The SIP Trunking Buyer's Guide:

- Intro by expertIP editor Shane Schick
- Five new customer case studies

allstream

EXPANDED 2013 EDITION

The SIP Trunking Buyer's Guide:

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Why and how you can use Allstream's SIP trunking eBook

Shane Schick, editor, expertIP

Last year Allstream kicked off a national conversation about the art of the possible in unified communications. That conversation included webinars, live events, an online calculator and dozens of posts and videos on Allstream's online community, expertIP. The most popular resource Allstream offered, however, was this eBook, and as the conversation about SIP trunking continues in a more strategic direction in 2013, the eBook deserves an upgrade.

New in 2013:

Among other things, we've added the following to the Expanded 2013 Edition:

- Five updated case studies that show how Canadian organizations are creating value through the deployment of SIP trunking.
- An in-depth guide to using SIP trunking to develop the broader business case for next-generation IP telephony.
- Links to free downloads that will help IT departments execute SIP trunking projects quickly and easily.

May the converging forces be with you, not against you

Smart readers will use this eBook to not only address network pain points today, but pave the way for innovation tomorrow. There are many ways to do that, but Allstream has identified at least three converging forces that could present opportunities or challenges, depending on how CIOs address them. They include:

- Collaboration, whether among distributed teams or between companies and their customers, is critical in an age of social media and real-time communications.
- Mobility enhances collaboration by providing secure access to information anywhere, at any time, to any device.
- Virtualization offers the kind of flexible, dynamic resource allocation of IT resources that makes both mobility and collaboration possible.

Of course, confronting the converging forces of collaboration, mobility and virtualization can be daunting for even the most experienced CIO. You have to start somewhere. Establishing a single, smart network that can run through to the Internet, the PSTN and the data centre simultaneously can provide the foundation for capitalizing on all three converging forces, and many others that will come later.

Experience counts

Allstream brought SIP trunking to Canada at a time when cost reduction and simplification of IT infrastructure were among the biggest pressures placed on Canadian IT departments. It's the reason SIP trunking made sense to many early adopters within Allstream's customer base. With voice and data moving over a single network, many multi-site organizations almost immediately saw their monthly expenses drop as well as increased productivity. The converging forces are a good way of thinking about how to extend the SIP trunking best practices in this eBook to accomplish even more.

A great conversation is more than the combination of voice and data, of course. It's something that informs, educates and inspires all parties involved. Hopefully this updated version of Allstream's eBook will do the same.

Shane Schick, editor, expertIP

1. Getting Started: SIP Trunking 101

"SIP is a profound change and it breaks the mould of 100 years of phone service. With SIP, phone numbers are no longer tied to fixed locations and circuits, allowing greater speed and flexibility in configuring a phone network. This lets a company respond faster to growth or changes in its market and have more comprehensive contingency planning"

– Bruce McKay, Solution Marketing Manager, Allstream

An Overview

Most businesses run standard PBX or key systems that are supplemented by trunk side access services purchased from traditional telephony providers (also known as TDM trunking). T1, PRI, BRI and analog lines typically handle voice traffic to and from the Public Switched Telephone Network (PSTN).

In this situation, businesses must manage each voice and data connection and network separately. This separation creates the need for multiple infrastructures, cabling systems, maintenance processes and subscription fees. Running multiple networks also results in a high degree of inflexibility, as the networks don't work with each other to help businesses scale and adapt to new technology.

Session Initiation Protocol (SIP) trunking uses IP and Internet technologies to converge voice and data traffic over a single network. It allows businesses to connect an IP PBX to the PSTN via a service provider IP access circuit. As a result, businesses will no longer need traditional PSTN circuits. Just one IP access can handle a variety of communications including VoIP, interoffice voice communication, data traffic and Internet traffic.

"Although cost reduction is important, sometimes it's not the primary driver, a lot of companies want to take advantage of advanced communications technologies."

– **Melanie Turek**, Industry Director, Information Communications Technologies, Frost & Sullivan

Why Choose SIP Over Other VoIP Protocols?

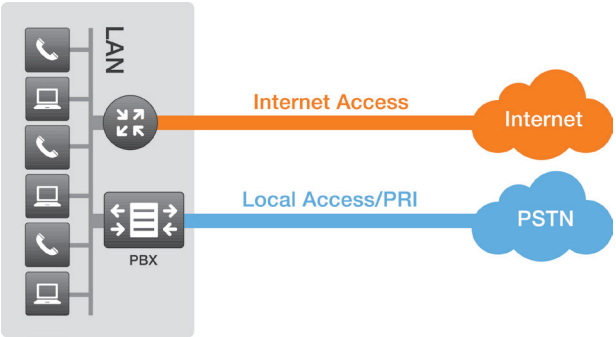
VoIP technology allows you to make and receive phone calls over IP networks such as an MPLS network or the Internet. SIP is a signalling protocol that excels at establishing, managing and terminating real time communications such as voice, video and other media sessions. Here are three key advantages of SIP:

- SIP addresses the shortcomings of traditional phone lines, delivering additional cost savings and productivity benefits to businesses with IP telephony investments.
- Businesses deploying SIP trunking today are likely to enjoy accelerated growth and greater profitability through operational efficiencies and a more productive workforce.
- SIP can add value to existing communications investments and boost an organization's long-term competitive positioning.
- SIP enables businesses to get more from unified communications by enabling end-to-end IP connectivity throughout the organization, making UC features more accessible, efficient, and easier and less expensive to manage.

