Why does your company need SIP Trunking?

The emperor penguin has four layers of scale-like feathers to protect them from icy winds as cold as -60°C (-76°F) and blizzards of 200 km/h (124 mph) and is the only animal to inhabit the open ice of Antarctica during the winter

Take your telephony under your wing with our efficient SIP Trunks - allowing you to divert calls wherever, whenever.
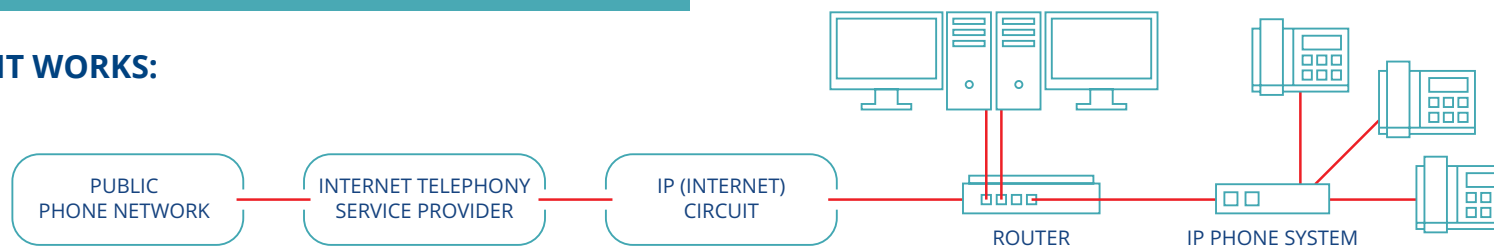
WHAT IS SIP TRUNKING?

SIP Trunks take advantage of the latest Internet technology to replace traditional telephone lines providing far more flexibility at a lower cost. They should be considered essential for all businesses who are driven by cost reduction, efficient working, resilience and flexibility. And let's face it, which businesses today aren't?

This paper explores the benefits of SIP Trunks whilst also explaining the technology and how to successfully implement it.

The most common SIP applications are 'internet telephony' for voice and video calls, and instant messaging over 'Internet Protocol' (IP) networks.

As a far newer technology, SIP allows businesses to carry both voice and data on the same circuit, as opposed to ISDN which uses the traditional telephone network - an outdated and expensive system that uses a dedicated, expensive circuit and infrastructure for voice, completely separate to any IP circuits for Internet access and data communication.

SIP can be used to create a call over an IP circuit direct between your organisation and an ITSP who will then forward it onto the destination number.

To understand the power behind this protocol, you need to investigate the key factors that drive SIP Trunking (across all aspects of enterprise communications), along with the benefits behind this profitable investment.

SIP TRUNKING DEFINITION:

SIP trunking connects a telephone system to the national and international telephone network using the SIP (Session Initiation Protocol), SDP (Session Description Protocol) and other related protocols over an IP network. It is the modern replacement for ISDN telephone services, allowing customers to use the same IP connection for both their voice and data.

HOW IT WORKS:

PUBLIC PHONE NETWORK — INTERNET TELEPHONY SERVICE PROVIDER — IP (INTERNET) CIRCUIT — ROUTER — IP PHONE SYSTEM

LOTS OF BUSINESSES HAVE MOVED TO SIP TRUNKS. HERE ARE A FEW KEY FACTORS AND REASONS WHY SPITFIRE OFFERS THE ULTIMATE SOLUTION:

With SIP trunks, your business can be several places at once - allowing you to channel multiple numbers from different exchanges into one telephone system.

FURTHER BENEFITS INCLUDE:

- *Large savings on call charges and line rental.*
- *Exceptional call quality, supported by Spitfire Voice Approved Internet Circuits.*
- *An annual saving of up to £5,500 against ISDN30e rental, or up to £3,300 if a new IP circuit is required*
- *SIP can also be used for communication between a telephone system and handsets, offering numerous benefits.*

Spitfire is one of the UK's leading Business VoIP and SIP specialists. We provide the products and services that you need when you're ready to ring the changes and move your telephone communications to SIP and the latest technology.

As per our experience, more than 90% of the main office telephone line installations we make are now based on SIP services – with cost savings of up to 77%.

"Over 80% of ISDN lines will have moved to SIP by 2019, and with BT Group aiming to move all ISDN customers to IP by 2025, it's time for you to plan your move."

