



Enabling you to connect.™

Making Sense of SIP: Finding Value and Security in New Phone Technology

Summary:

The world of business communications is transitioning quickly, and SIP technology is leading the charge. We'll examine the basics of SIP, what explains its exponential growth as a telecom service, and delve into the benefits of utilizing SIP over private networks from a security and business perspective.

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The Emergence of SIP Communication

To first understand the importance of private-network communication, we need to first understand how businesses are communicating.

What is SIP?

Session Initiation Protocol, or SIP, as it is commonly referred to, is a technology that enables communication sessions, such as a phone conversation, over an Internet Protocol (IP) line. What does that mean in layman's terms? In the case of a phone conversation, the caller's phone is utilizing an Internet network instead of traditional phone lines to connect to the other people on the call.

SIP functionality isn't just limited to phone (voice) calls, however. Any streaming media (think a movie online or sports highlights from a website), instant messaging, conference calls, video conferencing, video games and faxing can all take place over SIP lines.

The real value of SIP lines for businesses is that it simplifies communication infrastructure. Businesses no longer need phone lines for phones and DSL lines for online instant messaging, for example. SIP lines and, specifically SIP trunking, allow businesses to communicate over one centrally controlled network. This value isn't lost on CIOs, CEOs or CFOs, and it's the main reason SIP is becoming the backbone of business communication.

What's Driving SIP Migration?

It's estimated that by 2017, the number of SIP users will have grown from 7.2 million in 2010 to 59.1 million¹. But why such a massive increase?

Streaming media, instant messaging, conference calls and videos, games, faxing and voice calls can all take place over a **single SIP network.**

The death of POTS

Thanks to a strong push from providers, plain old telephone service (POTS) is disappearing. The reasons are numerous: decaying infrastructure, lack of new technicians trained on repairing/maintaining traditional phone technology and higher overhead costs associated with POTS technology, just to name a few.

While this may not have a huge impact on larger businesses with more complicated phone systems, small businesses will have to adapt. Many, if not most of them, will look toward a SIP solution to replace dying communication technology.

Short- and long-term cost savings

Because of the consolidation of communication infrastructure associated with SIP lines and SIP trunking, business save on overhead – there is less equipment for them to maintain and house, and the technology simply costs less to implement. When considering the long-term implications of SIP migration, one report estimates businesses will generally see a 60% reduction in telecommunications costs² after they migrate to SIP.

SIP Trunking: Connecting a private branch exchange (PBX) to the Internet, allowing users to communicate over Internet Protocol instead of public switched telephone networks (PSTN).

¹ Frost & Sullivan, 2011.

² SIP Trunking: Second-Wave Benefits. Ovum, 2011.

Enabling unified communications (UC)

As mentioned earlier, utilizing Internet Protocol for voice communication opens the door for integration of voice and other communication mediums on the same network. UC technology can provide access to voice, instant messaging and video conferencing from one interface on desktop computers or even mobile devices. When implemented properly, this can have a big impact on workplace efficiency.

Functionality and practicality

The bottom line is SIP technology just offers businesses more optimized communication capabilities. The ability to control and balance traffic, capacity and call routing; the ability to more easily scale the number of lines up or down to meet business demands, and greater internal control of every communication medium in use is simply more appealing from a usability perspective.

Security and Solutions

We all know the risks associated with transmitting data and information over the Internet. With SIP operating over public Internet channels, it carries with it those same vulnerabilities.

Future standards and compliance

The issue of security is always top-of-mind when it comes to business technology, and SIP is no different. The FCC, which regulates and oversees the current telephone and communication

SIP is the primary signaling protocol for **VoIP**, which is the overall delivery method.



infrastructure, is embracing the transition to IP and Voice over Internet Protocol (VoIP).

As SIP becomes further-ingrained in the business communications culture, standards and regulations will eventually be set by the FCC in order to ensure the security of customer and corporate information, making compliance a must for companies utilizing SIP technology.

