The Ultimate Guide for Moving From ISDN To SIP

Is it time to upgrade your business telephony systems?

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The Business Telephony Landscape

Back in the 1990s ISDN (Integrated Services Digital Network) revolutionised business communications and is in part responsible for the world's rapid digital transformation.

Since then technological developments have continued to shape the way we do business, with demand for more agile and flexible solutions driving innovation, and innovation driving change.

One such development is superfast fibre broadband, designed to meet the increasingly high demands of our digital world. In turn, new technology like fibre broadband has created more opportunities and innovation. For business communications, increased connectivity presents an ideal opportunity to review existing systems and consider alternatives such as cloud telephony.

Cloud telephony offers businesses many advantages over traditional ISDN services. The cost, scalability and flexibility available from cloud telephony solutions is increasingly making ISDN redundant. So much so that BT is set to phase out ISDN by 2025.

If your business is currently reviewing your business communications systems, perhaps as a result of upgrading your business broadband to a superfast dedicated connection, now is the time to consider cloud telephony. This guide will help you make a business case for moving from ISDN to SIP trunks and provide a step-by-step plan for a successful migration.

The History of SIP Trunks

SIP Trunks? What are they?

Cloud telephony uses a service called SIP (Session Initiation Protocol) Trunking. In essence, it is a form of VoIP telephony (Voice over Internet Protocol) that uses a dedicated IP connection such as a leased line or assured broadband.

As well as facilitating voice calls, SIP Trunks can also carry other data so can be used for screen sharing, instant messaging, video conferencing, integrated with CRM systems, and all other communications. This gives organisations, big and small, access to Unified Communications, where all communication technologies are integrated and delivered over an Internet connection.

In turn, Unified Communications can increase productivity and drive innovation in your business. Facilitating better remote working, promoting collaboration, reducing overheads, streamlining communications, and driving efficiencies.

Tried and Tested Technology

Many business leaders are concerned about using new technology. While being an early adopter can have clear benefits if the technology allows your business to be more competitive, there is always the worry that it might become an expensive mistake.

Although SIP Trunks may be new to you, they have actually been around for some time. In fact, the technology was first explored in the 1990s and has been in use since 2007. It continues to evolve – as is the nature of digital technology – but there has been significant research, development and testing in this sphere, making it a reliable and trustworthy platform.

SIP Trunk Myth Busting

As well as concerns about 'new technology' there are a few other SIP Trunk myths that need to be debunked. If, when presenting the case for migrating to SIP Trunks from ISDN to your business' stakeholders you hear any of these statements, here are the facts that will help you make your case:

"Call quality is poor" – our experience of other digital communications may lead some people to believe that SIP Trunking delivers poor call quality. For example, Skype calls are not always reliable, streaming music or video can result in buffering, and so there can be an assumption that any voice call using the Internet could be compromised. The difference with SIP Trunks compared to Skype or streaming entertainment is that calls use dedicated IP connections optimised for voice calls. They are as good quality, if not better, than ISDN calls.

"SIP Trunks are not secure" – cloud telephony uses an Internet connection and therefore there are cyber security risks. However, just as with your organisation's other IT networks and systems, there are plenty of options to shore up your security. Firewalls are the first line defence but there are other solutions too such as fraud monitoring.

"There are hidden costs" – without a doubt one of the key drivers to migrate your business telephony to SIP Trunking is financial. Low or free call costs are a great incentive! However, some people believe that there is a hidden infrastructure costs. There are two main costs for SIP Trunking: monthly contract fee and call costs. However, you may also need to upgrade your PBX to an IPBX and also switching equipment. If your business does not have sufficient broadband bandwidth to handle SIP calls, there are likely to be additional costs to increase capacity. A simple way to calculate how much bandwidth you need is:

Number of Concurrent Calls During Peak Business Hours x 85 Kilobits per second = Bandwidth in Megabits per Second (Mbps) Needed to Support SIP Trunking

Even with these additional costs, most organisations will find that they still get positive ROI.

"Migrating will result in downtime" – one of the main reasons organisations do not take advantage of new systems or technology is the fear that migrating from legacy systems will result in unsustainable downtime and potentially create further problems. This means that many businesses are not benefiting from the savings and increased performance services like SIP Trunking can deliver.

Migrating from ISDN to SIP Trunks is extremely straightforward and should not result in any downtime. By moving channels one by one, your business should still have your ISDN service until the last channel is up.

Ready To Migrate To SIP Trunks?

With ISDN set to be phased out by BT over the next decade, organisations need to make some important decisions about when is the best time to migrate to cloud telephony. We believe that there is no time like the present, as making the switch now will ensure your organisation benefits from savings immediately.

But before cancelling your current ISDN contract and contacting the first SIP Trunking provider that appears in your Internet search, some careful planning needs to be done first.

The key to any successful new network or systems implementation is in planning ahead of time and defining your requirement and expectations clearly. The following steps are our recommendation for a successful migration:

1. Document your requirements
2. Define expectations
3. Draw up a plan
4. Choose A SIP Provider
5. Prepare for migrating to SIP
6. Installation and testing
7. Porting numbers and switching off ISDN

7 Steps For A Successful Migration

Step 1: Document your requirements

Do you know what you need?

