

# Voice Activation: Managing the Transition from TDM to SIP in an Era of More Flexible and Cost-Effective Communication

A blue-toned background image featuring a globe of the Earth. Overlaid on the globe are numerous small, semi-transparent icons of people's heads, connected by a network of thin lines, suggesting global communication and networking.

Organizations with phone systems based on traditional technologies such as Time-Division Multiplexing are encountering rising costs - with legacy hardware becoming harder to find and more expensive to support. Many forward-looking companies seeking a more flexible and scalable telecom solution are migrating to Session Initiation Protocol technology that can deliver the benefit of Voice over IP. This article explains how treating voice as 'data' can provide end-user significant operational benefits such as cost, scalability, call quality and functionality. It will also explain how enterprises can manage the transition to the newer technology without impacting their day-to-day operations.

Many organizations still using TDM are encountering rising costs - with legacy hardware becoming harder to find and more expensive to support. Meanwhile, SIP takes a software-driven approach to communication - effectively treating voice as 'data' - and therefore provides significant end-user benefits in terms of cost, scalability, reliability, and functionality.

SIP is, therefore, better suited to today's digital environment and represents the next generation for voice-based business communications.

## Why TDM is Becoming Legacy Technology

There is no question that TDM has stood the test of time. As the primary means of transmitting and receiving independent signals over an analog system path, it is acknowledged as the backbone of the traditional phone service. However, TDM, by its very nature, relies on much supporting hardware, including physical phone lines and other specialist technical equipment.

Over time, as the world has become digital, many organizations have started to migrate away from traditional communication networks underpinned by TDM and transition towards more unified systems delivered through IP-based voice services. As this shift has taken place, many major telephone providers have started to withdraw their support for TDM-based communication systems.

This move is having a significant impact on the remaining users of TDM services. Some vendors have stopped producing legacy hardware and no longer contain it within their inventories.

## The Changing Face of Voice Communications

Technology never stands still. That assertion is undoubtedly true for voice communications, with new digital architectures increasingly replacing traditional analog systems.

This transition is perhaps best illustrated by the shift from Time-Division Multiplexing (TDM), the 50-year-old standard deployed by many businesses to make phone calls, to the newer Session Initiation Protocol (SIP) technology that can deliver the benefits of Voice over IP.

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Replacement parts are therefore becoming harder to locate and more expensive to support. In some cases, telecom maintenance providers have resorted to buying replacement cards from online auction sites such as eBay, which is a far from satisfactory approach to maintaining critical communication infrastructure. These factors mean the cost of operating TDM systems is higher over the long term than it would be for IP-based voice services, further accelerating the shift towards it becoming legacy technology.

So, TDM has performed well and served its purpose. But for businesses looking to upgrade or scale their phone system, the time has come to look forward and move towards more flexible and cost-effective solutions that are fit for the digital era.

## Enter the New - Introducing SIP Trunking

SIP trunking provides organizations with a means of routing all incoming and outgoing voice calls through a single data connection across the Internet, delivering Voice over IP (VoIP) benefits with existing phone systems. The technology provides a virtual link between a company's IP Private Branch eXchange (PBX) and the standard phone network. This set-up delivers a reliable and cost-effective alternative to traditional clunky telecom equipment, and it can be scaled easily with minimal hardware so that call capacity can be expanded as a business grows.

Using SIP provides some distinct cost advantages over TDM. By deploying a single IP path for voice and data, it is possible to leverage the power of the Internet and eliminate much of the specialized infrastructure associated with traditional communication networks. This is an important consideration at a time when many legacy components such as HSSI cards are becoming harder to locate. As there are fewer physical parts to maintain and replace, upgrade bills are significantly reduced, with less associated downtime. With minimal upfront Capex costs, SIP can be deployed quickly and easily, delivering a fast return on investment.

These factors make sticking with legacy systems like TDM a false economy. It is important that organizations still reliant on legacy technology, start to plan their migration to more unified digital communications to remain cost-efficient and competitive over the longer term.

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## The Benefits of Segra's SIP Trunking

Segra's SIP trunking is flexible and scalable, functioning on Internet access and wireless transports. The solution makes it possible to maintain existing phone numbers and add additional numbers as needed – keeping the features of a PBX phone system but with the benefits of VoIP.



Let us take a more detailed look at some of the end-user benefits of the Segra SIP solution:

- **Improved call quality** – While TDM was initially conceived as a signaling method for analog, SIP has been designed from the start as a voice protocol, ensuring exceptional call quality. This factor is becoming ever-more important, as the trend to remote working results in more online conversations.
- **Lower call costs** – By leveraging an internet connection that simultaneously shares voice and data through a single connection, dramatic savings can be delivered on local and long-distance calls. These savings become exponential inside an expanding organization.
- **Scalability built-in** – SIP makes it easy to expand voice capability simply by selecting the number of lines/trunks required and adding as the organization grows. Expansion

is unlimited without the need for additional hardware across multiple sites, providing freedom and flexibility.

- **Stay connected, always** – SIP allows an organization to remain fully operational – virtually – with no restrictions on the geographic location of offices. Users can access calls to assigned numbers from wherever they are, via cell phones, laptops, or other devices. Employees are free to work from anywhere in the world, stretching the call network to suit the operational model.
- **Flexible features** – SIP supports a broad range of functionality, as would be expected of a state-of-the-art unified communications system. These advantages include number portability, caller ID, caller record detail on long-distance calls, unlimited local calling and automatic failover between trunks for service resiliency.

## Seamless Migration from TDM to SIP

Those are just some of the advantages of moving from TDM to a SIP-based communication system deployed across VoIP. The transition is easy to manage, too – whether it is a small company with 5-10 lines or a large organization operating from multiple sites worldwide. Segra can provide complete technical guidance throughout this process, building out the correct SIP solution and ensuring that it has enough bandwidth to manage the required data flows.

Segra is a long-term provider for many state and local services agencies. We offer best-in-class SIP solutions – for example, specializing in providing top-of-the-line Polycom and Yealink phones. This is supported by our customer solutions center, which offers immediate customer assistance and resolution. Proactive network monitoring and management are also provided by our Customer Network Operations Center, 24/7, 365 days a year.

In short, Segra can ensure that migration from TDM to SIP can be a seamless experience, no matter the type of communication infrastructure currently in place. Call us to start that journey today.

To learn more about Segra's business solutions, go to [www.segra.com/business](http://www.segra.com/business) or call **833.GO.SEGRA**.

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