SPECIAL REPORT

The Business Value of SIP Trunking

By Khali Henderson
Editor-in-Chief, Channel Partners

Table of Contents

Introduction

SIP trunking is an in-demand solution — uniquely offering significant cost savings as well as feature enablement. In the simplest terms, SIP trunking replaces legacy circuit-based connectivity from a company's business telephone system to the outside world. This report will explain the resulting benefits as well as highlight the market demand, applications and sources.

What Is SIP Trunking?

Let's break SIP trunking down into its component parts:
- SIP is an acronym for session initiation protocol, a standard protocol set by the Internet Engineering Task Force (IETF) that signals between systems, enabling endpoints to initiate, modify and terminate Internet telephone calls, chat or conferencing sessions.
- Trunking lets multiple users share network assets by defining access rules for lines, frequencies or bandwidth.

So, together, SIP trunking allows multiple users to share network assets as defined by SIP.

As a practical matter, SIP trunking creates a connection from a company's private branch exchange (PBX) to the Internet, enabling the Internet to replace the conventional public switched telephone network (PSTN) and allowing business users to communicate via Internet Protocol.

SIP trunking is deployed over a data connection that can be a dedicated line, a shared connection or the Internet. It is delivered by a service provider either as an overlay service to existing broadband access (wireline/wireless, DSL, cable, T1/E1, Ethernet, etc.) or bundled with its IP network. SIP trunking works with a SIP-ready PBX or with traditional analog or key business telephony systems by adding an integrated access device.

SIP trunking can support voice calls, conference calls, multimedia and more. It also allows transmission of call-related information (such as caller ID), enabling enhanced features.

How SIP Trunking Works

SIP trunking creates a connection from a company's private branch exchange (PBX) to the Internet. SIP trunking works with a SIP-ready PBX or with traditional analog or key business telephony systems by adding an integrated access device (IAD).
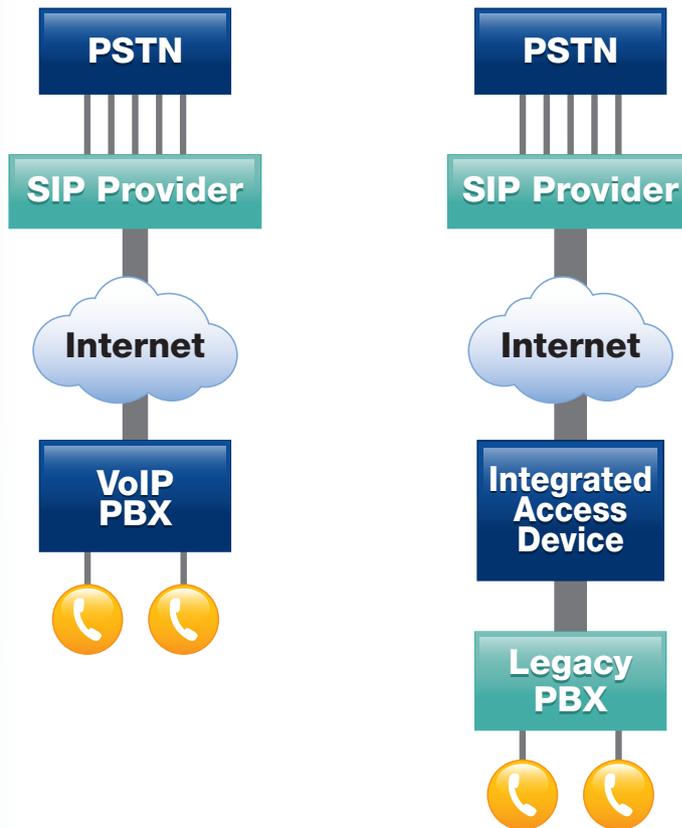
What Is the Demand for SIP Trunking?

The use of SIP trunking is growing among businesses, according to data published in March 2012 by Infonetics Research, which found a third of North American enterprises use SIP trunks today and 42 percent plan to do so by 2014. While traditional TDM-based technologies like PRI trunks still dominate the trunking market, Infonetics noted that businesses are moving to IP-based PBX on-premises, making it even easier for them to switch to SIP trunking.