Typical SIP Implementation Scenarios

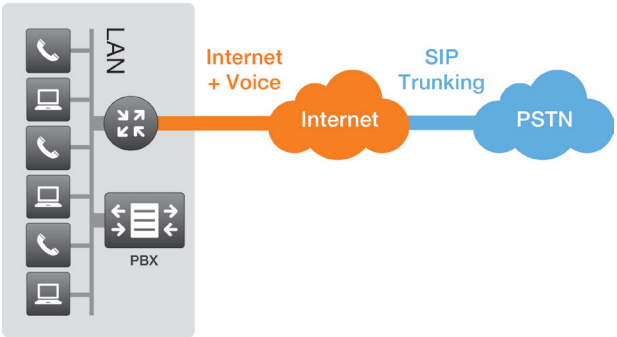
The diagrams below depict a typical SIP trunking implementation for a single site location and a business with multiple locations.

Single Location Business With Internet Access: Before



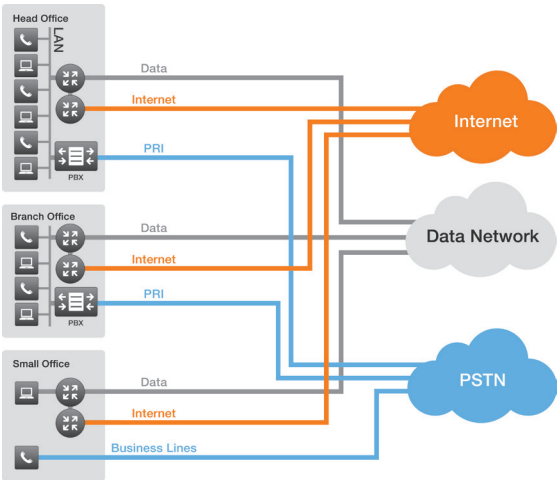
Before: Office computers and telephones run on a LAN, with a data connection to the Internet and voice to the PSTN via a PBX.

Single Location Business With Internet Access: After



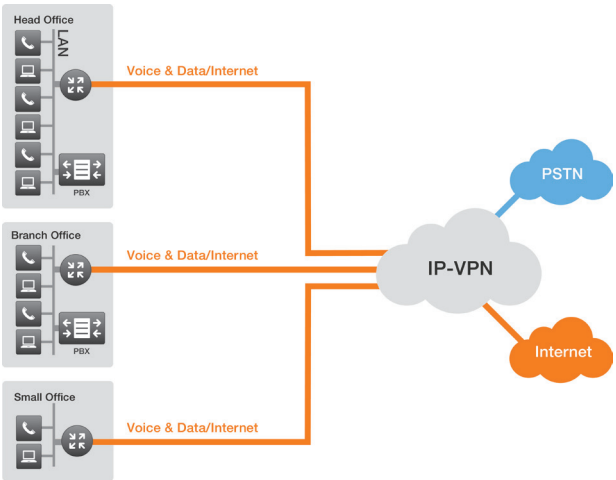
After: Telephone calls are now made through the Internet, which is connected to the PSTN and out to the world via a SIP trunk. You no longer need a dedicated voice connection to the PSTN, reducing costs, simplifying network management time and maintenance, and increasing efficiency.

Multi Location Business: Before



Before: Multiple offices connected by a data network, with each location managing its own connections to the Internet and to the PSTN through multiple PBXs. Voice and data are run over separate networks, leading to duplication of equipment and connection points.

Multi Location Business: After



After: An IP VPN has been deployed, simplifying the network, controlling costs and improving business flexibility. That data network is then connected to the PSTN via a SIP trunk, eliminating the need for PBX connections at each office. The data network now carries voice traffic, with business continuity through automated failover capability in case of network failure.

The Leading Benefits of SIP Trunking

In 2011, Frost & Sullivan surveyed 205 C-level executives about their investment decisions in communications and collaboration products and services. The study revealed that businesses primarily deploy IP telephony to reduce costs and enhance employee mobility.

However, SIP trunking can also help unify your communications to give you a tremendous competitive advantage. Companies using legacy networks risk falling behind competitors that have upgraded to SIP, because traditional telephony cannot deliver the many benefits of SIP trunking. Legacy networks also have limited call redirection capabilities, which increases the threat of downtime that can cripple your business.

Here are some of the key benefits of SIP:

1 Improve Business Flexibility

Perhaps the biggest benefit of SIP trunking is that it substantially improves business flexibility. Because SIP trunking is not tied to specific locations, it allows you to maintain a virtual presence in any area where your provider offers service. For example, if your headquarters are located in Vancouver, but you want to launch a marketing campaign in Montreal, you can use Montreal phone numbers even if you do not have an office or telephone lines there.

When you open a new office, you can activate telephone numbers for that region before the site opens. SIP trunks may be used to consolidate all of your switches into one or two physical locations so you don't need to buy voice circuits in every city where you have an office. This provides you with a faster time-to-market and is a cost-effective way to build a presence in a new location before you are up and running.

2 Support Your Remote Workforce

In today's mobile economy, employees rarely spend all of their time at the office. According to Frost & Sullivan, 85% of companies have remote employees. SIP trunking gives you the technology to support your remote workers while maintaining a professional presence. For example, a customer can call a remote employee's single reach number, and the call will automatically be routed to the employee's cell phone. This makes it look like your remote workers are in the office, even when they are working from home.

Enabling employees to work remotely can also help you save on office space and equipment, as you won't need a phone line or desk for everyone in your company.

"Many companies are now going global, when five years ago, they didn't have the technology to be global, this makes them look at their technology infrastructure and ask how they can enable communications in a way that makes them more productive."

– **Melanie Turek**, Industry Director, Information Communications Technologies, Frost & Sullivan

3 Maximize Unified Communications Performance

SIP trunking provides an optimized environment for advanced unified communications capabilities by eliminating many of the inefficiencies of traditional TDM telephony and PRI circuits and streamlining the integration of voice with other network applications. With a SIP infrastructure in place, an enterprise can simultaneously deploy UC apps like presence, instant messaging, video-conferencing, common virtual white-boarding and more, maximizing UC capabilities and bringing significant productivity gains.

