SIP Voice Services Outclass Traditional Telephony

An Enablis whitepaper

This whitepaper provides an independent perspective of SIP Voice services versus traditional telephony. It explores how mid-size businesses can benefit from moving to SIP voice and the inherent benefits including: disaster recovery, flexibility, virtual business capabilities and cost reduction. In this paper we address the following areas:

- Traditional Telephony vs SIP
- Why move to SIP
- Business & Commercial benefits of SIP
- Skype vs Enterprise SIP service
- SIP delivers

Traditional Telephony vs SIP

Many companies today still utilise traditional telephony infrastructure comprised of telephones, PABXs and PSTN access.

- **Traditional telephones** transmit and receive sound and its primary function is to allow two people in separate locations to talk to each other.
- A **PABX** (telephone system) has two functions, namely, to allow staff in a company to: make internal calls, and to connect an office to the public switched telephone network and allow staff to make external phone calls.
- **PSTN (or ISDN or PRI)** connects a premise to the Public Switched Telephone Network (PSTN) which connects telephone networks around the world.

The downside to traditional telephony is that is it very costly, inflexible and restrictive.

Session Initiated Protocol (SIP) is the signalling protocol used to control voice and video calls over a public (Internet) or private network. SIP voice services provide a direct replacement for traditional telephony infrastructure and have proven to be a flexible and cost saving technology.

Many mid-sized corporates today will have both public and private based IP networks for data applications. SIP voice services can be used over these networks rather than using the PSTN, ISDN or PRI circuit component of a traditional telephony infrastructure.

Why Move to SIP Voice Services

Companies reviewing their telecoms infrastructure, looking for cost reductions and seeking additional flexibility should consider migration to SIP.

SIP deployment requires minimal changes to the existing telephony environment (however does require number porting) and can be deployed using either a traditional or IP based telephone system.

Figure 1 below shows the deployment of inbound and outbound SIP calling with an existing IP Telephone system.
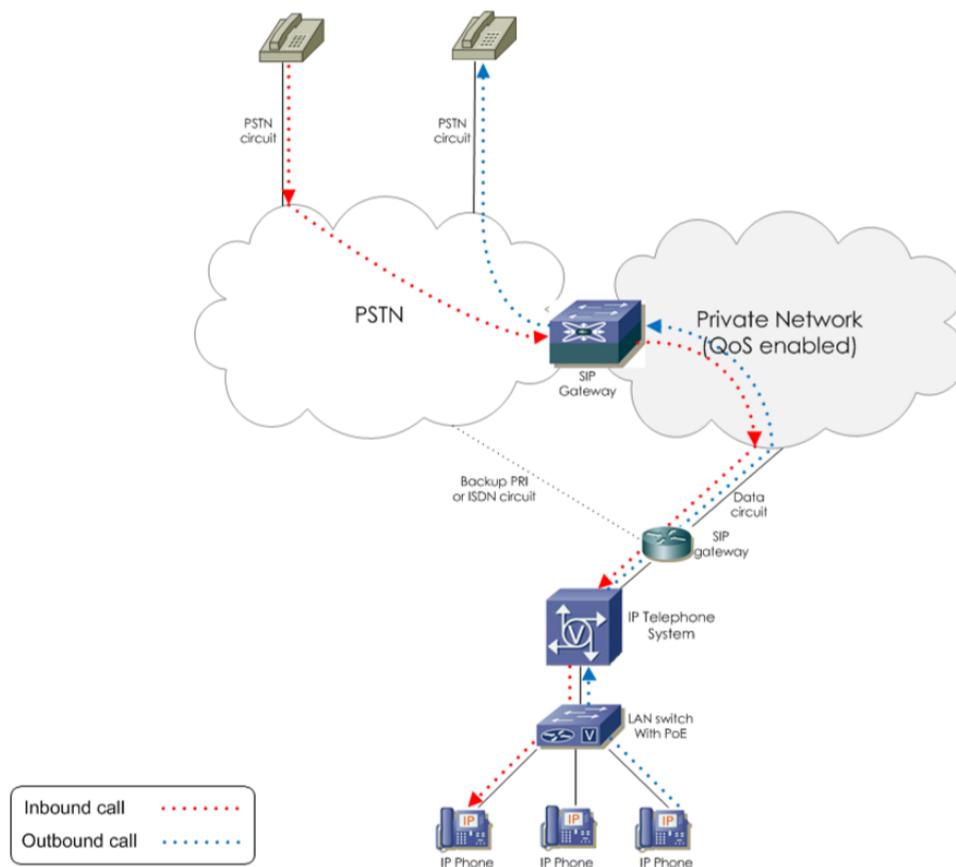

Figure 1

A full SIP implementation has the following components:

- Data connection to a private network, scaled to allow for the maximum number of concurrent calls required.
- A SIP gateway connecting the existing PBX or IP-based telephony system to the private gateway.

Inbound calls are routed via the data network to the SIP gateway whilst outbound calls are routed via the SIP gateway and over the private network. In the event of failover i.e. if the data circuit fails, inbound and outbound calls are automatically routed via the backup ISDN or PRI circuits.

5 Benefits of a SIP Telephony System

1. Disaster Recovery

In the event of a disaster, all calls can be quickly and automatically re-routed to another location. For example, if head office suffers a power outage, all inbound calls to the head office can be automatically re-routed to the call centre.

