stages of their company. The same applies to companies when adding new offices or replacing outdated telephone systems.

New companies generally choose standard business phone lines from their local phone company along with multi-line phones because of the low initial cost. Limited funds and a dynamic, often dispersed, business environment make the options going forward an intermediary step until the company grows large enough to consider a premise-based PBX.

With VoIP (Voice over Internet Protocol) technology, small businesses now have a cost effective, feature-rich alternative to the traditional business phone system that facilitates geographic independence to work from homes, a powerful business feature set along with local and long distance for a fraction of the cost of both the low-feature multi-line phones or the feature-rich PBX.

II. Inadequacies of Traditional Phone Service

Traditional telephone networks were designed solely to carry low-fidelity audio signals with a high level of reliability. Although these networks are very reliable for voice communication, they are not well suited to service today's explosive demand for digital communication applications, because they:

• Are expensive to build – each phone must be individually connected to the central office switch, which is usually several miles away from the subscriber's location

• Use dedicated circuits for each call, which require fixed connection and operator taxation throughout the call's duration, whether or not voice is actually being transmitted

• Must have the capacity from day one to address potential growth, increasing initial costs and creating an under utilized investment.

• Transmit data at very low rates and resolutions, making them poorly suited for delivering integrated Internet communications, entertainment-quality video or other rich multimedia content

• Cannot be leveraged to provide new or differentiated services or functions, such as a geographic independent Centrex offering or other convergent aspects of complete communication offerings.

With traditional business phone systems (PBXs), companies must first purchase expensive equipment that is scalable to their potential growth. They require phones capable of being remote, if needed, and applications such as voicemail, IVRs and ring groups. The more functionality a small business wants, the more the equipment will cost.

After paying for the hardware, the traditional PBX system still requires installation, maintenance as well as dial tone charges. On top of this, a business will also need to incur expenses for local and long distance calling, a maintenance contract and annual upgrades.

The comparison of a hosted VoIP PBX is significantly different in delivery Than services like Centrex systems, Key Telephone Systems (KTS), or multi-line phones. The major differences: customers must have equipment on their premises and need to bring in trunk lines; multi-line phones are basic and provide limited features; Centrex is expensive and limited by a company's location in relation to the central office service area.

Payback for a PBX phone system may never occur, preventing smaller Companies from considering a traditional business phone system.

Even after this investment, their customers would hear a busy signal if calls exceed the number of available lines.

Until recently, small businesses had no real alternative to regular, basic Phone service that requires all users to be in the same physical location, offers a limited feature set or necessitates a large up front investment to acquire a PBX.

III. Enter VoIP (Voice over Internet Protocol)

Technology

Today, in the telecommunications arena, new technology called Voice over Internet Protocol (VoIP) is revolutionizing the industry by providing a cost-effective and feature rich telephony alternative to SMBs.

VoIP technology compresses voice (audio) data into packets that can be Efficiently transmitted over data networks and the public Internet, and converted back into voice at the receiving end. This is the basic architectural change that drives integration with web-based applications and the development of new features that would be impossible using traditional networks. More importantly significant cost savings can be realized by consumers as voice now becomes just another form of data.

Packet-switched networks – such as a home network and the Internet were built to carry non-real-time data. The advantages of such networks are flexibility, efficiency, and scalability.

- Flexibility:
  Networks can be built in a variety of configurations to suit the number of users, client/server application requirements, and desired bandwidth availability.

- Efficiency:
  Bandwidth and network connectivity is consumed only when needed.

Service providers are able to converge their traditionally separate voice and data networks, and carry voice, video, fax, and data traffic over the same network.

Many terminals can share the same connection to the network and, as a result, significantly reduce equipment costs to deploy VoIP versus a circuit-switched telephony network.

Scalability:

Users can be easily added to the network anywhere there is a connection as growth demands with minimal network costs to carriers

These advantages help create cost savings that are being passed on to consumers in the form of lower telephony rates. Organizations can also reap additional savings when staff have a phone extension in a home office, eliminating the brick and mortar cost for satellite offices. According to market data reported on Yahoo, potentially more than 5 million small and medium size businesses could realize enormous benefits by employing VoIP.

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