SIP also helps provide the cross-functionality necessary to extend UC solutions to the devices that employees are using at work and bringing to work. SIP trunking can even extend some UC applications such as presence beyond the LAN. For instance, with a SIP-enabled network in place you can configure presence to reveal the status not only of coworkers, but also clients and partners outside the organization. The potential for efficiently converging advanced communications capabilities onto a single IP network is so great that many technology manufacturers are developing their future UC and collaboration applications to run over SIP-enabled network infrastructures.

4 Reduce Costs

A key driver that propels businesses towards SIP trunking is cost savings. Converging your voice and data onto one network allows you to cancel subscriptions to multiple voice circuits, which results in significant savings on long distance and hardware costs. For instance, using SIP trunking eliminates the need for every location to have a PBX. You can further control costs by buying only the bandwidth you need and sharing it between voice and data.

5 Enhance Network Productivity

SIP trunking is an enabling service that consolidates networks and lets them work together. By centralizing your voice and data, you can eliminate excess equipment, make your network more efficient and spend less time on management.

6 Strengthen Reliability

SIP trunking allows you to centralize business continuity and disaster recovery. When a traditional network is interrupted, you must manually re-route it. With SIP, if the power goes down in one office, the network can automatically redirect calls to another site without disrupting business. Because SIP trunking vastly reduces the need to have hardware at all locations, phone service is also more reliable as potential points of failure are eliminated.

SIP trunking can also enhance the return on your existing investments. When businesses that have invested in IP networking technology adopt SIP trunking, they achieve a number of cost and efficiency benefits that can accelerate the payback on those investments.

"SIP provides a basis and framework to go way beyond just voice, as people look at unified communications and ways to expand how they do business – through things like video and collaboration – an IP infrastructure that utilizes SIP helps to make that happen."

– **Grant Bykowy**, Director, Voice and IP Communications Strategy, Allstream

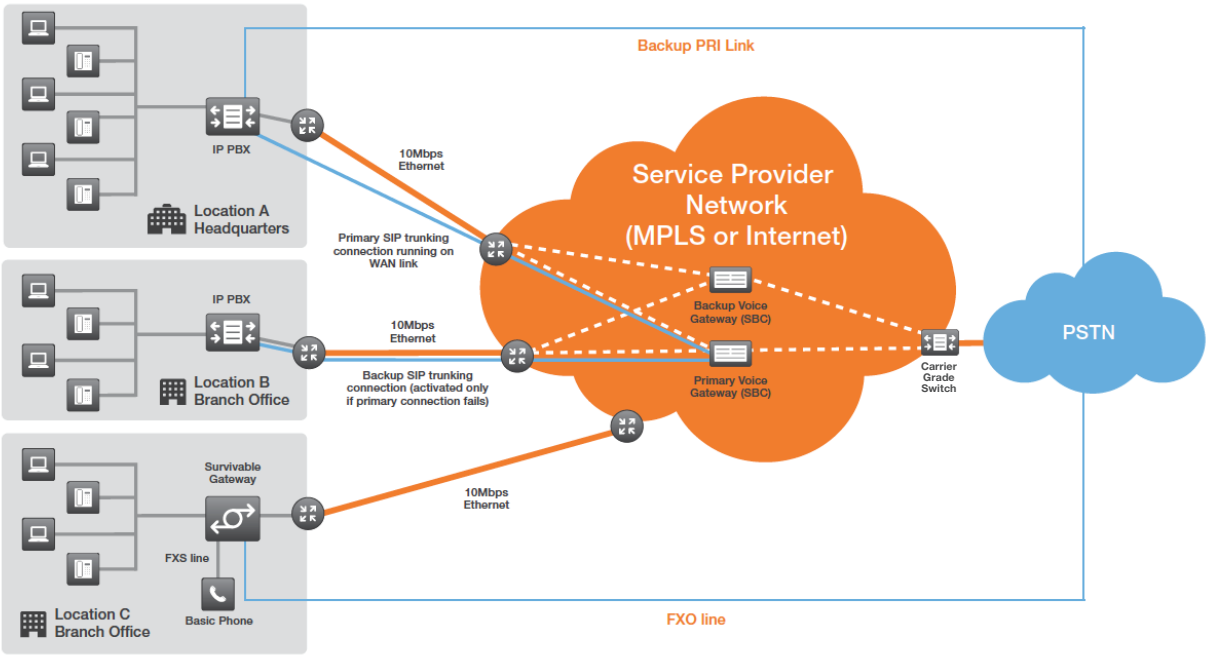
Related Resources

- Try this convenient ROI calculator
- Watch this video to learn more about the business benefits of SIP trunking
- More benefits of SIP at allstream.com
- Watch the SIP Trunking: Take Your UC Strategy to the Next Level webinar
- Download this free Allstream white paper on best practices for deploying UC with SIP

Business Continuity for Your SIP-enabled Network

SIP trunking lets you centralize your business continuity and disaster recovery facilities, greatly improving your ability to keep your business running during a crisis or outage and enabling faster recovery times. Like any technology, SIP trunks can be disrupted by outages or disasters, but with an effective business continuity plan in place, you can continue to communicate internally and to your customers, partners and suppliers even when those trunks are affected.

The diagram below illustrates a typical SIP trunking-based enterprise communications network protected by key business continuity features that guard against SIP trunking connectivity outages. The enterprise operates one headquarters and two branch locations. Its main connection to the PSTN is through SIP trunks that connect to a service provider's network that provides Wide Area Network (WAN) connectivity for all three locations.