2. Flexibility

In a traditional telephony infrastructure, the PSTN, ISDN or PRI circuits limit the number of concurrent calls, as shown in Table 1.

Circuit Type	Concurrent Calls
PSTN	1
ISDN2	2
ISDN10 (PRI)	10
ISDN20 (PRI)	20
ISDN30 (PRI)	30

Table 1: Fixed concurrent calls per circuit type

This results in two issues. Firstly, it does not allow staff to make more calls than allowed by the circuit type. For example, on a day-to-day basis, a sales office with 20 staff being able to make 10 concurrent calls may be adequate. However, if the company initiates a sales drive, the 10-calls restriction would limit severely the operation of the sales drive. In contrast, a SIP telephony system would enable a sales office to burst its concurrent calls restriction on an ad-hoc basis.

Secondly, a company has to commit to a specific circuit type, which can lead to paying for a large number of unused lines. For example, a company with seven staff may be forced to purchase an ISDN10 because of the limited choice in the traditional telephony market place. Even when all staff are on the phone at the same time, the company is still paying for three unused lines.

SIP voice services allow any number of users to be added to or taken from the service without financial penalty.

3. Virtual Business Presence

By deploying SIP voice services, a business can hold all of its geographic numbers (02, 03, etc.) centrally and route them to any office. This allows a company to have a virtual business presence in a town or state. For example, an expanding company may have offices in Sydney, but wish to grow their sales presence and customer base in Melbourne. The company can add a Melbourne geographic number (03 xxxx xxxx) to its website and sales material. The Melbourne number can be held on the SIP gateway and all calls to the Melbourne number are delivered to the Sydney office's telephone system.

4. Reduction in Call Tariffs

One of the key benefits from migrating to SIP voice services is the significant reduction in call tariffs. The table below compares the tariffs of a company in a traditional telephony set up verses the tariffs of a SIP deployment.

It's worth looking at the traditional telephony rates and comparing these against your own current rates to see if you are in line with current market tariff structures, as outlined in table 2 below.

Call type	PSTN/ISDN Tariff (cents/minute)	SIP Tariff (cents/minute)
Flag fall	5	0
Fixed to Mobile	18	10
Local	5	3
National	6	3
13/1300	6	4.5

Table 2: Comparisons between traditional and SIP tariffs in cents per minute

*Traditional "Local Calls" are charged per call, not per minute

**All tariffs are excluding GST

5. Removal of PSTN and ISDN (BRI, PRI) circuits reduces costs

Migration to a full SIP telephony system enables removal of the PSTN, ISDN and PRI networks. However depending on the type of business and importance of voice services, a company may decide to retain a small number of traditional PSTN and ISDN (BRI, PRI) circuits. But retaining them can be expensive. For example, if a company with 20 offices retains its traditional telephony networks, it could be paying up to $3,510.80 a month, as shown in Table 3.

Circuit Type	No.	Monthly Charge	Total Monthly Charge
PSTN	1	$31.77	$1,270.80
ISDN2	2	$58.00	$1,160.00
PRI30	30	$540.00	$1,080.00
		Total	$3,510.80

Table 3: Cost of retaining traditional telephony systems in a company with 20 offices

Assuming that a company's network can support Quality of Service (QoS), it could save up to 85% of the $3,510.80 cost per month by removing its traditional telephony services.

SIP Delivers

In order to gain the greatest business and commercial benefits when considering a change to your voice services, it is important to look at **voice** in combination with your **data** network. The data network forms the communication foundation within a business so it's critical that it's scalable, secure and has commercial and technical flexibility. A strong data foundation will enable a high-quality reliable SIP voice service to be implemented in your business which will deliver better, more cost effective voice services to your business.

You can expect SIP to deliver:

1. Significant savings

SIP voice allows you to remove significant line rental charges, which means no more monthly charges for expensive service and equipment (S&E) fees. This is significant, particularly for organisations with many distributed sites where line rentals can be up to 50% of the total voice costs.

2. Reduced call costs

SIP voice services are extremely competitive on both national, F2M and international calls with a typical tariff reduction of 20%. When combined with the line rental savings this typically offers a compelling ROI for businesses.

3. Increased flexibility

SIP services can accommodate business initiatives such as virtual call centres.

4. Built-in disaster recovery

As a centralised voice service, calls can be diverted quickly and easily if offices have outages or downtime, ensuring your business stays up and responsive to your clients' needs.

5. Truly scalable service

SIP allows businesses to scale up and down as the business expands or contracts without penalty.

6. Number portability

You're no longer tied to exchange based numbering and can use new consecutive number ranges across different sites and locations. Alternatively you can easily port existing number ranges across to the SIP voice service to save costs associated with changes.

THE ENABLIS DIFFERENCE

Enablis is a specialist communications managed service provider. We focus on easing the burden of your communications estate by owning the telco relationships and contracts so you only have one touchpoint and one set of SLAs.

Our comUnity managed service platform transforms the way organisations procure and utilise data, voice, video and security services.

We are focused on delivering best of breed technology to mid-size businesses with multiple sites and first class customer service. With Enablis' comUnity platform companies are empowered, gaining total control of their communications operations whilst dramatically reducing their operational costs.

Get in touch with us and see how we can help remove the burden of operating your IT environment so all that's left are the benefits.