Another research firm, Frost & Sullivan, said the SIP trunking market was about 7.2 million users in 2010, but will grow at an annual compound growth rate of about 35 percent and eventually connect some 59.1 million users by 2017.

SIP Trunking Users Growth Forecast — 2010-2017
(in Millions)

2010
7.2

2017
59.1

Source: Frost & Sullivan, October 2011

How Does SIP Trunking Create Business Value?

Reducing Costs

Cost savings has been the primary driver for businesses to migrate to SIP trunking. There are many ways that SIP trunking can help reduce costs, such as:

Eliminating dedicated circuits. SIP trunking eliminates the need for traditional analog and digital trunk facilities and allows communications traffic to be routed over data connections, including the public Internet.

Consolidating PBX needs. Because SIP enables communications across the Internet as easily as a corporate LAN without the need for dedicated circuits, a multilocation business can use one centrally located IP PBX instead of installing separate PBXs at each site.

SIP Trunking Eliminates Dedicated Lines

Public Switched Telephone Network

Dedicated Copper Lines

PBX
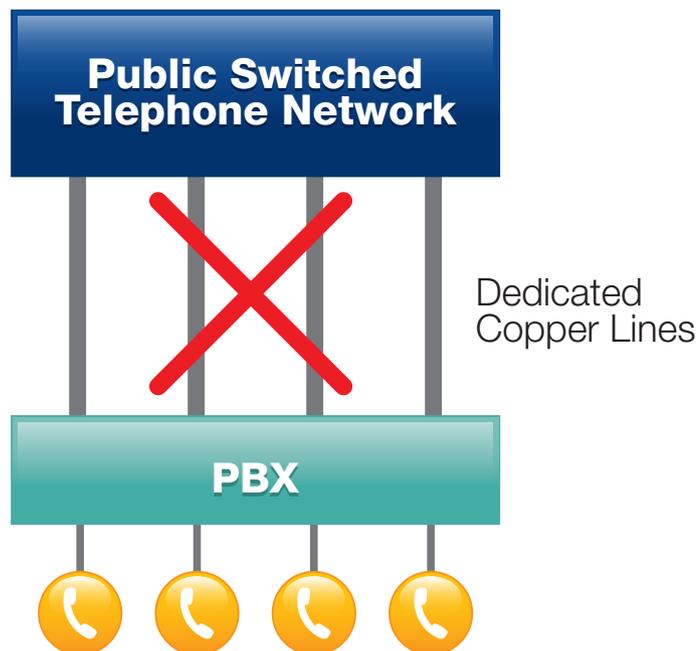
Optimizing Assets

A SIP trunk can carry unlimited voice calls versus a traditional PRI trunk that can accommodate only 24 calls per channel. That means companies are no longer restricted by the number of calls that can be handled; with SIP trunking, concurrent calls are limited only by the amount of bandwidth available. This optimizes assets by:

Aligning with usage needs. This also allows companies to right-size their communications. SIP trunking service typically is sold as call paths. Instead of buying 24 channels with a PRI, businesses can purchase a smaller or greater number in more granular increments — as few as a single call path, depending on the provider's pricing plan. To expand, customers need only buy additional call paths and make sure their broadband connection will support the increase. SMBs and enterprise branch offices with smaller requirements can be supported more cost-effectively with SIP trunking than a TDM alternative.

Supporting burstability. Some providers also offer "burstable" SIP trunking, which allows a business to temporarily use more concurrent call paths than provisioned to accommodate bursts of traffic due to seasonal calling changes or temporary marketing campaigns, as two examples.

SIP Trunking vs. PRI Trunking
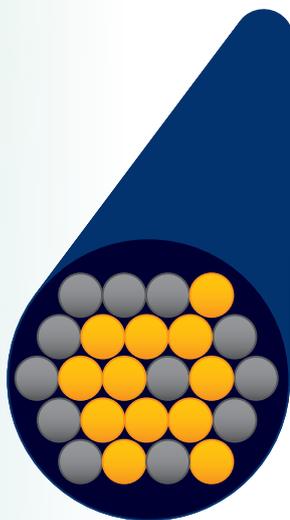
PRIs include 23 channels for calls and 1 for signaling. If a customer requires only 12 concurrent calls, the remaining channels go unused.

A SIP trunk can carry unlimited calls (aka call paths). If a customer needs only 12, they buy 12 concurrent call paths.