The implementation scenario depicted in the diagram can be expanded to incorporate multiple branch offices without changing any of the key features.

Service Protection Features

Protection in case of inaccessibility of a service provider voice gateway
The SIP trunks typically connect to the primary voice gateway implemented through the deployment of a session border controller (SBC). Should the primary voice gateway become inaccessible, SIP traffic is rerouted to the backup voice gateway, also implemented through an SBC. The service provider will typically place the backup SBC in a different geographical area and will work with the customer to ensure that failover to the backup SBC and fail back to the primary SBC takes place automatically.

Protection in case of loss of IP connectivity at the headquarters
In the diagram, the enterprise headquarters is connected to the service provider network through a 10MBps Ethernet connection. If the connection to the headquarters fails, the SIP trunks are engineered to terminate using the backup SIP trunk connection to the IP PBX at location B. The PBX at location B will then control all voice communications for locations B and C. At the headquarters, the enterprise can still connect to the service provider through a backup PRI connection.

When a backup PRI is not available, other strategies to provide redundancy for the SIP trunks may be employed. In this case, the SIP trunking connectivity may be protected, together with other data applications, through the availability of a secondary WAN access connection. To ensure maximum diversity, the secondary WAN connection should use a different access technology (wireless, DSL, Internet) and in some cases a different service provider.

Protection in case of total loss of IP connectivity at a branch location
Location C does not have an on premise PBX. During normal operations all SIP terminals (phones included) are registered with the IP PBX at the headquarters and rely on that system for call routing and processing. If the WAN connection at location C fails, a survivable gateway device that interfaces between SIP terminals and the WAN can act as a mini-PBX to register local SIP terminals and to process local calls. The connection to the PSTN is maintained through an FXO line that is connected to the survivable gateway.

Protection against loss of power
If electrical power is lost at location C, the survivable gateway can provide a “fail to wire” FXS interface that allows the connection of a basic telephone set. This phone set can then be used to make basic calls to the PSTN by using the FXO line. In many cases the survivable gateway and the edge router are implemented on a single device allowing for a very simple deployment.

For more information on protecting your SIP-enabled network against an outage or disaster, download this free Allstream white paper.

2. Getting Ready For Deployment

Are You Ready for SIP Trunking?

While SIP trunking can provide your business with many benefits, you must first determine if you have the systems and resources necessary to achieve these benefits. A network assessment can let you know if you are ready for SIP trunking.

9 Questions to Ask During a Network Assessment

1 How many locations do you have?

2 What is the size of your WAN network?

3 How many phone connections and lines do you have?

4 Is your existing equipment outdated?

5 Do you have enough bandwidth?

6 Do you have IP PBXs?

7 Are your PBXs SIP-enabled?

8 Are your phones SIP-enabled?

9 Are you talking to a service provider who can meet your needs?

The Minimum Requirements for SIP Trunking Implementation

→ SIP capable telephony equipment such as an IP-PBX or trunk gateway.

→ An IP communications infrastructure, typically an MPLS network or high-speed Internet connection.

Whether you are an SMB or an enterprise, a good provider should be able to give you a scalable solution that meets your needs.

The 5 Biggest SIP Implementation Mistakes

Although SIP trunking can bring you tremendous benefits, there are a number of pitfalls that can slow your time to market and create management hassles. Here are five of the biggest SIP implementation mistakes.

1 Not Gaining a Holistic View of Your Telecom Environment

Before you implement SIP, you must first understand what systems and features you already have. You should also understand your calling patterns (e.g. the number of local vs. long distance calls and the number of interoffice calls vs. calls to the outside world).

2 Failing to Ask Your Users What They Want

It's critical to understand what your end users want from their communications. For example, many employees are now accessing corporate data through their mobile devices, so you may need to use SIP trunking to support a bring your own device (BYOD) program. Your end users may also want to take advantage of advanced communications tools such as video, instant messaging and web collaboration.

"Even through you may not be ready to deploy these advanced communications today, you should think about what you want to do with them in the future," says Turek.

You should also learn what your end users are doing to get around your corporate network to meet their communications needs. These work-arounds can create security problems, so they must be addressed.

3 Choosing a SIP Provider Who Does Not Have Processes for Handling Problems

You and your SIP provider should think through any "what if" scenarios. For example, what will your provider do if the SIP trunk fails or a power outage occurs? Your vendor should be able to address any issue, work with you to define business continuity provisions, and keep you up-and-running during a disaster.

4 Not Giving Voice Traffic Priority

Your SIP provider should ensure that your voice traffic gets priority over other forms of traffic. This will ensure that your phone calls are always clear and your users don't notice a drop in quality after you implement SIP. If you want to run video over your network, you should also consider a service provider that can support multiple classes of service to assign the appropriate priority to video, voice and data traffic.

5 Failing to Consider Administration and Billing

Some organizations have administration or billing issues after they switch to SIP trunking, as their internal processes need to consider the new technology. For example, a multi-location organization may send one office a huge phone bill for all of its sites, while its other offices don't receive any phone bills. These issues need to be reconciled internally so people know that they are being charged the right amounts.

Most of these mistakes can be avoided with proper planning. It's important to work with a knowledgeable provider who can guide you through the process and consider all of your business and technology needs.

What to Look for in a Vendor
(Why All SIP Providers Are Not Created Equal)

With the growth of the SIP trunking market, many providers – both established and new – claim to offer the best services. All of these options can make it challenging to cut through the fluff and find someone who can help you realize the benefits of SIP trunking. Below are five key qualities to look for in a SIP trunking service provider:

Quality

Running your voice traffic on a data network helps you save money, but when you do so, you must make sure the voice traffic gets priority. This will ensure that your voice is always clear and your users do not complain about bad connections. A SIP trunking provider that owns and operates their network can provide you with the best quality service. In addition, good SIP trunking providers can tag voice packets with class of service (CoS) markers to give them priority over other forms of data on your network.