First off you should audit your existing business telephony systems and map out the existing phone network. Ask the following questions:

- How many phone numbers/DDIs do you have?
- What are they and where are they directed to? Do you have Freephone or local numbers directing to a main number or call centre? Do you have dedicated numbers for different departments or senior executives?
- How are unanswered calls handled? Do you have call queues, voice recordings, touch-tone button systems, and voicemail?
- What about dedicated numbers to departments or individuals? Do they have voicemail?
- What about the extensions for different employees? What are they and do they also have voicemail?

With the big picture of what your current business phone network looks like, you can now start to think about improvements, how to make it more efficient and how to future-proof it too.

Step 2: Define expectations

We recommend that you open up this part of the migration process up to all employees within your organisation. Solicit their input at this stage to identify areas for improvement and innovation. They may highlight issues that you are unaware of, or have insights that can help you implement a system that will deliver an even better ROI.

Organisations often outgrow their legacy systems and therefore you may find that there is significant room for improvement. Use feedback from employees to create a specification for the new SIP service.

Ask employees to consider the following questions based on their different working habits. For example, working at their desk in the office, using the telephone system in different parts of the office such as meeting rooms or from other departments, accessing the business telephony systems when remote working or on business trips (conferences, client meetings etc.)

- What do you think of the current telephone system?
- Have you experienced any issues with the current system? If so provide details.
- Is there anything you can think of that will improve communications internally or externally?

SIP Trunking can offer solutions to common issues that are not possible with legacy telephony systems. Use these values adding benefits to develop your specification:

Reduce costs – financial savings are a key driver for migrating to SIP. Document your current costs for maintaining your existing systems; monthly rental; costs of adding more channels especially if your organisation expects to grow; and call costs.

Capacity – many organisations experience volume spikes at different times of the year. Seasonal spikes such as at Christmas, at the end of the financial year, or when a new product is launched, can be planned for and capacity increased or decreased depending on demand.

Unified Communications – now is the time to also benefit from Unified Communications (UC) and map out how this could look in your workplace. Pulling all calls, voice messages, email, instant messaging, video conferencing, etc. into one place increases productivity and drives savings and efficiencies across the board.

Remote working – many organisations would like to allow staff to work remotely and benefit from the increased productivity and savings to be made. However, legacy systems often prevent this from happening or make it unsuccessful. SIP Trunking can help facilitate much more flexible working arrangements and allow your organisation to get these benefits and savings.

Better business continuity - there are two main reasons that calls go unanswered.
1) a power outage or other incident causes systems to go down and customers cannot contact you.
2) a key member of staff is not available to take that call – absent or away from their desk. SIP Trunking can allow you to redirect calls to another office with capacity to take those calls, to an employee's mobile phone, or to voicemail or another automated service.

Dream big! This is your chance to not only address any issues you have with your current business telephony systems, but also to make telecommunications part of your business strategy. It is not just about making and taking calls, there are opportunities to make a real difference to how your business operates and how individual employees work.

Step 3: Draw up a plan

With a clear picture of your current telephone network, the pain points and the positives, and now a well-defined idea of where improvements can be made and value added, it is time to create a plan.

Document what have that you want to keep; phone numbers, extensions, voicemail, automated services, redirects etc. Add on all the extras that you can get by migrating to SIP and look for flaws and areas that can be improved further.

Go back to employees, or key members of staff, to get their feedback and stress test the plan. Business continuity should be a priority when testing how the new telephone network can work.

Consider the following key areas:

- **Identify all key members of staff** - make a list of the employees and senior management who are essential for daily operations and their deputies when away. Collect contact information for these people, including business phone (ext.), home, mobile, business email, personnel email and any other way of contacting them.
- **Redirects** – identify what numbers to set up redirects to if business phones or other communications are down.
- **Remote working** – explore opportunities for key staff members to work from home in an emergency. Do you have the systems in place to support this, is this part of your new telephony system?
- **Create a directory of external contacts** – list contact information for all essential suppliers, contractors, and service providers.
- **List all communications equipment** - create an inventory of all your communications equipment (phones, PCs, laptops, mobile devices, fax machines etc).
- **Assess back up processes** – make sure that there are robust back up processes in place for critical data relating to communications. The frequency of backups should be aligned with the importance of data to business operations.
- **Safekeeping of critical data** – your ability to enact disaster recovery and business continuity plans may depend on having access to certain data such as logins. For example, what information will you need to have to redirect phone calls to alternative numbers? This information must be kept securely and be accessible to key members of staff in an emergency.
- **Identify alternative supplies** – if you are unable to access essential equipment such as phones or equipment, for example if your premises are out-of-bounds for some time, you may need to rent or purchase replacements. Have a list of suppliers that can meet your requirements at short notice.
- **Explore different scenarios** – different incidences will require a different response; make sure you've considered all possible scenarios. For example, connectivity issues, localised power outages (both affecting your business only and also affecting a wider area), your building being inaccessible because of fire, flooding etc., equipment being permanently destroyed vs. temporarily unavailable etc.
- **Create your Business Continuity Plan** – as with your critical data, ensure all the relevant information is kept in one document and that it is circulated to key members of staff. Also keep extra copies at a secure offsite location.
- **Test the plan** – a Business Continuity Plan is worthless if you do not test it thoroughly. Testing will identify any flaws and ensure that key members of staff know what the procedures are.
- **Review regularly** – changes to your organisation, such as migrating your business telephony from ISDN to SIP, moving to new premises, expansion etc. will have an impact on your Business Continuity Plan. Schedule regular reviews and always review and test after any significant changes.

