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### NBN And PABX Phone Systems

So your business is running an old analog multi-line PABX that you've used and trusted for years, you've also just been letter dropped that the NBN is ready for service in your area, ok, so that means you have 18 months to migrate to an NBN service before Telstra cuts off your existing copper services, you know it's wise to move sooner rather than later because you don't want to get caught out and be without a phone service when everyone waits till the last minute, and there's not enough techs to go round.

You decide you better start talking to some RSP's (Retail Service Providers), or worse - you get one of those pesky door to door sales people, either way, during your conversations all of a sudden your ears prick up because you've just been told that your trusty existing PABX wont work, it's incompatible with the NBN and you need to replace it. There is a tiny bit of truth in that, and I do mean tiny, like it wont work as is, but If you think it sounds more like a rort, you're probably right.

Some RSP's and Phone shops (including certain big name Telco Business Centres) are telling businesses they need entire new phone systems (since NBN is a SIP or IP based service) when in fact they don't. These SIP PBX devices start at a little over \$400 odd for a pretty comprehensive device suitable for SMB's such as a Grandstream 6202, but you can bet your bottom dollar the brands they are pushing are in the thousands, yet they all do pretty much the exact same thing and based on asterisk, most likely with freepbx or elastix, or a slight variation of.

Then there's the new phones they say you need, IP Phones, pretty basic handsets such as this Yealink T19p can be bought for under \$70, 4 SIP account 8 Line units like Grandstream 2135 or 3 SIP account Yealink T40p will set you back around \$130, more higher end models with 6 or more lines such as the Yealink T28p for just under \$200. I have little doubt the handsets the Phone shops try to sell you are closer to costing several times that. Although cheaper, Grandstream, Yealink units are just as reliable, high performance and feature rich as the much more pricier ones, even the world renowned Linksys/Cisco SPA series (I've owned an SPA942 for over 10 years now and has performed flawlessly, with its comparative model today is about \$190) are most affordable, these companies have been around for a long time, and cheaper than say Avaya, LG, and other name brands you're more used to associating with traditional phone systems, not to mention they are also well known and respected in the VoIP world.

Then they will likely tell you, for once a truthful point, that it's more than likely your existing phone cabling wont work and needs replacing because it's the old 2 pair Cat3 cabling designed for analog phone systems, not the 4 pair Cat5/6 Ethernet cabling needed by IP Phones, and you will need a decent switch, the \$29 things from eBay wont cut it in the long run.

You can see how easy it is for the costs to keep quickly adding up, it could very easily exceed \$5000, closer to \$10000, depending upon how many phones, cables and outlets have to be replaced.

I've been hearing horror stories of some SMB's quoted \$5000 just for the PBX and a few phones - without new cabling.

Some, but not all RSP's and Phone Retailers, are sprouting this crap daily to unsuspecting business people who just need their phones to keep working. Sadly, the number of SMB's who fall for this will end up being high in the long run unless a lot of people get educated. I'd like to think this isn't all deliberate tactics, and is mostly because the sales people themselves, have no idea, but I wont be so naive to think some are not out to make a quick buck through any means.

In reality, your existing PABX will continue to work just as it does today with only a small modification, most modern PABX's are modular and have option for a pluggable SIP module (that may already be installed), or a simple licence upgrade to activate SIP, and as for the systems that don't, like very basic systems, or old systems - which there are a lot of still in use today (I've worked with one that dates back 30 or so years) because they just work, can be made to work with the NBN via an external device called an ATA (Analog Telephone Adapter) for only a tiny fraction of the cost compared to replacing your entire system, a 2 line ATA (Grandstream HT802 or Cisco SPA 112) will set you back around \$60, a 4 line (Grandstream HT814) for under \$130, and an 8 line (Cisco SPA8000) for under \$270, thus eliminating the need to replace your entire phone system, saving you countless thousands of dollars.

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Rather than falling for these sales droids drivel, talk to your IT consultant or a Registered Cabling Provider who should be able to tell you if your system can do SIP, or if not, recommend, supply and install a suitable ATA for your PABX to hook into.

Currently, your PABX is likely wired into an IDC termination block, or directly to several wall sockets, basically to move to NBN - SIP based, rather than terminate in a terminal block or wall socket they are plugged into the ATA's FXS ports which uses ethernet data from your FTTx network to talk to your phone service provider via SIP, making it transparent.

