

New Generation Telecommunications

SIP/IP Telephony Over Broadband Services

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What Is SIP?

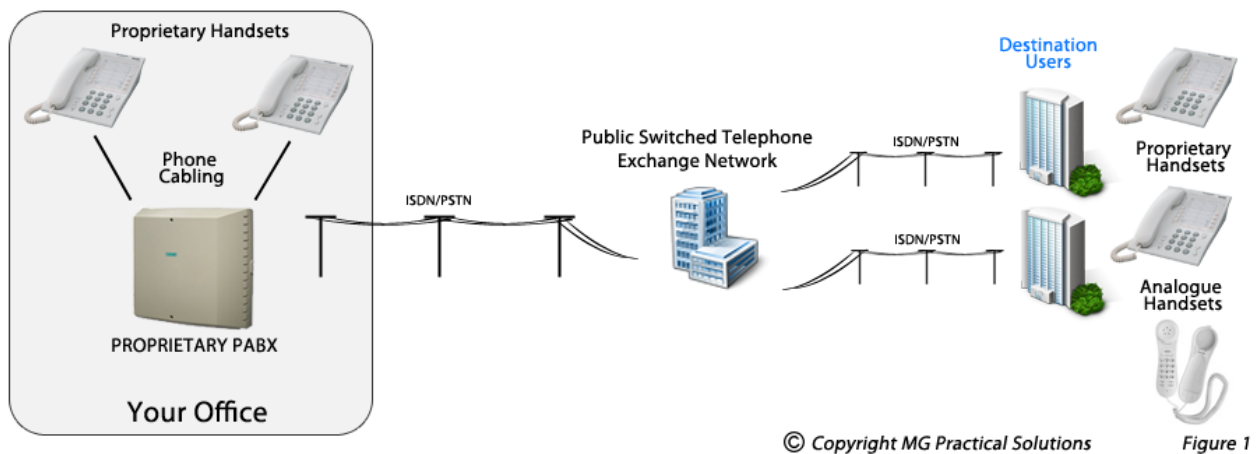
- SIP = **S**ession **I**nitiation **P**rotocol (*Session Initiation = a phone call; Protocol = a set of rules*)
- A standardised protocol - Facilitating voice, video and other forms of communications across a computer network (Local Area and/or Wide Area Network)
- SIP is a common protocol standard used by equipment manufacturers and service providers
- SIP assists in interoperability & convergence with computer data networks

2. What does SIP & IP Telephony do for me?

- Reduces communication costs.
- Helps drive competition between carriers to reduce costs
- Provides flexibility and integration with existing computer networks.
- When the PBX (Phone System) is offered on robust Operating Systems, systems are less prone to viruses.
- Open non-proprietary platforms provide competitive advantages for carriage & low cost of ownership
- Generic IP handsets offer migration to other non-proprietary IP/PBX systems
- Backup services & recovery

3. Traditional Proprietary Phone Services

ISDN* and/or PSTN* Trunk lines & handsets/extensions



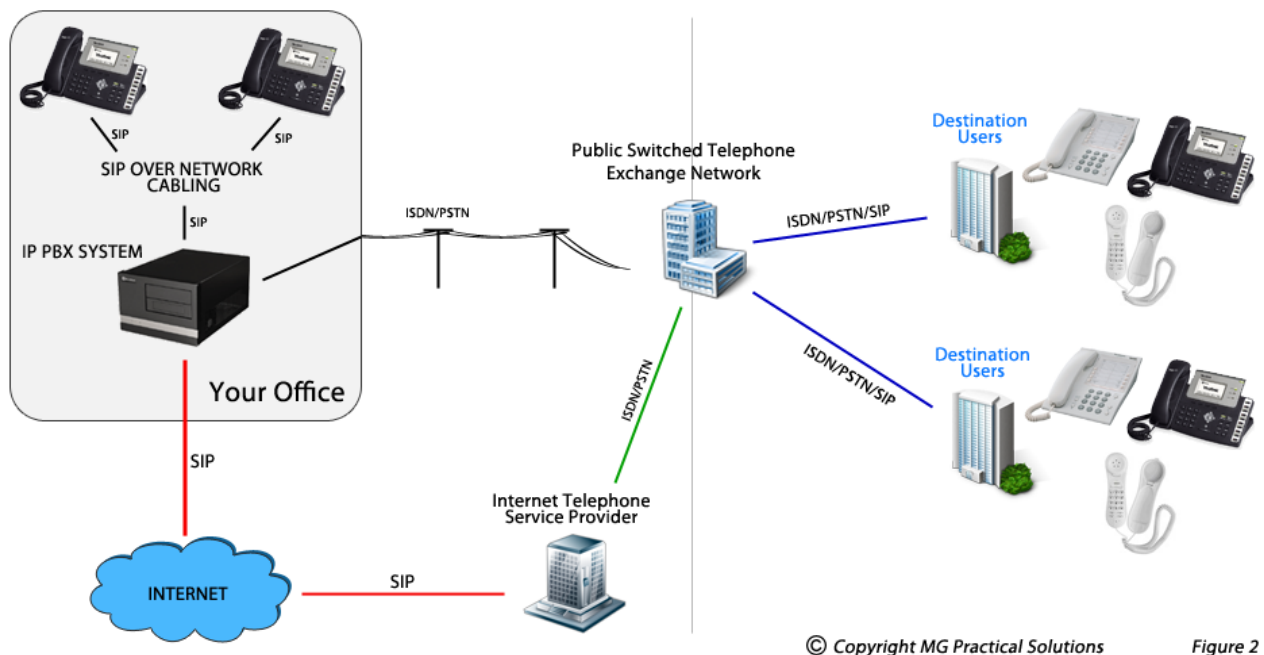
Disadvantages

- Expensive carriage services and line rentals.
- Usually accompanied by long term carriage and maintenance contracts.
- Usually entail timed calls at high rates.
- Proprietary systems are costly to maintain by certified proprietary technicians. This entails service call out fees for reprogramming.
- Usually require separate cabling to that of your computer network. Extra cost
- Cannot move to outside of (telephone exchange based) your area without diverting your existing phone numbers.