Network

SIP trunking connects your private voice network to the public phone network via a SIP enabled connection. A SIP trunking provider that owns and operates national voice and IP data networks can route calls with fewer handoffs or points of interconnection. This can ensure you get the best quality service that is easy to manage and support.

Interoperability

SIP is an extensible open signaling protocol, which allows developers flexibility on implementation details. Because of this flexibility, it is important that your SIP trunking provider has an interoperability lab and equipment certification program. Leading providers certify platforms from major UC vendors such as Cisco, Mitel and Avaya to ensure that equipment will function properly with their network. SIP trunking providers should also offer interoperability testing for custom applications or non-certified equipment, and advise you on any potential issues with your communication network.

Experience

As more organizations are discovering the benefits of SIP trunking, more vendors are launching new solutions. Look for a provider with a mature product, as this shows that they are committed to SIP. A vendor who has experience deploying SIP can help you use it to super-power your unified communications (UC) infrastructure.

Value

Select not only a SIP provider, but a trusted advisor. Your SIP trunking provider should not only sell the product, but also help you quantify and qualify the benefits for your organization. Each industry will achieve different benefits from SIP trunking, and your vendor should be able to explain your specific cost and operational benefits.

Proven Processes

Ensure that your SIP provider has processes for handling problems and meeting new requirements. They should provide you with a roadmap, support your needs and integrate with your existing systems. During the architecture and design phases, you and your SIP trunking provider should think through any “what if” scenarios. For example, what will your provider do if the SIP trunk fails? Your vendor should have solid processes for addressing any issues.

Your SIP trunking provider should also make your implementation as low-risk and efficient as possible. They should provide you with a single point of contact for all of your questions and concerns. Their project plan must allow you to focus on your core business while they focus on testing, project management and simplifying your complex networks.

Security

SIP is a new form of traffic that will need to run on your data network – one that your network may not recognize. Most Internet-based deployments require firewall updates or the deployment of a SIP-aware gateway or session border controller. For greater security, a private IP-VPN network service can completely protect your traffic from Internet-based threats. Your SIP trunking provider should guide you through your options and recommend the most appropriate solution.

3. Resources

The Top 7 Questions about SIP Trunking

1

"I've just upgraded my legacy equipment. Will I need to replace it if I move to SIP?"

VoIP and SIP are very flexible, allowing a variety of implementation options to help you unify your communications, streamline your networks and achieve cost savings. Many IP-PBXs already support SIP trunking. Trunk gateways are also available to integrate SIP trunking with non-SIP capable equipment. Many equipment vendors have upgrade options for legacy equipment. Make sure that your SIP provider understands not just the technology, but also the business benefits that you hope to achieve. A knowledgeable vendor can help you maximize your SIP success.

You also don't need to move your entire enterprise to SIP all at once. You can start with one office or region – perhaps one with outdated equipment – and build upon your success later.

2

"Do I need VoIP to have SIP?"

Most companies that implement SIP trunking already have VoIP services. However, you don't need VoIP to gain the benefits of SIP. You can use traditional telephony and integrate SIP trunking via a gateway to make your network more efficient.

3

"Will a VoIP phone look, act and sound like a regular phone?"

In short … yes. With VoIP, you can still pick up a phone and make a call – just as you have done in the past. VoIP call quality should be as high as a phone call made over a traditional phone line. Just be sure that your SIP provider can tag your packets with class of service (CoS) markers to ensure that your voice traffic gets priority over other forms of data on your network.

4

"Will I need to let my IT staff go after I gain the efficiencies of SIP?"

SIP trunking simplifies your networks and eliminates some of the complexity that comes with managing a growing number of applications and devices. With a streamlined network, your IT professionals can focus on other areas that add business value, as opposed to being tied down managing network operations.

5

"Can I keep my calls and information secure when I switch to an IP network that routes everything through the Internet?"

Before you implement SIP, you need to look at your network to determine if you are ready to carry voice traffic over the Internet. You may need to upgrade your network, update your firewalls or change your policies. The deployment of a SIP-aware gateway or session border controller is also required for most Internet-based deployments. For greater security, a private IP-VPN network service can completely protect your traffic from Internet-based threats. Your SIP trunking provider should guide you through your options and recommend the best solution.

6

"What happens if the network goes down or a disaster occurs?"

One of the biggest concerns about SIP is quality of service and what will happen to voice if the Internet crashes. SIP centralizes your business continuity and disaster recovery, which enables you to stay up and running if your network goes down or if a disaster occurs. For example, when a traditional network is interrupted, you must manually reroute it. With SIP, if the power goes down in one office, the network can automatically redirect calls to another site without disrupting business. SIP trunking also reduces the amount of hardware you need, which eliminates potential points of failure and makes your phone service more reliable.

7

"Can my SMB take advantage of SIP trunking?"

An increasing number of SMBs are turning to SIP trunking to gain the same advantages that enterprises are seeking – such as increased savings and efficiencies. SIP can allow SMBs to manage costs more efficiently, extend into new markets and support remote workers. Achieving these benefits can also help SMBs compete with larger businesses, as they'll have the same technologies and access to new markets. Your provider should offer access to SIP trunking through your existing Internet connection, even if you don't have an MPLS network. Just ensure that your SIP provider doesn't treat you like a smaller version of a big business. They should provide a service that is customized for your needs, size and number of locations.