So, if you're moving premises or opening a new office, our SIP and Business VoIP solutions ensure flexibility, business continuity, scalability (and more importantly) complete control over your own phone system.

* 30 ISDN30e lines and 200 DDI numbers, Spitfire SIP Trunks are 47% less expensive – with a wide range of back up options:

- *One year BT Retail ISDN30e with 30 channels and 200 DDI quota plus CLIP – £602.06 per month.*
- *Spitfire 3Mb Ethernet circuit, 30 SIP trunks and 200 DDIs – £320 per month.*
- *Saving over £275 per month, with guaranteed ISDN30e equivalent quality.*
- *Should customer have suitable circuit, then Spitfire would save 77%. Spitfire cost = £140.00, so saving would be £462.06 per month or £5,544.72 per annum.*

WHY ARE SO MANY BUSINESSES MOVING TO SIP?

You are not alone in thinking that SIP trunking may be a viable solution for your communications. More and more British businesses are beginning to realise the benefits of this form of connectivity.
Here's why:

It's (mostly) about the money:
What's motivating businesses to replace their traditional telephone lines at such a fast rate? It's fairly simple. There are major savings in replacing traditional analogue and digital ISDN lines with SIP trunking. Switch from traditional telephone lines to Spitfire SIP trunks or Hosted PBX services, and you can enjoy cost savings of up to 77%* compared with ISDN30e.

There are no hidden costs:
SIP trunking requires no long term contracts, or channel limits, meaning that you just pay for what you actually need - whether that is 1 trunk, 10, 30 or 200. Most service providers' pricing is clearly structured and transparent, without any hidden costs involved (although beware of long contract lengths).

If you have a suitable 'Ethernet' circuit you might be able to use this for carrying SIP trunks - eliminating the need for another circuit. Even if you do require a new or dedicated voice circuit, these are normally cheaper than ISDN lines in terms of installation and rental costs.

And, because SIP trunking is IP-based and bypasses the normal telephony network, ITSPs are charged less for carrying the calls. Some providers choose to pass on these savings to their customers, saving them large amounts on UK and international call charges. Beware that some providers charge more for SIP calls than traditional telephone calls, especially to less common destinations.

Reduced installation or setup costs:
SIP trunks require only a reliable, voice quality, IP circuit connected to the customer's telephony system.The simplicity and flexibility of SIP trunks allow providers to significantly lower their setup costs and pass savings to their customers, whilst also reducing the installation lead time.

No need to replace your old phone system:
SIP trunks normally need to connect to a SIP compatible telephone system. However if you have an old, legacy telephone system and do not wish to replace it, all is not lost - an inexpensive SIP gateway can allow you to benefit from SIP trunks without replacing your telephone system. So, whether you are looking to replace, or stick to your existing phone system - SIP trunks are the right choice for you.

So the bottom line is, SIP trunking can save your business money.

---

* 30 ISDN30e lines and 200 DDI numbers, Spitfire SIP Trunks are 47% less expensive – with a wide range of back up options:
  - One year BT Retail ISDN30e with 30 channels and 200 DDI quota plus CLIP – £602.06 per month.
  - Spitfire 3Mb Ethernet circuit, 30 SIP trunks and 200 DDIs – £320 per month.
  - Saving over £275 per month, with guaranteed ISDN30e equivalent quality.
  - Should customer have suitable circuit, then Spitfire would save 77%. Spitfire cost = £140.00, so saving would be £462.06 per month or £5,544.72 per annum.

SIP unifies your communications.

If you like the idea of combining all of your varied communications needs; whether email, instant messaging, voicemail, video conferencing and every day telephony into a single, manageable strategy, then SIP and IP telephony can be a huge enabler of the adoption of a unified communication strategy.

With SIP, your phone system talks directly to the public network, and with an appropriate telephone system, mobile apps can also connect directly back to the system using SIP (depending on your service provider and other factors). SIP also enables more devices to integrate with your network and user resources.

SIP Trunking eliminates the requirement for a separate physical connection to a phone company.

There are no hardware, wiring or circuit boxes to maintain connection to the PSTN if your phone system supports SIP. Reducing multiple phone lines into a single circuit drastically reduces charges for incoming lines. Because SIP trunks use IP circuits, they can even work seamlessly over a second back-up circuit for cost effective resilience.

