ISDN DISCONNECTION AND MIGRATION

FOR AUSTRALIAN ENTERPRISE AND BUSINESS 2019

VOICEPLUS

CONTENTS

Introduction:

Top 3 Most Important Tips for ISDN Migration

Migrating off ISDN can be a simple, straightforward exercise for some businesses, but for many it is more complex and time-consuming. VoicePlus' top three tips for a successful migration:

Tip 1. Give yourself 6 months to migrate

Moving off ISDN to an alternate technology can be a time-consuming process. Aside from researching and obtaining quotes for a replacement technology – usually a fibre solution over NBN; there is much else to do. You will need to audit your equipment to ensure it is compatible and upgrade if not; build an order with your selected retail service provider (RSP), be onsite for visits by the NBN and the RSP technician to complete the onsite work.

Too many businesses leave the transition to the last minute and then hit unforeseen barriers. Start actively moving to the at least six months prior to the disconnection deadline.

Tip 2. Ensure your phone system is compatible

If your phone system is over 5 years old it may not be compatible with your new infrastructure, or it may make more sense to upgrade it to take advantage of IP features. Allow extra time for researching, purchasing and installing new equipment.

Tip 3. Plan for the future now

What does your business need from its voice now, and what will it need in 2 years' time? Are there currently any issues with connectivity? Do you want to move to unified communications, enable remote workers, or share a receptionist across 2 or more locations? Now is the time to fix any issues and plan a digital future.

1 | When will my ISDN lines be disconnected?

ISDN disconnection is part of the NBN-rollout. First the copper PSTN lines were disconnected (this is still ongoing), and from 30 September 2019 the ISDN lines will start to be dismantled.

Who will be disconnected first?

First important fact: Your business premise will NOT be disconnected from ISDN unless its address is NBN-ready.

This is because the Government wants you to have a wider choice of retail service providers. With NBN providing the fibre-based infrastructure you can choose from hundreds of RSPs. Without NBN in place your choice would be limited to RSPs with their own fibre products such as Telstra, TPG and Optus.

If your business premise is in an area which is already NBN-connected you could be in the first phase of disconnections. You can find out if your business premise is in an NBN-ready area by going to the NBN website.

CHECK YOUR ADDRESS ▶

How will I know what date I am being disconnected?

If your business premise is in an NBN-ready area, you could be disconnected from 30 September 2019.

But when *exactly* will you be disconnected?

The short answer is that you are unlikely to know a precise disconnection date until 90 days before the disconnection is due to take place. That is when your current ISDN service provider – e.g. Telstra, Optus, TPG – will write to advise you.

Unfortunately for many businesses, 90 days will not be long enough to have migrated off ISDN.

How long will migration off ISDN take?

Ideally you allow yourself six months to complete the internal process of researching options and requirements, and to ensure continuity of service, an order to migrate should be submitted not less than four months prior to Disconnection Date.

a. If your business premises are located in an NBN-ready area, you should begin the process <u>now</u> to be assured you will complete migration prior to disconnection.

b. If your business premise is located in an area which is <u>not</u> NBN-ready, you have more time. For instance if your address is in an area where build has not commenced and NBN connection is estimated for June 2020 then you have at least 18 months before your ISDN will be disconnected. with the entire network shut down by 2022.

So don't panic! Figure out your likely disconnection window and make a plan.

Is there any downside to migrating off ISDN early?

In a word – No. In fact there are compelling business reasons to do so.

Migrating to ISDN well before the Disconnection Date, means the business has a longer management window should any unforeseen issues arise.

It will also mean an improved voice service with faster speeds and reliability once the migration to fibre has occurred.

In terms of costs, the ongoing monthly cost of your voice service will be less than your existing ISDN service (unless you are expanding your business).

If the business needs new equipment, then it needs new equipment. The only benefit in waiting is to include it in a budget, should the disconnection timeframe allow for that scenario.

