SIP Trunk
IP Technology for Businesses

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# SIP Trunk - IP Technology for Businesses

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**Introduction**

Session Initiation Protocol (SIP) is a way of making phone calls over an IP-based technology using traditional PSTN numbers. It has emerged as a universal standard for the next age IP-based voice solutions. SIP enables users to engage in integrated communications from anywhere irrespective of the underlying network infrastructures used.

On the other hand, a SIP trunk employs IP-based technology to connect with the outside world. It is a solution delivered by a telephony service provider (ITSP) to connect a private enterprise-class phone system – which may be a hardware-based private branch exchange (PBX) or software-based iPBX – with a voice network backed by IP protocols. It can establish communication links between branch offices of the same organisation as also with the outside world. It is not necessary to replace an enterprise’s existing voice network equipment to implement a SIP trunk.

The universally available access to the Internet has brought in the age of SIP-based trunking services that allow businesses to move from dual and physically separate voice and data networks to an integrated and converged all-IP infrastructure.

The migration to SIP-powered IP phone system has given more advantage to the organisations adopting it as it also paves the way towards Unified Communications. SIP seamlessly enables and integrates email, text messaging and chat on a single platform.

**What Is SIP Trunk, and How Does SIP Trunking work?**

SIP is a way of connecting phones virtually instead of using physical phone lines. When they use traditional PBX telephony, businesses need to lease high-capacity, multi-calling phone line called a trunk. It connects the internal phones to the outside world through a public switched telephone network (PSTN). A plain old telephone service (POTS) carrier-provider enables this traditional trunk service, and time division multiplexed (TDM) technology fuels it.
Why Use SIP Trunking?

By paving the way for simplified IP-based communications and eliminating the expenses of less flexible ISDN connections, SIP has been gaining popularity in the Indian business sector. Frost and Sullivan¹ projected a compound annual growth rate of 31% between 2017 and 2022 for SIP in India.

Organisations of all sizes have many reasons to choose SIP trunking for their telephony. The most common of these are:

**Managing multiple phone lines**

While SIP trunking seems to be a favourable choice for BPOs, other kinds of businesses can also draw upon the benefits of SIP. As an example, in a recruitment agency that has numerous employees speaking to clients (company HR representatives) and candidates, SIP can help the teams to handle high call volumes effectively.

Indeed, SIP could suit any organisation that needs multiple, highly scalable phone lines. With its ability to connect two or more people inside and outside an organisation, SIP trunking can be used for conference calling too.

**Ease of scaling a startup**

Is SIP trunking also suitable for those who have just launched a business with a few workers?

It is worthwhile to consider SIP trunking at an early stage as it does support the growth of an organisation.

These phone lines work over virtual connections, which is why there is no need to either arrange for a physical location at the office premises or to arrange for more phone lines. The telephony network can easily scale with the business and can be set up at new locations while retaining the old phone numbers.

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¹ Frost and Sullivan

Trends favouring SIP Trunk adoption in India

- BYOD culture
- Unified Communications
- GLOBALISATION – Indian businesses expanding to overseas locations
- Government’s Digital India Campaign

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For a business, SIP trunking offers several significant benefits, including:

### Planning for worst-case scenarios

In its early stages, any business would like to focus more on development and growth. However, it is also necessary to prepare for worst-case scenarios. There should be a disaster recovery plan in place, and that is where SIP trunking helps. If phone lines at a location go down, SIP offers instant backup.

It allows the organisation to reroute calls to another SIP trunk (provided by the same vendor), which means that there is no need for an added backup system.

### Reorganising communications

In addition to voice calls, SIP trunking can be used for various other communication systems – such as instant messaging and email – used at work. A business can also get all of these onto an integrated platform to leverage the benefits of Unified Communications. Furthermore, as the business scales, SIP trunking can be used to connect employees across locations. It is a cost-effective solution that only calls for Internet connection and calling devices.

SIP trunking can also be used to make calls going out from a specified location, as also to make calls from mobiles go out as a specific number. SIP uses a single connection for managing multiple phone numbers, without numerous lines.

For a business, SIP trunking offers several significant benefits, including:
**A lowered total cost of ownership through:**

- **Reduced capital expenditure (CapEx)**

Operationally for a minimal infrastructure cost, a very high traffic volume can be supported; hence the CapEx can be reduced by a substantial margin for the long term. Additionally, by deploying IP-based trunking solutions, branch locations of a business can efficiently preserve the investment in their legacy infrastructure and lengthen its useful life while capitalising upon IP-based services hosted at their headquarter office.

- **Lower operational expenditures (OpEx)**

SIP trunk enables a single converged network to transmit higher volume on the same physical infra. This helps to reduce or eliminate the operational and maintenance expenses on two disparate systems. Also, migration, additions and modifications are much easier and less expensive on IP-based PBX and telephony platform. As against this, legacy platforms involve complex and cumbersome configuration changes that may involve third-party consulting services.