Current security options

Businesses do have effective options available to them in order to protect their lines of communication from the dangers of IP data transmission. These range from security protocols to private-based VoIP networks. Security protocols, like IPsec, have their pros and cons depending on the size and needs of the organization implementing them, but there is a high degree of complexity in configuring them.

These solutions are typically more suited for larger organizations with robust in-house IT support staff and are not ideal for small- or medium-size businesses (SMBs) with limited IT resources.

60%

- General savings on telecom service after a business migrates to SIP.

SIP over Private Networks

Voice termination (communicating) over private, dedicated connections is the simplest and, often, most effective way businesses can ensure the privacy of their communication. But the benefits of this practice extend beyond security.

What does 'private' mean?

In this case, "private" has two very big implications: security and quality.

"SIP over a private network" simply means the communication is sent on a connection specifically dedicated to that communication "packet." Because the transmission occurs on a private network as opposed to a public one, the information contained in the packet is less susceptible to attack from the outside. Because the packet also has "the road to itself," so to speak (remember, dedicated connection), the quality of the transmission will be superior to communications made over a public network.

Implementing a solution

Putting a solution in place can be a challenge given the language of the industry. For example, "private lines" and "private networks" are essentially the same, but private lines aren't quite as scalable as a private network service like PowerConnect™, which is an MPLS solution.

Some solutions may also overlap – security protocols can be used in conjunction with private networks. PowerConnect, a SIP-over-

Public Internet -

Cheap, no security.

Private Line -

Cost effective, limited bandwidth, good security.

IPsec Tunnel -

Very expensive, great security.

PowerConnect™ -

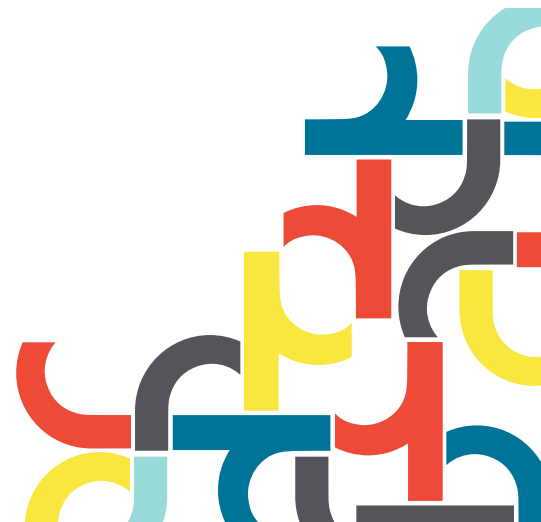
Cost effective, great security.

private-network solution from Powernet, is protocol agnostic, meaning it functions at the same high level of efficiency regardless of any protocols being used for additional security. This functionality extends to voice as well as Internet service (on an individual case basis).

Aside from security, quality can also be addressed by implementing SIP over private networks. Traditionally, voice quality over the Internet is prone to issues and long, unpredictable delays. Quality of Service (QoS) can guarantee a fixed amount of bandwidth for voice, prioritizing traffic to optimize quality. In PowerConnect, this feature is flexible in the event of an increase or decrease in users.

Packet:

Data formatted into a singular unit transmitted sent over an IP network versus data transmitted as a bit stream across traditional telecom links.



Know Your Business to Protect Your Business




With SIP continuing to grow as a business communication solution, companies will need to sift through the myriad options available to them in an attempt to address concerns regarding security, budget and quality. They can best help themselves by knowing what their business currently demands of its telecom infrastructure and how they see that changing in the near future. They can then make an informed decision as to the solution that will offer the most protection for themselves and their clients without making extensive sacrifices in budget or quality.

About Powernet

Powernet enables businesses to connect in the office and across the world through wireless networking, voice, data and call center solutions, in addition to domestic and international carrier services. With more than 20 years of telecom experience and expert sales and support teams operating out of our Cincinnati, Ohio headquarters, we provide our partners and clients the unparalleled service and innovative technology they need to achieve their business goals. Visit powernetco.com for more info.



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