Business Premise is Located in NBN-Ready Area	Business Premise Address is located in area which is not NBN-Ready
ISDN Disconnection could occur from 30 September 2019. Your Service Provider will write to inform you 90 days before disconnection date.	ISDN disconnection will not occur until the area is officially NBN-Ready. Check your business address here to understand the status of your business address.
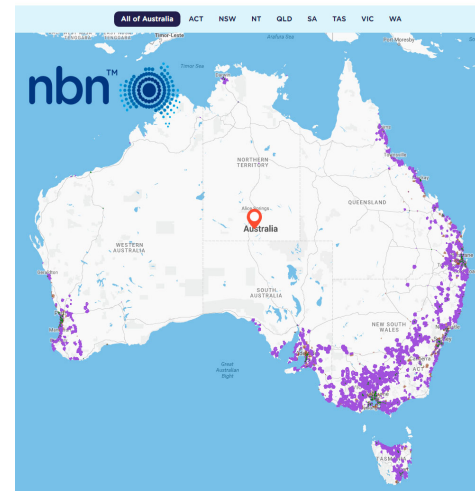
As with most questions in IT, there is a simple answer and a more complex answer. The simple answer is most businesses will migrate to a SIP (session initiated protocol) product. The more complex question is, which SIP product? and the answer is "it depends".

What is SIP and how does it work?

ISDN lines carry only voice traffic. Migrating away from ISDN means finding a new technology for your voice calls, video, and messaging.

Your internet/data connectivity is not affected by ISDN disconnection. Your internet/data traffic will be carried to your premises by any one of: ADSL cable, NBN fibre (if your area has already gone over to NBN), or a "private" fibre connection you have purchased from a service provider e.g. Telstra, TPG, Vocus.

The techy definition for SIP: Session Initiation Protocol is a signalling protocol used for initiating, maintaining, modifying and terminating real-time sessions that involve video, voice, messaging and other communications applications and services between two or more endpoints on IP networks.

The simplistic non-techy definition of SIP: A solution used in VOIP (Voice over Internet protocol) communications allowing users to make voice and video calls over the internet using their computers and mobile devices.

Why SIP?

To look at *why SIP*, we should briefly refresh our memories about *why ISDN*?

ISDN (Integrated Services Digital Network) was an advanced technology when it was introduced in the early 1990s. Running on digital signals it provided higher voice quality than analogue and allowed simultaneous digital transmission of voice, video, data, and other network services over the traditional circuits of the public switched telephone network.

Prior to ISDN, the telephone system was viewed as a way to transport voice, with some special services available for data – remember dial up?! The key feature of ISDN is that it integrates speech and data on the same lines, adding features that were not available in the classic telephone system.

Now to answer the questions, Why SIP? Much as ISDN bought new quality and features to voice communications, so SIP technology brings higher quality signals, faster speed, and improved features to support remote working, scalability, security, reliability, and it also costs less.

SIP v ISDN

	SIP	ISDN
FLEXIBILITY	Internet-based, can be used in different locations Allows remote usage	Cumbersome physical hardware, difficult to move about
SCALABILITY	Easy addition and removal of phone lines	Adding and removing phone lines problematic, number of lines limited
FUTURE	Future-proofed for voice/data convergence, allows video calls and instant messaging	End-of-life system
CONTINGENCY	Calls can be rerouted to backup sites or PCs/mobile devices easily	System will go down in case of an adverse event
FLEXIBILITY	Cheap data circuit via IP connection, cheap call routing and data connection prices	Expensive circuit installs, calls charged at standard network rates

BENEFITS OF SIP

Quick and easy

Get set up in a few days. And scale easily as your business grows.

Future-ready

Use your existing access network now, and be ready for the **nbn™** when it arrives.

Use any network provider

Have a broadband internet service from Telstra or other providers.

Cost-effective

No need to replace your phone system or have a private IP network.

Stay in control

Manage migration, users and plans and check performance via our portal.