**Enhanced employee productivity through:**

- **Upgraded collaborative and conferencing tools**

SIP trunking technologies have created a platform that features versatile applications for better collaboration and Unified Communications. Multimedia conferencing systems enabled by SIP are easy to set up and can even be operated without the support of the vendor.

Besides, SIP has presence features to notify users on the online availability of the other party for interactions. The ease of sharing files and using MS Office Suite business applications on a single platform created by SIP also leads to better productivity and efficiency.

**Better customer experience and sales promotion with improved business processes:**

- **Integration with CRM**

As a text-based protocol, SIP is highly deployable in different scenarios. When integrated with customer relationship management (CRM) system, it instantly provides the option of chatting with a customer support associate whenever a customer logs in to enter a query. If it is a serious concern, the customer can connect with the associate via a single click as the system initiates a phone call between the customer’s registered number and the associate’s extension. Such value-added services over time improve customer experience with a brand.
**Flexibility to throttle**

Being highly scalable, SIP makes it easy to alter the channel capacity of the required bandwidth as per the requirements of the business. This is a facility unique to SIP, using which seasonal business requirement surges can be met by temporarily upgrading the channel bandwidth for a limited period of time. This can further be reverted automatically to the original level once the seasonal demand has been met.

**Redundancy and failover**

The traditional PSTN was a resilient telephony system and had considerable uptime. However, any outage at the service provider’s end could leave users without service for hours at a stretch. IP-based SIP allows a business to connect to a different trunk as a backup if one breaks down. This redundancy capability secures the organisation against network failures and assures a higher and consistent level of service uptime.

**SIP Trunking Deployment with Traditional PBX and IP PBX**

As per the type of PBX system that the organisation owns, there are two main approaches for deploying SIP trunking:

**With traditional PBX**

For a business with a legacy PBX system that is usually SIP-unaware and has conventional handsets, there may not be much incentive to rip them all out and replace the setup with a SIP-based solution. However, the cost savings of IP telephony can still be realised. This is done by using a VoIP gateway that converts the PBX interfaces to Ethernet while packaging the voice traffic for transfer over the IP-based trunk to the SIP vendor network. Usually, a multiport gateway is implemented between the legacy system and the service provider in this approach of deploying SIP.

**Advantages of SIP with Traditional PBX**

- Reduced cost of voice communications with intra-office toll-bypass
- Preservation of investment in existing telephony equipment
- No need to spend on voice hardware
End customer experience remains optimal

No need to retrain staff on new processes

Disadvantages of SIP with Traditional PBX

- Maintaining the old PBX could be cumbersome and costly.
- Rich new features enabled by all-IP telephony remain unavailable.

**With IP-PBX**

Advantages of SIP with IP PBX

- Advanced elements including call parking, voice-enabled IVR, and integration with other business subsystems can be enabled.
- Maintenance costs for an IP PBX are much less than those for legacy PBXs.

Disadvantages of SIP with IP PBX

- The business must invest in entirely new hardware.
- Employees need to be trained to understand and master the newer features.

**Factors to Consider While Choosing a SIP Trunking Provider**

With several SIP trunking vendors offering their solutions, how does an organisation find the best match for its individual needs?

Some common factors to be considered while making this critical investment decision are:

**Security** – What level of protection would the business need for its communications, and how does the service provider ensure it?
Testing – Is it necessary to run network or bandwidth tests, and if yes, will the vendor run them?

Compatibility – Does the business need compatibility equipment (such as a gateway), and if so, does the vendor provide them?

Uptime – This is a parameter to measure how reliable the service is. A minimum of 99.9% is considered a high standard.

Plans – What services are included in the monthly SIP trunking package, and are there any hidden charges?

Conclusion

Whether an organisation owns traditional PBX or new, advanced IP telephony, SIP trunking helps them connect and streamline their communication systems while bringing the advantages of cost savings, operational efficiency and feature-rich collaboration.

At Tata Tele Business Services (TTBS), we offer SIP solutions to help our clients establish seamless peer-to-peer connectivity within and between their business locations. We also enable uninterrupted business continuity for their contact centre business operations.

TTBS is the only service provider to offer documented service level agreement (SLA) on SIP trunk. We make scaling of this IP telephony service (in multiples of 10) quick for businesses and enliven as many as 1500 concurrent sessions at a location.

Our auto-failover feature entails dual redundancy on SIP. This implies:

- Continual voice connectivity is available round the clock.
- Another trunk provides coverage against the breakdown of a single SIP trunk as a backup.
- Both trunks stay on in Active-Active Mode.

We keep SIP trunking-based communication secure with end-to-end encryption and offer better voice clarity for a lesser price.

If you have been contemplating the migration to IP-based telephony, this would be an ideal time to make the switch to SIP – a solution that offers a host of cost and feature benefits, besides being free from concerns about technology obsolescence.

Sources

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