Finally, SIP is a great option if you are considering making the move to Cloud. SIP often goes hand in hand with the majority of Unified Communication (UC) Strategies, as SIP trunks can connect to a Cloud based telephone system such as Spitfire's award winning 'SIP Communicator™' or 'Cloud 3CX' platform.

SIP is highly scalable and flexible. How?

Flexibility:
It's easy to add channels to your SIP trunk to cope with increased calls. A simple phone call or web-order will allow you to add channels quickly and easily. Compare that to the delay and disruption of having additional lines installed, and then having to upgrade your old PBX to handle more lines.

Simplify Growth:
SIP trunking makes it easier to add capacity to your VoIP and UC network when needed. Should you use a converged IP circuit to carry your SIP trunks, UC and data, you can simply allocate more or less bandwidth as needed. It is both easier and cheaper.

Enable Cloud Based Services:
SIP trunking makes it easier to connect to services that are hosted in the cloud. Since your voice and UC communications are entirely IP and SIP based, there's no longer a need to have applications delivered from a server connected directly to your IP PBX. Instead, a server could be located somewhere in the data centre of a cloud service provider. Cloud services typically cost less and are quicker to deploy (but do ensure that there is guaranteed bandwidth and QoS (Quality of Service) enabled between your data centre and SIP trunk provider).

The beauty of SIP is that it is easy to scale up or down depending on your business requirements.

This is extremely pertinent to companies anticipating a great period of growth, or the opposite. The ability to quickly add extra trunks as needed (depending on the volume of calls made and received) is what makes SIP trunking stand out for companies that are looking to increase their capacity to call out and receive calls simultaneously.

SIP allows you to be flexible with your numbers.

Without SIP, your numbers are no longer tied to your local BT exchange. This provides a number of benefits:

Move office and keep your numbers:
Existing analogue and ISDN based telephone numbers can be kept and ported to the ITSP to allow delivery to the SIP trunks without forwarding charges, or the costs and disruption associated with changing telephone number.

Choose numbers from any exchange area:
New numbers can be allocated from any exchange where required. For example: A business outside Birmingham which is targeting Birmingham customers could still have a Birmingham 0121 telephone number, giving it's customers the perception that it is a truly local business. There are no limits to such numbers, you could literally have a local number anywhere in the UK, from Aberdeen to Aberystwyth, Belfast to Brighton. Pricing for such numbers varies widely, but some ITSPs charge as little as £1 per month for 10 numbers.

Use existing or new non-geographic numbers:
You might prefer to choose an 0300, 0800 or other non-geographic number. You will find the costs are far lower using SIP trunks than traditional telephone lines.

Best of all, the benefits of flexible numbering don't just apply to inbound calls. SIP trunking also allows for the easy manipulation of outbound numbers - so if you have an office in London but need your calls to go out on a Bristol based number, it's as easy as 1 2 3.

Free your workforce:
The benefits of SIP numbering can even apply to your mobile workforce. Using an appropriate SIP enabled telephone system, inbound geographic numbers can ring on a mobile device and users with smartphones can make calls as a particular number - no matter where the user's location. This is far more professional than giving out mobile numbers and provides complete flexibility.

Unlimited capacity: Spitfire SIP Trunks provide unlimited concurrent call capacity unlike ISDN2e which has just two channels per circuit and ISDN30e which is limited to 30 channels per circuit. With no limitations or restrictions, you can say goodbye to capacity planning and long lead times waiting for new circuits to be installed.

Make your network more reliable and resilient.

A SIP trunking solution puts much of the heavy lifting of routing and completing calls and sessions into hardened, redundant ITSP data centres off your site, instead of distributing it to a number of local phone exchanges and on local circuit-switched ISDN connections. The result is that when something bad happens like power outages, natural disasters, etc. it is easy to reroute calls to other locations.

SIP trunking also makes it easy for those businesses who require this level of redundancy to work with SIP trunking ITSP's who provide separate resilient SIP networks. So, in the unlikely case that the ITSP's primary network goes down, it's easy to automatically reroute traffic through an alternative network, ensuring that your business is never left without connectivity. Some ITSPs go one step further and provide trunks using completely different wholesale networks, thus increasing resilience yet further.

Increases your competitive edge:
To remain competitive in a world that moves incredibly quickly, individuals and businesses need to stay ahead of the technological curve. SIP and SIP trunking can make this happen.