⬤ Concurrent Calls

⬤ Unused Channel

Creating Efficiencies

SIP trunking also makes more efficient use of communications assets by:

Converging voice and data networks. SIP trunking also enables companies to converge local, long-distance, toll-free, and voice and data traffic for greater efficiencies.

Dynamically allocating bandwidth. Similarly, it allows for dynamic allocation of bandwidth for voice and data services, giving priority to the real-time traffic, but not requiring paths to be reserved for a specific traffic type.

SIP Trunking Dynamicallly Allocates Voice & Data

SIP trunking enables both voice and data traffic over the same connection, allocating bandwidth as demand fluctuates during the day.

10 a.m.   **3 p.m.**

■ Voice   ■ Data
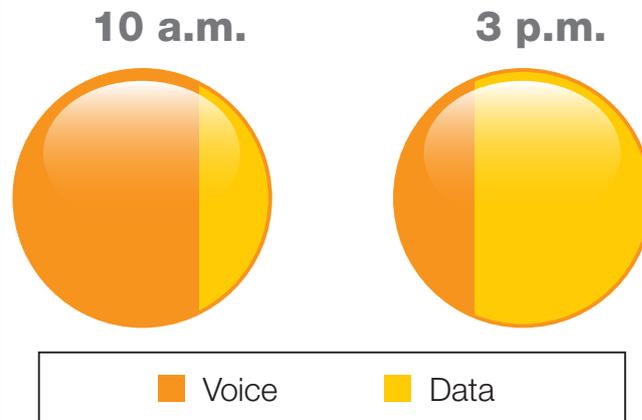
Dynamically balancing loads. SIP also enables traffic to be balanced across multiple locations as in the case of call centers located in different parts of the country, thus eliminating the need for more connections and personnel at each center to cover peak call times.

Streamlining Management

The preceding hard cost savings are paired with some soft cost savings in terms of managing the communications network and its providers by:

Centralizing communications management. The virtual nature of SIP trunking provides for centralization of communications, tying remote locations to a centralized IP PBX or corporate network hub.

Reducing need for multiple providers. SIP trunking decreases the need for regional or application-specific service providers. Moving to fewer service providers and potentially a centralized bill is a potential customer benefit, particularly for larger multilocation companies.

SIP Centralizes PBX Management

Branch Offices

SIP Trunks

Corporate Headquarters With Central PBX
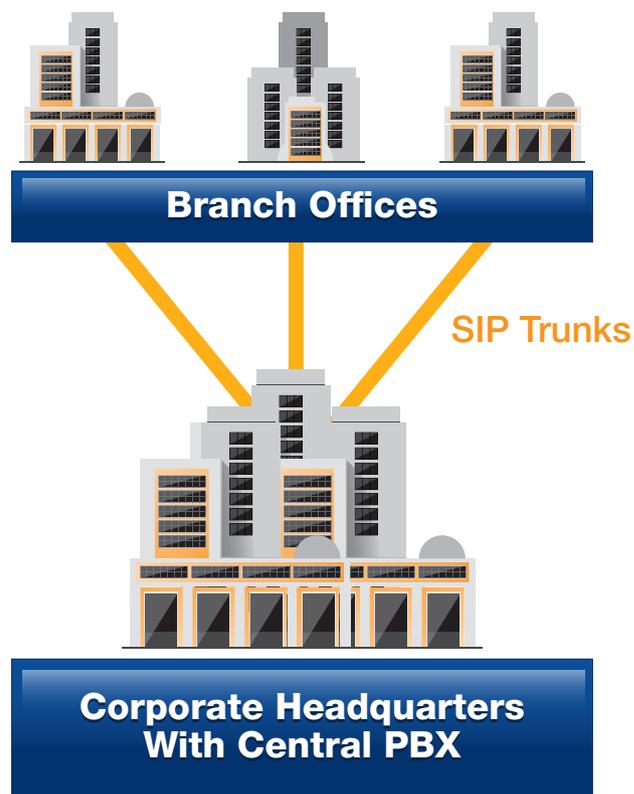
What Applications Does SIP Trunking Support?

SIP trunking offers other benefits as a result of its support for call control such as:

Business continuity. SIP can be programmed to automatically forward to mobile phones or alternative DIDs if the IP PBX, IAD or media gateway cannot be reached, ensuring that customer calls are not dropped or unanswered.

