What is SIP trunking?

In Simple Terms.
SIP trunking is a service that connects a business phone system to the Public Switched Telephone Network (PSTN) and the outside world via a broadband Internet connection. Voice, video, data, text and other Unified Communications (UC) are delivered via Session Initiation Protocol (SIP), which has become the universal standard Voice over IP (VoIP) for connecting two end points on a network—it's like Simple Mail Transfer Protocol (SMTP) is to email and Hypertext Transfer Protocol (HTTP) is to web browsing.

If your Private Branch Exchange (PBX) telephone system is IP enabled, which more than half of those in operation today are, it converts voice calls into VoIP calls for transmission across the SIP trunk. The latest generation of IP PBXs has been designed specifically for compatibility with SIP environments.

Trunks are Nothing New.
For decades, trunks were traditional analog circuit-switched phone lines that connected a PBX to your phone service carrier. Today some businesses are still utilizing Time Division Multiplexing (TDM) "T1" trunking over legacy Primary Rate Interface (PRI) copper or fiber lines. T1 lines are essentially phone lines that can carry multiple voice lines.

SIP Trunks are Different.
It's a virtual connection between an IP PBX and the telephone service provider who offers SIP-based voice services. There are no telephone wires. The SIP trunk lives on your business' data network connection, the same connection you use for your Internet access. Instead of circuit-switched voice protocols and services it relies on Internet protocols and services. It has the capability to merge voice communications with data services. Instead of physically separate voice and data networks, you have an all-IP infrastructure with your phone service as another form of data service.

Adds Flexibility.
T1 and other PRI lines dedicate specific channels to voice and data. Their bandwidth is fixed. SIP trunks are more dynamic. They can allocate more bandwidth to voice or data depending on the demand. So you have more capacity waiting when you need it.

Delivers Phone Service and More.
If your business has an IP PBX, you may be able to take advantage of additional features and functionality of your phone system, such as UC technologies.

Why are businesses embracing SIP trunking?

Current Technology.
How and where companies do business is evolving rapidly. Technological advancements, particularly in the area of mobile devices, have put pressure on businesses to keep pace. SIP trunking offers your company the capacity and technology to adopt current and future advancements in voice, video and data communications.

It's the New Standard.
A decade ago, SIP trunking was a brand new technology and some companies were understandably reluctant to deploy it. There were questions about the quality of service in VoIP-enabled solutions in general. But time and experience have proven that it's as reliable as traditional voice technology. According to a 2013 survey by The SIP School, more than 87% of companies report that their primary PBX system is VoIP-enabled. Technological improvements in SIP trunking in 2012 and 2013 have brought it to a point where it offers better network reliability than traditional PSTN. Today, a SIP-based solution provides all the functionality most organizations need.

SIP trunking has become an in-demand solution. Studies show that, by 2015, 50% of all U.S. business exchange lines will be SIP-based and that SIP trunking will overtake T1 as the preferred connection type among enterprises in North America.

Minimize Wiring Expense.
Implementing SIP trunking saves you the expense of installing separate voice and data circuits and the recurring costs of utilizing and maintaining them.

What other ways can SIP trunking improve your business?

Only Pay for Circuits Needed.
If you have a PRI system and need to add capacity, you have to buy voice channels in increments of 23, whether you need all of those channels or not. With SIP trunking from TDS, you can order as few as seven trunks. That's a significant benefit for smaller companies that don't anticipate growing into all of those extra trunks in the foreseeable future. Flexibility also means that you can increase or decrease the number of trunks in as little as a few days' time. Best of all, your company pays only for the circuits it needs at a given time. And if more bandwidth is needed, an Ethernet access line typically costs far less than the equivalent PRI lines.

Business Continuity.

SIP Trunking not only offers service equal to or better than legacy technology, it also offers protection against network outages due to factors such as power outages, loss of broadband connectivity and natural disasters. Calls can be redirected to any phone number on or off your network—including mobile and international numbers—easily and flexibly. Your business gets protection from failover, as well as disaster recovery and load balancing (distribution and flow of sessions when the network is congested). *TDS provides customers with a web portal that allows for real-time management of the service at no extra charge.*

Burstable Trunks.

This means during peak traffic periods a business can get additional "on-call" voice capacity above the base number of trunks and only pay for it when it is used.

Nationwide Numbers.

Another advantage of Internet-based communications is the irrelevance of geography. You can get local Direct Inward Dialing (DID) numbers outside of your business' current footprint, giving you a local Point of Presence (POP) virtually anywhere in the United States. Your customers dial local numbers to reach you whether or not you have a physical presence in their area.

Data Provider is Optional.

You don't have to change your bandwidth provider to subscribe to SIP trunking. Sometimes a business needs to retain their data connections. In this case, there are communications providers who will provision the voice services only and allow the business to bring their own data connection from their existing data provider, also known as Bring Your Own Bandwidth (BYOB).

SBC Helps Protect Network.

If you're new to SIP trunking, you might not be fully aware of what a Session Border Controller (SBC) is and its role. This component controls a network by allowing communications in or keeping them out. It then directs the communications in it allows in—as in the case of a VoIP call from one phone to another. The SBC operates at the "border" between your private network and the public network, where traffic is handed off. Its primary benefit is security. It helps protect your network against…

- Denial of Service and Distributed Denial of Service attacks, which attempt to overload or "flood" network components and prevent voice services.
- Unwanted ingress—or, to put it another way, people from the outside infiltrating your network and making unauthorized calls from your IP PBX.
- Eavesdropping
- Toll fraud and other malicious attacks

The SBC also helps maintain the quality of voice and data communications by prioritizing, determining bandwidth, and allowing devices that utilize slightly different versions of SIP to communicate without a hitch. Its ability to smooth out the discrepancies between old and new equipment can spare you having to "rip and replace"—purchase all new equipment so as to assure compatibility. Thanks to the SBC, the switch to a SIP trunk solution can frequently be accomplished without upgrades.

An SBC combined with SIP trunking also allows you to centralize network management. *As part of its managed SIP Service, TDS provides the SBC and required hardware to its customers. In the event that service problems develop TDS can test the router and help isolate the problem.*

Ease in Adjusting Capacity.
SIP Trunking makes it easy to keep pace with growing business needs (or adjust to seasonal drops in demand). Capacity can be increased or decreased by adding or reducing bandwidth and without waiting for Primary Rate Interference (PRI) links to be installed.

Expedite UC Deployment.
SIP trunking makes it possible to deploy new Unified Communications technology in one central location, rather than on a node by node basis. It's easier and faster to upgrade your company's technology.

Brings Remote Employees On-Net.
SIP trunking makes it possible to truly integrate mobile devices into your company's UC architecture. The growth of wireless, high-speed data communication, known as Long-Term Evolution (LTE), means UC technologies can be accessed on tablets, phones and other devices via SIP trunking. In the not-too-distant future, employees will be able to access a full suite of unified communications without Wi-Fi or a wired Ethernet connection. The ability to provide mobile workers, telecommuters and day-extenders with full UC services—especially the sharing of desktops, documents, video and presentations—will become increasingly important as the numbers of those workers rise.

More Bang for Buck.
By converging voice and data over a single IP network you maximize the features you paid for in your IP PBX phone system, as well as the scalability of an Ethernet connection.

Can SIP trunking improve your business and help reduce expenses?
Call and speak to TDS today.