Powerful extras

Take advantage of our mobility, security and business continuity options.

Which SIP product?

Most retail service providers (RSPs) have several SIP products. However, if you have ever tried to research your options online you will soon realise the information provided is bland, generic and incohesive. To an extent this is because SIP products are generally very customisable.

Deciding on the most suitable SIP product for a company will depend on four key elements. They are:

1. **Size of the business**
2. **Type of Business**
3. **If the premises already has fibre connectivity in place**
4. **Budget**

Size of the Business:
All RSPs provide SIP products aimed at various sizes of business. Size is important in determining the bandwidth required, which is turn will impact on how that bandwidth is best delivered to the premise. Companies with more than 50 employees are likely to require a different SIP product to those with less than 50 employees. The focus will be on the purchase of bandwidth rather than infrastructure.

Type of Business:
Some businesses require specialist SIP infrastructure. These are typically businesses with one incoming number that diverts calls to multiple users e.g. call centres, retail stores, and companies who receive calls into a centralised reception then pass them onto users who are spread across the country. There are SIP products focussed on inbound calls and outbound calls, and on re-routing calls from a central location.

Fibre Connectivity in-situ:
Many enterprise companies may already have fibre in place for their internet/data requirements. Bringing ISDN voice traffic over to these existing fibre connections is likely to be the best option provided the bandwidth is sufficient or upgraded to allow for the additional voice traffic.

Budget:
Due to the NBN's multi-access technologies, your business premise may be in an area which does not provide fibre to the premise, or curb, or even node. If the last section of the infrastructure is copper this will compromise speed and reliability. Addressing this by bringing fibre to the premise will be the biggest impact on the budget, followed by upgrading the phone system.

3 | Will I need to buy a new phone system?

One of the most common technology upgrades required is telephony. But that doesn't mean that you need to buy a new phone system – no matter what many 'experts' will tell you!

If your phone system is more than 4-5 years old, it is unlikely to be compatible with the new fibre technology you will move to, and you will also be missing out on many useful business features.

> Does this mean that you will need to buy a new phone system? Not necessarily, but that still might be the best option.

The nbn uses a digital signal and runs on a predominantly fibre network. Older phone systems use an analogue signal which ran on copper lines.

When a phone system is deemed not compatible, that generally means that it has been designed to send its voice traffic as analogue signals and this is not recognised by the digital nbn fibre network.

In this case you have two options:

a) Buy a new phone system
b) Buy an interim technology which sits between the SIP technology and the ISDN phone system to terminate the voice
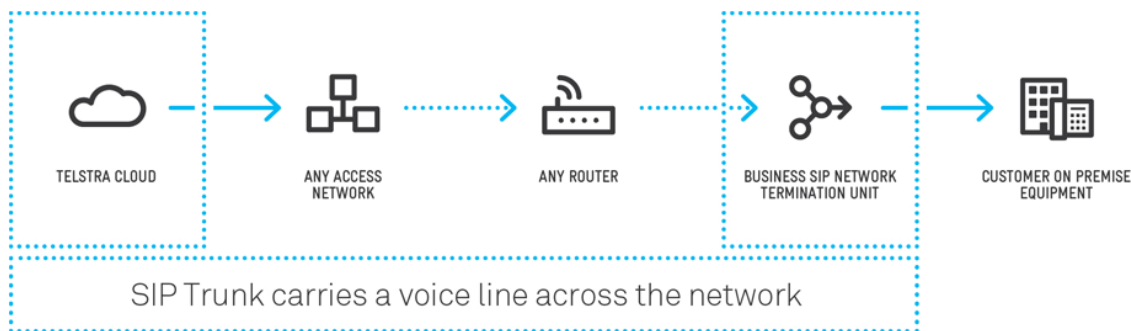
a) Buy a new Phone System:

You would go for this option to take advantage of the productivity, remote working and cost savings features of a new digital phone system.