Unified communications. SIP is the standard protocol for VoIP, but it was originally designed to initiate all types of real-time communications, including presence, IM, application sharing, white-boarding, video conferencing and more.

SIP Trunking Enables Unified Communications

Call Centers. SIP trunking allows call centers to eliminate toll-free numbers while maintaining a national service area. Instead of toll-free numbers, calls forward to local DID numbers; there is no per-minute charge for the incoming call, so the cost savings are huge. If the call center equipment does not support SIP trunking natively, a T1 gateway must be used. Call centers also can increase performance by using SIP to enable new routing, tracking and call transfer functionality. SIP-enabled VoIP systems also enable integration with digital communications, such as Web-based click to call.

Office Consolidation. Many companies have to close offices due to downsizing or mergers/acquisitions. By using SIP trunking, businesses can retain the telephone numbers for the locations that need to close and have them ring into headquarters. This allows the customer to maintain a local image via the telephone number but to consolidate facilities, staff and gain economies of scale.

Virtual Presence. Similarly, a company can create new "virtual" presences with telephone numbers from cities within the U.S. and internationally.

SIP Trunking Enables Virtual Presence

What Are the Challenges With SIP Trunking?

While SIP trunking offers many advantages to business customers, it's also not a sure thing. Here are some common objections and/or sales impediments and possible solutions:

Faxing. SIP still does not work well for faxing despite some providers' claims. To get around this many customers keep a POTS line for their fax line and alarm monitoring systems.

Security. Because SIP is running over the data network on an open channel, it is vulnerable to hackers, which wasn't an issue with legacy dedicated circuits. Anti-intrusion measures must be implemented at the service provider and LAN level.

Interoperability. Despite following the SIP standard, not all SIP trunking services are the same. Implementation of the SIP standard can vary, so interoperability with vendor gear is not always assured. Look for SIP trunking providers that have pre-certified interoperability with the major IP PBX suppliers.

Where Can I Source SIP Trunking?

As a reminder, SIP trunking is delivered by a service provider either as an overlay service to existing broadband access (wireline/wireless, DSL, cable, T1/E1, Ethernet, etc.) or bundled with its IP network.

The suppliers of SIP trunking include both incumbent and competitive providers, including Internet telephony service providers. Incumbent providers do not dominate the landscape today as they do in traditional voice services; this may be due in part to the fact that SIP trunking cannibalizes their installed base of traditional TDM-based services. Many competitive providers are network resellers that specialize in SIP trunking and offer attractive pricing and features specifically to take advantage of SIP capabilities.

Not all SIP trunking services are the same. Implementation of the SIP standard can vary, so interoperability with vendor gear is not always assured. The industry has been working to resolve this issue and in March 2011, the SIP Forum ratified Version 1.1 of the SIPconnect Technical Recommendation to provide a definitive and standardized set of guidelines for seamless, end-to-end interoperability between SIP-enabled IP PBXs and service provider networks.

Aside from their facilities and interoperability, providers can vary on a number of fronts, here are some questions you might ask a prospective supplier:

- Do you own your infrastructure or are you reselling?
- What gear does your network interoperate with?
- Do you have a lab to test PBX and/or SBC upgrades?
- What is your experience delivering business VoIP?
- What are your business continuity options?
- What reporting and administrative tools are available?
- Can you move existing numbers to your network?
- Can you support emergency services?
- Do you provide technical support?
- What choice of codecs do you offer?
- What network security is in place?
- Do you handle the install?
- Do you provide the session border controller?
- Do you help configure the PBX?
- Do you offer SLAs?
- Do you offer a trial period for testing?

About

The Author

Khali Henderson is editor-in-chief of Channel Partners, a leading media brand in VIRGO Publishing's Communications Network. Henderson has more than 20 years experience in journalism, covering the communications and IT sectors, including its technology and channels. She has been contributing to Channel Partners as a reporter, editor and freelance writer since 1988 and has been its editor-in-chief since 1998. Henderson's career also includes seven years in public relations during which time her client list included the Telecommunications Resellers Association (now COMPTEL). She has a bachelor's degree from Arizona State University's Walter Cronkite School of Journalism.

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