While you will be unable to test your BCP extensively until you have migrating to your new SIP services, it will help you to align the services with your business operation and ensure they are fit for purpose.

Step 4: Choose a SIP provider

Now you have scoped out the project it is time to find a SIP provider. The following five points will help you benchmark different providers.

#1: Security
For any company switching over to a SIP provider, or placing any of their communications in the cloud, security should always be the top priority. When weighing up different vendors, look out for the following phrases:

- TLS: Transport-Layer Security is a widely used (also referred to as SSL) cryptographic protocol that ensures the connection is private and safeguards message integrity. For extra security, IP-PBXs and SIPs should operate behind firewalls and if necessary, transmit safely from within a Virtual Private Network (VPN).
- STRP: Secure Real-Time Transport Protocol isn't as commonplace, but this allows for live encryption of audio streams, for added security.

Also look for providers with ISO certification and those that are transparent about their data security policies.

#2: Support
Identify provider that offer excellent support. Working with a provider that offers first-class support means you won't be without a phone line for long if anything goes wrong. Knowing that you can be up and running quickly, even when you need disaster recovery support, is essential for peace of mind and business continuity planning.

#3: Communication
SIP providers are in the communication business. They exist to ensure you can call clients and colleagues and they can call you; or you can do a conference call, or do a quick screen share. But it doesn't help anyone if they speak in jargon and acronyms, making everything twice as confusing as necessary. Work with a SIP provider that speaks in plain English.

#4: Price
While SIP Trunking offers significant cost savings and is a key reason that organisations move to SIP, don't choose a provider based on price alone. Cheaper providers are unlikely to offer the support or Service Level Agreements you may expect, so compare different providers based on what they offer, as well as price.

#5: Connectivity
Speak to a SIP provider early on to see if you need to make any changes to your business broadband before investigating further. You will need enough bandwidth to use SIP services and therefore your business may need to first invest in fibre optic broadband.
Once you've identified and chosen a SIP provider the next few steps will be straightforward as they will guide you through them.

Step 5: Prepare for migrating to SIP

With your SIP provider identify what additional equipment or services are required. This could include:

Increased bandwidth – your Internet connection will need to handle voice data and therefore you may need more bandwidth. Remember the simple way to calculate what you need:

Number of Concurrent Calls During Peak Business Hours x 85 Kilobits per second = Bandwidth in Megabits per Second (Mbps) Needed to Support SIP Trunking

An Assured Broadband Connection or a Leased Line is typically needed for ensuring this connection is dedicated only to your business and not shared with the public.

PBX – your existing PBX may not be compatible with your new SIP service and so you will need to upgrade to an IPBX. Make sure your SIP provider checks the interoperability between your PBX and their SIP services and factor in any additional investment in hardware into your budget.

IP phones – check to see if your existing business phones are compatible with SIP calls. While analogue handsets will work with SIP you may lose some of the functionality with older phones.

Switches – for optimum performance data traffic and voice should be separated completely using switching equipment. What you need will depend on the number of phones using the system. With your business telecoms network clearly mapped out, your SIP provider will be able to advise you on what switching infrastructure you need.

Step 6: Installation and testing

At this point you can hand over the migration process to your SIP provider who will manage the installation and testing. However, you will also want reassurance that everything is working as planned by trialling the test numbers.

Put your new telephony system through its paces by testing it against your plan paying particular attention to the procedures outlined in your Business Continuity Plan.

Step 7: Porting numbers and switching off ISDN

Once you are confident that your new SIP services meet your expectations it is time to port phone numbers to the new service. If your business uses location specific phone numbers but you want these calls to be answered your central office, these numbers will require porting.

This means keeping the number and moving it to your new service provider – it's a common procedure with mobile phone services. With business phone numbers, this can take around 14 days depending your existing provider and the porting agreement in place.

Once you have confirmation that these numbers have been ported you can switch off your ISDN service.

Conclusion

It really is very easy to migrate your business telephony from ISDN to SIP Trunks and with ISDN becoming increasingly obsolete there are compelling reasons to do so now. As with any new IT network implementation it is important that your business prepares thoroughly before pressing the migration button; but if you have followed the steps outlined above your new SIP service should deliver significant savings and other business benefits in a very short space of time.

If you have any questions about migrating to SIP Trunks and would like to speak to an expert about your business telephony, please get in touch. Call **0800 054 2576**