These would include no fixed line charges, free intra-office calling, desk-to-mobile seamless connectivity, virtual receptionist, and the ability to scale up or down with a fluctuating workforce. If you are a Telstra customer, you will also have the option of paying the system off over 24-36 months through your Telstra bill.

b) Existing Phone System Conversion:

There is an interim technology to secure longevity for your legacy phone system. This is an option if your current system is meeting all your needs, you have no budget, and/or you don't need scalability.

Known as an NTU, abbreviated from Network Termination Unit, this device will convert your voice to bandwidth. Dependent on the size of the phone system this could cost anywhere between $300 and $2,000.

TELSTRA CLOUD → ANY ACCESS NETWORK → ANY ROUTER → BUSINESS SIP NETWORK TERMINATION UNIT → CUSTOMER ON PREMISE EQUIPMENT

SIP Trunk carries a voice line across the network

Unscrupulous vendors will say you need a new telephone system but this is often not strictly true.

If your phone system is less than 3 years old it is unlikely you will need to purchase a new system.

If you haven't budgeted for a new phone system, there is an inexpensive interim technology which will convert analogue signals to digital signals for the short term.

4 | Will I lose my existing phone number?

This should never happen.

That it sometimes does, is because businesses fail to migrate within the timeframe required and end up being disconnected.

If your business is disconnected, you will lose your telephone number. And there is no way to retrieve your number.

However, if this happens, losing your number will be only one of the problems you will have to deal with.

The timeframe for disconnected premises to be reconnected is far longer than the timeframe for migrating, often stretching into months.

In the meantime your fixed numbers will need to be diverted to mobile. This works okay for voice but can be very expensive and unreliable for data consumption.

The moral of the story?   Don't miss the window to migrate and end up being disconnected!

5 | How to get your business ready to migrate in 3 steps

Planning is the key to ensuring zero downtime for your business during the migration off ISDN. There are three simple steps to preparing your business for a successful transition. They are:

1. Audit your Existing Infrastructure
2. Define your Business Requirements – Now and Future
3. Choose your technology, service provider, and plans

1: Audit Your Existing Infrastructure

There are a number of devices that may be utilising your existing ISDN lines that may or may not be compatible with IP telephony.

Check all of the following to ensure that they are compatible:

- PABX telephone system: Will your current phone system be compatible with IP technology? If it is more than five years old it is unlikely to be. Will you replace it or temporarily retain it utilising a conversion unit?

- Fax machines or fax lines: do you still use a fax line? Will your chosen service provider and plan support the use of fax machines and will your current machine be compatible?

- Internet connection: What speed of connection will you need? What bandwidth do you need? How will you avoid downtime during the migration?

- Wide Area Network/Multiple Sites/VPN: Assess the potential for disruption during the migration. Contact the equipment supplier for advice on the compatibility of your equipment with services provided over IP.

- Unified Communications e.g. video conferencing: What are your data requirements for these services? Is the equipment compatible?

- Cloud services and applications: Will there be a disruption to cloud services and applications during the migration?

- EFTPoS Terminal or ATM on site: check with the bank or provider of your ATM to find out if it will be compatible with SIP.

- Fire alarms: If you have a monitored fire alarm in your building, you will need to register it with NBN and call your monitored fire alarm provider to find out if your device is compatible.

- Monitored security alarms or cameras: Contact the supplier of security equipment to check whether your alarms/cameras will work when connected to services provided over SIP.

- Lift emergency phones: If you have a lift emergency phone, you will need to register it with NBN and contact your lift maintenance provider to find out if your device is compatible with SIP.

- Medical alarms: It is essential that you register your professionally monitored medical alarm/auto-dialler or emergency call button with nbn and call your medical alarm provider to find out if your device is compatible before moving to the nbn. It's important to register your medical alarm with nbn as this will help nbn to liaise with your alarm **provider to** help minimise a break in service when the existing network is switched off.