Related Resources

- More SIP trunking questions answered at allstream.com
- Read articles on SIP trunking at expertIP
- View the SIP Trunking: Take Your UC Strategy to the Next Level webinar
- View the The IT Manager's Guide to Voice and Data Convergence webinar

Case Studies: SIP in Action

I. Optimus Tech Solutions

II. Chandos

III. JVS Toronto

IV. Thomson Tremblay

V. IA Clarington Investments

I. Optimus Tech Solutions

Company

With 300 clients in the Greater Toronto Area and an expanding national presence, Optimus Tech Solutions offers a comprehensive portfolio of IT implementation and support services for small-to-medium businesses.

Network Challenge

Committed to implementing a SIP telephone and trunking solution in a short time frame, Optimus Tech Solutions needed a provider with deep technical knowledge and a cooperative work model.

Solution

Optimus Tech Solutions now has an Allstream SIP phone solution in place, including SIP phones and trunks, which fully enables mobility and home office functionality while maintaining main office presence.

Results

By partnering with Allstream, Optimus Tech Solutions was able to fully converge its technologies on a single unified communications platform and:

- Enable 70 users (from Optimus Tech Solutions and its sister company) to work continuously on integrated desk phones, laptops and cell phones for approximately $500/month.
- Cut out the majority of its long distance expenses.
- Improve customer service and representative availability across the organization.
- Demonstrate its commitment to “bleeding edge” technology to its clients. Leverage platform scalability to implement new features and functionality on an ongoing basis.

“We were able to partner with Allstream on perfecting and customizing this solution. Now we have complete system flexibility and control. We got exactly what we wanted”

– **Peter Daher**, Partner, Optimus Tech Solutions.

II. Chandos: Construction Solutions Provider

CHANDOS

Company

Chandos is an Alberta-based contractor and construction solutions provider with several locations and multiple long-term project sites.

Network Challenge

Burdened by unreliable VPN and IP services, Chandos needed one provider to deliver an integrated data and voice solution to connect head office and on-the-job employees. Its older, multi-vendor solutions—an Internet-based VPN and a consistently undependable VoIP system— weren't up to the task. Bandwidth clogs limited data transmission and application availability, while voice technology was feature-heavy but performance-light.

Solution

Chandos's full suite of Allstream services — including an MPLS network with Managed Services, SIP trunking, Allstream Shield, IP telephony and Secure Connect— now provides seamless data and voice across the organization. All offices connect across a LAN that has complete single-point security with Allstream Secure Connect, as well as enhanced speed, simplified troubleshooting, secure mobile VPN access and improved application performance.

Results

Chandos's comprehensive Allstream solution has:

- Reduced help desk calls by at least 30%.
- Consolidated network costs.
- Reduced environmental footprint with fewer offices and more virtual workspace.
- Limited costly downtime by increasing capacity and redundancy.
- Increased employee productivity with improved work flexibility and mobility options.

"Since the unqualified success of the Chandos solution, we've come to rely on Allstream as an elite partner. We recommend them all the time."

– Jaycen Kuehn, Partner, SNS Technologists

III. JVS Toronto: Non profit

JVS TORONTO
Helping People Succeed

Company

With locations in seven Toronto communities and over 200 employees, JVS Toronto is a non-profit organization that partners with both the government and business sectors to help people of diverse backgrounds meet their educational and employment goals.

Business Challenges

Faced with an outmoded communications system of disparate technologies, JVS Toronto wanted a system that would integrate seven offices, add functionality and allow them the flexibility to easily expand and contract their office network to meet future demands. However, the organization's outmoded communications system of disparate technologies meant that all calls—even those between locations—had to be routed through a reception desk or auto-attendant, while internal moves, adds and changes required a third-party service call.

Solution

JVS Toronto's offices are now connected by a fully managed MPLS network, SIP trunking, Internet data service and a Mitel 3300 controller enabling Unified Communications services, with Allstream as the single point of contact for service and upgrades. SIP Trunking allows voice-data convergence for better connectivity and collaboration between offices, as well as improved customer service, while the Mitel system enables better data capture, including call reporting, accounting and recording.

Results

Allstream MPLS and SIP trunking combined with Mitel's Unified Communications solution has allowed JVS Toronto to:

- Converge voice and data communications on a single line.
- Increase productivity and mission focus with a fully managed Allstream solution.
- Improve internal connectivity and collaboration.
- Add communications functionality, including voice and fax to e-mail.
- Enhance call reporting and data capture capabilities.
- Increase organizational continuity with data centre and communications failover.

"Price and functionality were factors, but Allstream's ability to implement and manage both the network and the Mitel UC solution settled it—and we're very happy with the results."

– **Ron Malis,** Consultant, JVS

IV. Thomson Tremblay Placement and Recruitment

Thomson Tremblay Inc.
RECRUTEMENT ET PLACEMENT DE PERSONNEL

Company

Thomson Tremblay is a Quebec-based placement and recruitment firm with over 40 years in the industry. It also offers a number of HR solutions and candidate resources.

Business Challenges

A successful recruitment firm like Thomson Tremblay has to manage a continual flow of call traffic from both employers and job candidates. However, the company's existing telephone system—a non-networked system of PRI business lines—was outdated and not up to the job. Thomson Tremblay needed a state-of-the-art telephone system and a communications network that could consolidate all voice and data, centralize IT communications management and drive long-term strategic growth.

Solution

The company now has a multi-featured Cisco IP telephone system and Allstream SIP trunking running over Allstream's MPLS network. The company has E10 Internet access at its Montreal office and direct connectivity and centralized management for five different Quebec sites.

Results

With Allstream MPLS and SIP trunking and a Cisco IP phone system, Thomson Tremblay has:

- Integrated communications by combining voice and data and centralizing management.
- Prepared for future growth with a highly scalable network.
- Improved customer service with live call response and direct routing.
- Reduced operational costs and improved productivity.
- Improved failover capacity and business continuity.
- Enhanced capabilities with call monitoring, reporting and recording.
- Improved online applications performance and management.