Upgrading Internet connectivity:

SIP Trunks have many benefits, but if not properly implemented they will cause all sorts of issues for you and your business. Before choosing your SIP trunk provider, ensure that you have considered your Internet circuit. The success of SIP trunks over the long-term will be determined largely on the circuit which you choose. There are some major pitfalls to avoid - here are the do's and don'ts:

✔ *Do:*

1. Ensure that the circuit is designed for carrying uncompressed voice. Normal business broadband is not! For a circuit to be deemed suitable for carrying voice it needs to have performance guarantees equal or better than the metrics below as otherwise poor quality, robotic, clipped calls may result, or even worse – no calls at all!

• Bandwidth guarantees allowing 110Kb per call up and down on Broadband and 88Kb on Ethernet.
• Less than 1% of packet-loss (the amount of data which never arrives).
• Less that 150 ms latency (the delay which data experiences as it traverses the circuit).
• Less than 30 ms jitter (the variation in delay – it is this which is the greatest enemy of good quality calls).

Some circuits might provide these guarantees on average, which is no good – they have got to be maximum guarantees.

2. Check that the circuit you are using is configured for carrying voice. A circuit might be 'voice approved or capable' but has it been correctly configured? (For example: An Ethernet (leased line) will need to be configured to prioritise voice ahead of data to ensure voice quality is perfect.This is known as QoS and is more complex than flicking a switch.)

3. Ask your ITSP to confirm that your call will not be carried over the public Internet. There should be a private connection between the voice network and chosen circuit provider, to ensure high call quality and, most importantly, security. You don't want your calls travelling over the Internet for anyone to snoop into, and neither do you want to suffer from poor call quality due to a bottleneck on the Internet (over which you and your provider has no control).

✘ *Don't:*

1. Risk using normal business broadband. Sadly this includes Fibre Broadband, aka, 'VDSL' or 'BT Infinity', as this does not provide voice quality guarantees. It might work most days, but when it causes poor quality calls, your provider will not be able to fix it as the circuit provider will not accept poor quality calls as a fault.

2. Mix voice with any other kind of data on Broadband circuits as it is not possible to configure Broadband for QoS, to prioritise voice ahead of data for both outbound and inbound traffic. This applies to all Broadband types, including circuits which are designed to carry voice.

Other factors to consider:

Number porting:
Check with your ITSP that they are able to port your telephone number to their network. The answer should be yes, regardless of whether your numbers were originally with BT or any other provider, but there might be some product limitations for non-BT numbers.

An important task is to agree exactly when your numbers will be ported. This should be done Monday to Friday and is normally done early in the morning.

Telephone system interoperability:
You should also check that your chosen provider has carried out full interoperability testing between your telephone system and their SIP trunks. There are dozens of ways in which SIP can be implemented and whilst a phone system might be "SIP compatible", this doesn't mean that all features will work on all SIP trunk providers. For example: Diverts might not work, or numbers might not be correctly displayed.

Don't accept them telling you that you need to run all the checks yourself – unless of course you are an advanced IP telephony engineer (and ensure that they can give you a guide to configuring your system).

If your telephone system is not compatible with SIP trunks, don't be bullied into buying a new phone system to take advantage of SIP Trunks. There might be other reasons for buying a new phone system, but so long as it currently supports ISDN, it can be made to work through a gateway properly configured by your provider.

Resilience:
SIP trunking with VoIP can potentially increase reliability of services by providing improved redundancy. When system failures and emergencies occur, SIP Trunking providers can reroute services to a redundant data line, or forward the PBX to mobile phones to keep your business up and running.

Sign up

READY FOR SIP TRUNKING?

SIGN UP NOW

It isn't as hard as you think to switch...

This innovative communication tool has become the preferred method for voice communications due to its cost saving factor, simplified architecture and flexibility.

Once you've grasped the concept and you've analysed the key factors that drive SIP Trunking, switching over is a no-brainer. If anything, the technological benefits and cost-effectiveness should be enough to have you sold.

If you still don't believe us, our team of experts would love to show you just how flexible, scalable and easy-to-use this telephony solution is. It'll change the way you communicate today, tomorrow and *always!*

Call Spitfire on
0330 363 0747

to see how SIP and Business VoIP services can work for you

We'd love for you to get in touch