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Technology is constantly evolving and offering new competitive advantages. With the enforced transition away from ISDN forcing change on the business it makes sense to review your current infrastructure searching for issues and barriers, as these are opportunities to make a positive difference.

'Future-proof' used to mean that an architecture - front end, information or data - would stand the test of time and evolve. 'Future-proof' in 2019 now means accepting that components of your architecture will need to be swapped out.

Staying with an old operating system, for instance, might lock you out of the next iteration of a critical software program, or the vendor may drop support, exposing your systems to greater security risk.

Whatever the situation, maintaining the balance of old and new must be thought through strategically.

Some questions to consider

❖ What are the benefits of an upgrade?
❖ Will an upgrade produce competitive advantage, or protect against a loss in productivity?
❖ What are the costs versus the cost of not upgrading?
❖ Is your business expanding or contracting?
❖ Where does your business want to be in 2 years' time?
❖ What are your competitors doing?
❖ What speed do you need?
❖ How much data do you need?

"If it ain't broke don't fix it" is a tempting maxim to live by, but it's not always best practice. Sure, legacy systems are sometimes worth persevering with, but they can also be inefficient and even dangerous."

3: Choose your Retail Service Provider (RSP) and Plan

Ok you've audited your infrastructure and ensured your equipment is compatible. Now you just need to choose a service provider.

Many providers market 'business' plans. These differ from residential plans in that business plans do not impose shaping when a business exceeds its allowance. In residential plans "shaping" slows your connection until the end of the billing cycle and payment has been received.

Business plans should also provide a Business Support hotline so you will not have to queue with residential customers should a problem arise.

No matter which company installs your SIP solution, you still have flexibility to choose a plan from any service provider. There are over 100 RSPs to choose from and each of these has a range of plans pegged to speeds.

For business there are advantages to opting for one of the top few carriers such as Telstra, Optus, or TPG. These include:
- Ability to pay for all services through the monthly bill
- Business plans
- Business-grade infrastructure

In the case of Telstra, Optus and TPG, if there is a power outage and nbn goes down, your business can default to the mobile network.

For business - small, medium or enterprise - VoicePlus recommends Telstra so that you can take advantage of years' of fixed line experience, dedicated business support, the ability to default to mobile, and the option to pay off any equipment over 24-36 months on the Telstra bill.

6 | The five most common ways that your ISDN migration can go horribly wrong

1. You have to work through your RSP to get anything done

Moving from ISDN to SIP will often entail moving to NBN at the same time. If this occurs, only the retail service provider (RSP) – the company that you are buying your new SIP service from e.g. Telstra, Optus, TPG – can deal directly with NBN Co.

The business cannot speak to anyone at NBN Co. You have to work through your RSP.

If there are any difficulties installing your NBN connection – such as the technician does not turn up for the scheduled appointment, or tells you at the appointment that you need additional equipment – you will need to speak with your RSP to resolve any issue that arises.

Hours on the phone without any definitive outcome is often the result.

2. You cannot modify an order after it has been submitted

A NBN order is not able to be modified.

If you discover that you have forgotten to order a fax line (common), or you discover your phone system is not compatible and needs to be upgraded requiring a different setup (also common), or you have replicated your current setup and then discover that you have a number of lines that are not required (very common), you have two choices.

a) you can go ahead with the incorrect order, get NBN connected, then attempt to remedy the error; or
b) you can withdraw the order and start again.

Withdrawing the order means starting over from the beginning. There are no shortcuts. This can often bring a company close to the disconnection date.

3. An order can be rejected and you will not be told

When an order is submitted to NBN Co. it can be rejected for any number of reasons, the most common being an address mismatch, customer details incomplete, or the order being built incorrectly.

Your RSP will not appoint a Case Manager until the order is accepted by NBN. Therefore, if an order is rejected, how will you know?

In theory, NBN Co. should advise the RSP who in turn should advise the customer. However, in practice, you will not know until someone follows up with NBN Co. to find out why there has been no progress with the order.