An example of how NBN and an ATA with your old PABX works is

If you are considering a new phone system anyway, perhaps this would be a good time to consider a fully VoIP (SIP) system, as it is the way of the future, shop around, talk to your IT consultant or a Registered Cabling Provider for advice on SIP Equipment and especially SIP Trunk Providers, the plans and inclusions, number of lines, with all things equal, the prices, just like hardware, can vary rather wildly. An Example of two SIP Trunk providers doing the same thing are Telstra Business SIP (A new product coming for 2018), and MyNetFone.

This type of setup optionally involves extra equipment on top of the PBX itself such as a PoE (Power over Ethernet) Switch, and a decent Router with QoS.

An example of an all SIP setup is like this

A smaller business or shop, with a single line, probably would not need an on-site PBX and would likely use a SIP Provider similar to Household NBN Services like this, but be warned, a lot of these services explicitly prohibit the service use for business/commercial purposes.

And to do away with a local PBX altogether, using a hosted PBX solution like

Hosted VoIP Services might suit a single person office, much like a personal VoIP service for home, but it is not a solution recommended for use with multiple phone requirements, there are plenty who say this works, but I've always found those people to have vested interests, your biggest problem is if there's no internet, you wont be able to call any other extension, not your sales guy in the office next to you, not your reception or front counter, not your warehouse storeman downstairs, nobody, all your phones are useless with no internet, and we've all seen the nightmare stories on the nightly news services about small businesses struggling with NBN outages.

If you decide you are going to replace your aging phone system with a brand new SIP based PBX, and require new or extra cabling, remember, Phone and Data Cabling can only be done by a Registered Cabler, NOT yourself, not even an Electrician unless they also have a current Open Cablers Registration and applicable endorsements ("S" as a minimum), so if you use an Electrician, just like any person claiming to be a authorised to conduct such work, you should ask to see their Cablers Registration Card, if they can not produce it for ANY reason, they must not be allowed to perform such work until they can produce it, an Electrician licence is not sufficient and does not authorise a sparky to do any phone or data work.

My advice here is, they are both specialised fields, so seek out a Registered Cabler, as that's all they do, day in, day out - phone and data, Electricians do what they do extremely well, but most of them don't do much phone or data as a rule, and most of them are not ACMA approved Registered Cablers.

\*\*\* WARNING: It is a criminal offence in Australia to tamper with, alter, or perform any phone or data work if it is, or even if it can be, used on or over a telecommunications or data network, including behind air-gaped WiFi devices, unless you are a Registered Cabling Provider with appropriate endorsements.

Existing penalties such as on-the-spot fines of \$2040 for very minor breaches, or in more serious cases, court imposed

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finer of \$90,000 and criminal conviction recorded is a real probability, as well as the likelihood of the removal of all illegal cabling.

Other things you need to be aware of are, using a non Telco provider (Telstra, Optus etc) SIP service, you may need to have your router enforce QoS for SIP, in reality this has rarely been a problem, some VoIP "experts" go over hypo when hearing people using anything without QoS, but perhaps they should just turn off their torrents instead

Also of note is, if you have an NBN connection with voice service from for example Telstra, they will make life extremely difficult in obtaining your own SIP details to use in third party equipment, they mostly will deny you access to that forcing you to use their hardware, there are ways around this for some modem models, but frankly, why you'd continue to use their over priced voice services instead of established VoIP providers is another question you need to ask yourself. Most of them allow you to port over (keep) your existing phone numbers too, but take care if you have 13, 1300, or 1800 numbers, talk to your prospective SIP provider to ensure they can handle all that as well.

No matter which way you opt for when moving to the NBN, you will have minor downtime when NBN change you over, it can be hard to get NBN to keep an appointment time, delays happen, and can throw their entire days schedule out (try get a first up appointment), and your IT consultant or Cabling Provider should be there at the same time to minimise any disruptions. If you can, try to move only half your lines at a time, that way you wont be totally without a service, especially if your business relies upon the phone service.

Lastly, regardless of which system you opt for, ensure you have a dedicated half decent UPS with surge protection powering your NBN Modem, Router, Switch, Phone System or ATA, for at least a couple of hours.

I hope this article has helped to show you what happens with NBN and SMB phone systems, and that there is no reason to throw out your perfectly good working reliable existing analog PABX system when you're forced onto the NBN, no matter how old it is.

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Posted by NoelB at 17:29