"With Allstream's help, I'm way beyond where I started. Their managed solution provides much better service—great service, in fact. I'm not just happy with them; I trust them."

Joe Bertucci, President, Thomson Tremblay

V. IA Clarington Investments

Company

IA Clarington Investments, a subsidiary of the Industrial Alliance Group, is a wealth management firm dedicated to providing a broad selection of investment solutions that meet a variety of investment needs.

Business Challenges

With billions in assets and nine offices across the country, Clarington needed a robust voice network to support customer portfolio management and a busy contact centre. This bulletproof network had to support huge file transfers throughout the day and be scalable for growth. The firm needed to evolve to a network and telephony solution robust enough to maintain high customer service levels and the scale of its wealth management.

Solution

A relationship going back 10 years helped Clarington choose Allstream for a robust and fully redundant solution that includes a managed MPLS network, E100 Ethernet access, SIP trunking, voice services and an Avaya Unified Communications contact centre solution.

Allstream delivers SIP trunking on its network with an MPLS and PSTN connection at each location for failover. On top of that network resides Internet access with multiple redundancy for data at internal locations and double redundancy for VoIP across the PSTN.

Results

With a secure, reliable, high-bandwidth network in place, Clarington has been able to:

- Improve productivity and user satisfaction.
- Set up its own contact centre.
- Monitor and improve client contact and increase sales.
- Easily add new applications and capabilities.
- Comply with constantly evolving financial services sector regulations.

"The beauty of this network is its elegance. Allstream proposed a unique solution that fits our current and future needs exactly – nothing more, nothing less."

– **George Ho,** Vice President, Information Systems and Technology

Revisiting the Business Case for IP Telephony

Paul Tauberg

Advances in technology have made IP telephony an affordable option, even for SMBs and single-site businesses, but many decision makers still believe they can't justify the cost, effort and other resources required for deployment. In this article, which originally appeared in an expanded form on expertIP, Paul Tauberg explores five reasons to revisit the business case for deploying IP telephony and VoIP in your organization. blog.allstream.com

1 Dramatically Lower VoIP TCO

IP telephony has been with us for more than a decade, but despite the technology's attractive features and business-building capabilities, the pace of adoption has been slow, with only about 40% of businesses employing some form of VoIP in their offices or factory floors. One of the main impediments for adoption was the issue of total cost of ownership (TCO). Even when the price of new IP equipment compared favorably with the old gear, VoIP did not significantly affect the TCO of other key communication systems, including telephony interfaces to the outside world (PRI interfaces and monthly fees), long distance costs, media gateways and bandwidth fees for data communications. VoIP also required specialized personnel to maintain the communication system and many of the costs were replicated at a company's local branches.

However, the interdependency between IP telephony and the rest of the enterprise communications TCO has been growing and will grow closer in the future. This is for the better, as enterprise communications TCO can be reduced dramatically by leveraging two new telecommunications trends that directly relate to IP telephony.

The first is SIP trunking, which enables IP telephony beyond the confines of the enterprise, along with its extended variant, SIP trunking consolidation. Together they can deliver significant savings for organizations that have the acumen to deploy them. Let's look at SIP trunking consolidation, for example. An enterprise that deploys VoIP and uses an IP connection to their service provider for both voice and data can gain the following benefits:

→ Consolidation of all PBX functionality at the data centre and elimination of all smaller PBXs at the branches.

→ Elimination of all direct PSTN links (PRIs).

→ Consolidation of all SIP trunking connectivity at the data center and the elimination of local media gateways.

→ Lower long distance costs through the optimized IP routing of calls.

→ Data bandwidth savings through converging voice and data connectivity over the IP network.

→ A TCO savings of 40% or more.

You also can't ignore the TCO potential of the smartphone, which has evolved from a symbol of juvenile self-absorption to an indispensable tool in many business interactions and the growing bring your own device (BYOD) trend. Since most smartphones work on both cellular and Wi-Fi networks, they can be integrated with an IP telephony system and, in many cases, replace or partially replace desktop telephone sets. If 30% of desk phones are replaced by mobile devices, an organization can save up to 25% on the total cost of purchasing new phones, an option not available with old digital telephony systems.

2 Keep Talking — No Matter What Happens

Until recently the Internet and online applications were regarded as too unreliable to play a role in a vital enterprise infrastructure. IP telephony was often used as a case in point. While people enjoyed talking over the Internet, they did so knowing they could not rely on voice quality or full service for the duration of the call.

Due to steady advances in technology, capacity and business models, the Internet is now considerably more resilient, so much so that it has become, in many instances, the preferred vehicle for implementing business continuity strategies and protecting enterprises from outages and disruptions. The Internet's decentralized structure, ability to converge several types of communications on the same pipe, and the lack of multiple common points of failure also gives it an advantage over traditional hierarchical back-up technologies.

Business continuity plans are best served by IP telephony services that rely on the Internet for connectivity to the outside world. IP telephony makes enterprises more agile and resilient, more ready to face adversity or change. By distributing servers among geographically diverse locations and by subscribing to SIP trunking, organizations can better protect themselves against outages and disruption. That protection is even stronger when the Internet is accessed through an MPLS-based WAN service that prioritizes traffic and offers an intrinsic self-healing mesh topology. These same capabilities also make IP telephony the ideal platform for quickly deploying new applications, updating network configurations and changing the number of users.

3 Lift Your Network to the Cloud

If you are an IT manager scouting for new technologies or business applications to make your organization more productive and successful – and make you a hero in the C suite – you can be forgiven for letting your thoughts drift toward the cloud. Even allowing for the usual hype – and there is no lack of it – the benefits promised by the cloud deployment model are quite compelling: substantial savings, remarkable scalability, simplicity of management and operations, rapid provisioning capabilities and more.