4. Appointments with technicians have to take place concurrently.

There is a sequence to the onsite technical work that must be completed to migrate a business from ISDN to NBN/SIP. This the same for every transition which involves moving to NBN.

NBN Co. is responsible for the physical work to connect the NBN (digital IP) lines and disconnect the old copper lines. The RSP will then connect the 'service' on the new lines.

Obviously these appointments need to be coordinated so that NBN Co. do not disconnect the ISDN lines without having the replacement technology in place.

If the work is coordinated correctly, the transition will be completed with minimal disruption of a few minutes. If the work is not coordinated and the old copper lines are disconnected before the service provider connects the new service, the disruption can be hours, days, or weeks.

5. If something is not working correctly post- migration no one will know but you

There is no 'test' to check that everything is working as it should be following the migration process. The only way that your RSP will know there is an issue, is if you report it. Then ensues a

In most cases, the cause of the fault is usually a physical error and a technician will have to attend onsite. These appointments take on average 3-7 days to occur. In the meantime the business will need to use redirections/diversions to another branch or mobile phones. For internet the business will need to use a mobile broadband connection.

7 | What will it cost to move off ISDN ?

Moving from ISDN to an alternate technology can cost a little, or it can cost a lot!

For a very simple straightforward transition for a SMB moving from ISDN to SIP, the costs could be contained to around $600. This fee would cover one SIP trunk, the carrier modem and a professional installation.

How expensive could it get?

Generally there is a one-off cost which includes:

- Purchase and installation of SIP infrastructure, compatible modem
- Purchase of new compatible hardware such as a digital phone system with handsets
- Internal premise cabling if required
- Professional Engineer to perform any upgrade work

There is an ongoing monthly cost for the service plan. This is dependent on bandwidth and speed required.

Typically the ongoing monthly costs for SIP are around half the cost of existing ISDN plans, and the business benefits offered by SIP are significant, allowing for remote seamless working, scalability of users, and business continuity.

8 | What IT resource will be needed to migrate away from ISDN?

Managing the transition off ISDN and onto a new technology is time-consuming and requires pain-staking planning and attention to detail. The risks of disruption to the business if the project does not run smoothly are very real. It is perfectly possible for an internal IT resource to manage this project – the better question is, do you want your IT resource tied up with this.

The amount of IT resource required to transition the business off ISDN will vary dependent on:

- how many sites need to be migrated
- whether the business is migrating to nbn at the same time and what nbn access technology will be utilised at each site
- whether an infrastructure audit is required at each site
- whether the business has any 'special services' like security alarms, EFTPoS, or lift telephones
- whether the business has to purchase and integrate any new compatible hardware
- whether the IT team chooses to project manage the entire project itself or outsource in whole or part to a managed mobility service provider like VoicePlus

IT resources will be required in the areas of:

1. Solution Design and Costing
2. Gathering and Validating On-Premise Information
3. Project Management
4. On-Premise Activity
5. Testing and Reporting

There are many stages where the process can fall down, and there are a range of activities which must occur sequentially to ensure business continuity.

# 9 | Should you consider a third party to manage your ISDN transition ?

You might think this is the chapter where we pitch VoicePlus' service. You'd be right!

Yes a business can handle the process itself with one major caveat - it must have an in-house resource that has the following capability:

- Will collate the business bandwidth and future use requirements
- Designs and costs a new SIP network infrastructure
- Will have time to research suitable SIP products an obtain quotes
- Can audit their current infrastructure for connectivity which will be impacted by the disconnection of ISDN lines
- Can audit their own infrastructure and identify non-compatible devices and technologies
- Knows how to retrieve a service audit document of record from its current service provider(s)
- Can match the service provider's records against the known infrastructure and identify variations