* See definitions page 9

4. Integration of Traditional & IP/SIP Telephony

- SIP/IP service via Internet Telephony Service Provider (ITSP*)
- A hardware interface in your IP/PBX provides hybrid compatibility to old PSTN/ISDN technologies running on the copper telephone network.



* See definitions page 9

5. SIP/VoIP/IP* Telephony Myths

- SIP & IP Telephony (VoIP) is new and unproven
 - SIP protocol has been around for over 15 years and has steadily evolved over time
- SIP/ IP Telephony (VoIP) calls sound terrible
 - A VoIP call will sound no different as long as the service and equipment are deployed correctly
 - As a digital service it can be better quality than PSTN
- I can only call other VoIP services
 - VoIP is just a way to connect to the phone network; you can call any phone number on any provider's network.

*See definitions page 9

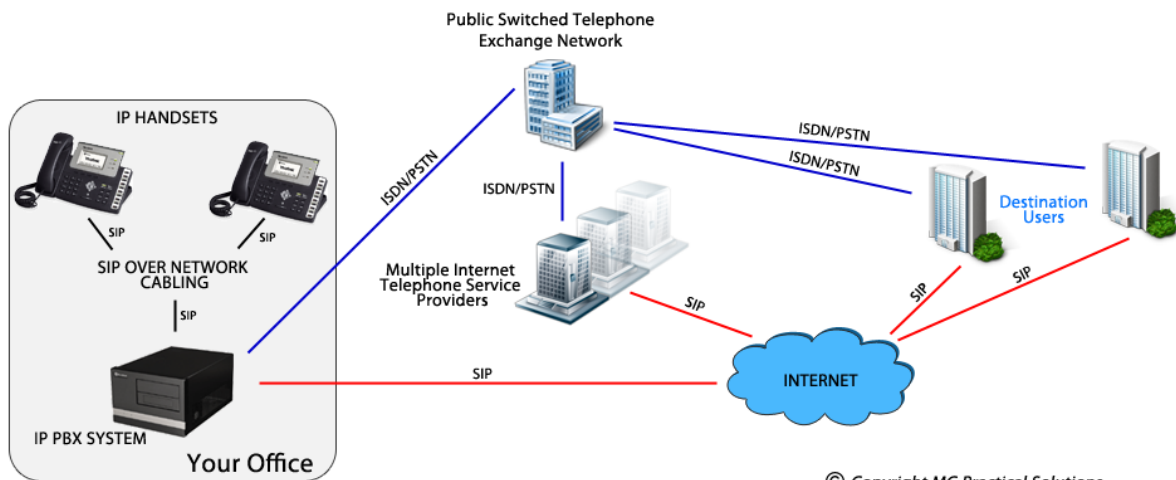
6. IP Telephony the NBN and other networks

What is the NBN (National Broadband Network)?

- As the name implies it is a provider of broadband. In this case, a wholesale provider of broadband.
- NBN Co Pty Ltd is the company that is providing these wholesale services, be it over a fibre and/or wireless medium.
- Retailers for NBN Co wholesaled services, will be, in part, some of our existing ISPs (Internet Service Providers) we have come to know, such as Telstra, Optus, iiNet, Tropic Net, Cairns Net, AAPT, Westnet, Netspace etc. Some of these companies have merged or acquired each other in preparation for what they are referring to as “A Level Playing Field” that the NBN would provide.
- Its implementation may well depend on political issues, however NBN Co may become one of many wholesalers. Irrespective of this, the initiative is to provide a faster broadband.
- What will greater speed of broadband services achieve? Answer: It will provide greater bandwidth which is necessary for quality IP/SIP/VoIP Telephony coupled with fast computer data services over the one medium (or Pipe).
- Without this fast high bandwidth broadband we will have to have separate broadband services for voice & data, to ensure quality of service. This is more expensive and cumbersome. However it is working for the time being.
- What should we do to prepare for NBN or other faster networks?
 - Do not sign up on long term carriage contracts with any one supplier.
 - Do not buy a phone system that is primarily configured for legacy traditional ISDN/PSTN* technology
 - When cabling or re-cabling your building, do it to the “Cat 6” cabling specification.
 - Talk to MG Practical Solution prior to making a decision on Telephony.

* See definitions page 9

7. IP/SIP/VoIP Telephony with MG Practical Solutions



- MG Practical Solutions provides generic, open software and hardware platforms. This offers a low cost of ownership compared to proprietary hardware/software vendor solutions.
- MG Practical Solutions passes on the technology to its customers and in house IT Managers, maintaining this low cost of ownership.
- MG Practical Solutions is a member of a global panel of system integrators ensuring backup professional services for its customers.
- MG Practical Solutions was the first company in Far North Queensland offering systems implementing 100% SIP trunking with copper fallbacks and has had over 20 years' experience in IT & T*.

* See definitions page 9

8. Definitions

IP	Internet Protocol
SIP	Session Initiation Protocol (<i>Session Initiation = a phone call; Protocol = a system of digital message formats and rules</i>)
PBX	Private Branch Exchange
ISDN	Integrated Services Digital Network
PSTN	Public Switched Telephone Network
ITSP	Internet Telephony Service Provider
ISP	Internet Service Provider
IT & T	Information Technology & Telecommunications
VoIP	Voice over Internet Protocol