Cloud-based IP access works well for basic Internet use but is not ideal for real time applications like voice and videoconferencing. This is especially true if your organization still relies on TDM equipment and infrastructure for local telephony and access to the PSTN. To fulfill and complete your vision of a cloud-based enterprise IT infrastructure, you need to bring your UC applications into the corporate cloud. IP telephony is an essential component of that plan. With an internal VoIP system (IP PBX), IP terminals, solid SIP trunking connectivity to the PSTN, and data access through a QoS enabled MPLS network, you will have in place all the elements for a successful cloud-based UC environment.

Even if you manage a small business network, adopting an IP telephony infrastructure and becoming cloud ready still makes a lot of sense. It allows you to subscribe to a hosted UC service, a very cost-effective way for small businesses to enjoy the benefits of enterprise grade applications without upfront investments and the associated management headaches.

4 Undo the Curse of the TDM Die-hards

“Why should I change what isn’t broken?”

This simple question has bedeviled IP telephony vendors and evangelists for more than a decade now. No matter how rosy the pictures of efficient VoIP connectivity or blissful Unified Communications environments, no matter how shiny the buttons or how slick the displays of the new phones waved in front of prospects, IP telephony pitches would fizzle after someone asked that innocuous question.

No one had a compelling answer. The TDM systems were well designed, feature-rich and reliably served a multitude of businesses of all sizes, and the staff understood the installation and maintenance requirements. The original cost of the system had often been amortized long ago and organizations were essentially enjoying cost-free performance.

However, communication systems vendors are increasingly adopting new technologies and applications and therefore devoting less attention and support to traditional TDM product lines. Competitive pressures and budgetary constraints force these vendors to discontinue popular products or merge them with different lines. These same dynamics also put some vendors out of business or bought up by competitors. Organizations that cling to their old communication

systems are finding it difficult to obtain support or upgrades from vendors. The more they postpone the decision to make the transition to IP telephony systems, the more risk of disruption they incur and the more they are going to have to pay when they eventually decide to move. Wait-and-see policies are becoming shortsighted and expensive.

Meanwhile, the new technologies have matured and proven its worth. VoIP, unified communications and SIP trunking have all reached new levels of performance and resilience and are delivering a solid ROI. The time has come to leave the past behind and move to the future.

5 Answering the Call for IP Telephony Transformation

We are at the cusp of a transformative change in the way people communicate and interact at work. There are multiple ways to reach each other wherever we're working, and multiple communications channels and devices continuously compete for our attention. We expect the wonderful communication tools and gadgets to work anywhere and under any conditions. Those realities and expectations embody the very definition of unified communications.

IP Telephony is the stepping stone on all roads to UC and their amazing collaboration and productivity benefits. Whether you plan to deploy your own UC infrastructure or lease it through a cloud arrangement, there is no question about the necessity of making the transition.

This goes beyond a simple business case calculation. Just go around the office and look at the young workers who've joined the organization. They seem to relish moving between screens and devices and can carry on multiple productive communication sessions over a number of interfaces. Their generation is equally comfortable working at a desk, in the corner of a cafe or while riding a night train. A UC-enabled office is the ideal environment to unleash that youthful creative energy and attract fresh talent.

That future is almost here. You certainly want to be part of it.

Related Resources

→ Read the original article series
→ Learn more about the benefits of IP telephony at allstream.com.

Why Allstream?

“Let me tell you why SIP trunking brings value to customers, it comes down to cost, efficiency and the optimization of unified communications infrastructure.”

– **Grant Bykowy**, Director, Voice and IP Communications Strategy, Allstream

Allstream is the only national communications provider working exclusively with business customers. Our focus is helping you simplify IT operations to improve productivity, maximize performance and manage costs. Our IP solutions are delivered on a fully managed, fully secure national network and backed by our industry-leading commitment to customer service: The Allstream Service Guarantee.

Six Classes of Service to prioritize network traffic across applications and between users. Allstream's CoS MPLS network provides enhanced support for your applications, ensuring voice traffic prioritization and reliable data routing, yielding lower operating costs and significant improvements in network efficiency.

Allstream offers SIP trunking through your Internet connection to meet the needs of small and mid-size businesses. Even single-location businesses without MPLS networks can reap the benefits of voice and data convergence. Our SIP trunking over Internet is also enabled by CoS, which prioritizes voice calls to ensure your call quality does not suffer jitter and latency.

Protect against distributed denial of service (DDoS) attacks at every network connection to the Internet. DDoS attacks, which clog the network with traffic that block out legitimate users and customers, often go undetected, causing business loss and reputation damage. Allstream's Secure Connect enhances visibility and reporting for DDoS and other anomalous traffic, proactively interrupts malicious traffic, identifies attacking hosts, and improves regulatory compliance.

Allstream improves your business continuity plan with two geographically diverse SIP trunking Voice Gateways, one in Toronto and one in Vancouver. Customer routers can be provisioned with the IP addresses of both SBC's at the voice gateways so they can switch traffic between the two links when necessary

Allstream was the first national provider in Canada to offer SIP trunking and the first provider to certify all leading PBX solutions in the market with its service. This provides Allstream customers a competitive advantage in a market place where effective telecommunication is tremendously important. As an Allstream customer you can always count on having access to the most advanced communication technologies and business models.

For more information on SIP trunking, please visit **allstream.com** or call 1-855-299-7050

For more information on SIP Trunking, please visit us at:
http://www.allstream.com/products/ip-connectivity/ip-trunking.html
or call 1-855-299-7050