- Can build a complete and accurate NBN Order document if migrating to NBN concurrently.
- Has knowledge of the NBN paper trail and process so that the progress of the order can be kept moving
- Has the time to invest in regular follow-up calls to the Service Provider case manager to ensure that appointments are made and kept
- Can be on-site or have a dedicated person on-site for technician appointments
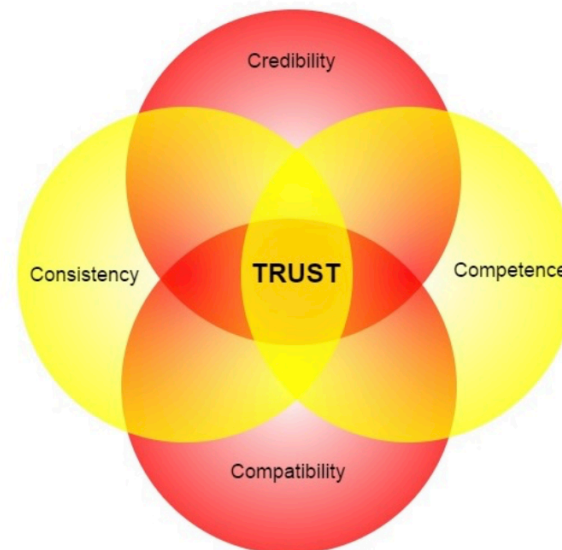
Benefits of a Third Party Service Provider

- Provides impartial carrier-agnostic advice
- Provides design consultancy skills and scope of works documentation
- Obtains quotes for sign-off
- Has specialist knowledge of the RSP offerings ensuring you get the best value
- Has specialist knowledge of the back-end migration processes followed by the RSP and NBN ensuring your order progresses
- Knows how to act proactively to head off disruption and downtime
- Has a direct line into Telstra network systems (if they are an accredited Telstra Partner such as VoicePlus)
- Has a proven track record migrating businesses
- Co-ordinates nbn Co., the RSP, and your onsite contact to manage the physical work which must take place in sequential order
- Follows up after migration to ensure the technology is working correctly; and resolves any outstanding issues
- One point of contact for all issues relating to the migration
- Relieves your IT team from process and administration tasks

Why use a Managed ISDN Migration

Some Managed Mobility Service providers – like VoicePlus – offer a managed ISDN migration product. This service is particularly popular with enterprise and large business who have multiple sites to migrate and don't want their IT resource to be monopolised by a time-consuming process which takes them away from their core responsibilities. It is also popular with SMBs who have no in-house IT resource and no time to spend on the phone to the various parties.

VoicePlus' Managed ISDN service

VoicePlus project manages and implements every aspect of the ISDN transition process delivering weekly status updates and driving to a successful completion with minimal input required from the business.

The service includes auditing the existing infrastructure, collaborating to understand future requirements, designing a solution, preparing a costed proposal, supplying equipment, and managing all liaison with the RSP and NBN to disconnection of ISDN line and the migration of services to SIP.

ABOUT VOICEPLUS

VoicePlus is a managed mobility service provider based in Sydney. Our customers include Coca-Cola Amatil, Citi Group, Hilton Hotels, Compass Group, Downer Group, the Reserve Bank of Australia and many more. By January 2019, VoicePlus had managed the transition of over 2,000 business premises to the NBN. We are now transitioning clients from ISDN to SIP.

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Asif is VoicePlus' lead in the fixed line space. His role is to design fixed line solutions that meet the current and future needs of our customers. Asif has specialist technical knowledge and experience, and applies these insights to delivering practical scope of work documentation. He was one the first practitioners in Australia to receive NBN Business Adviser accreditation. Asif has a BA in Electrical Engineering and in his previous role as a Network Operations (Continuity) Analyst at Telstra, he gained unique insights into the back-end processes deployed by the RSPs.

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Justin is VoicePlus enterprise project manager. He oversees the implementation of all major projects across the business. He is responsible for maintaining, developing and improving external customer-facing service processes.

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