VOIP : VoIP phones empower businesses to replace outdated, traditional telephones with a complete communications package that happens all on the internet.

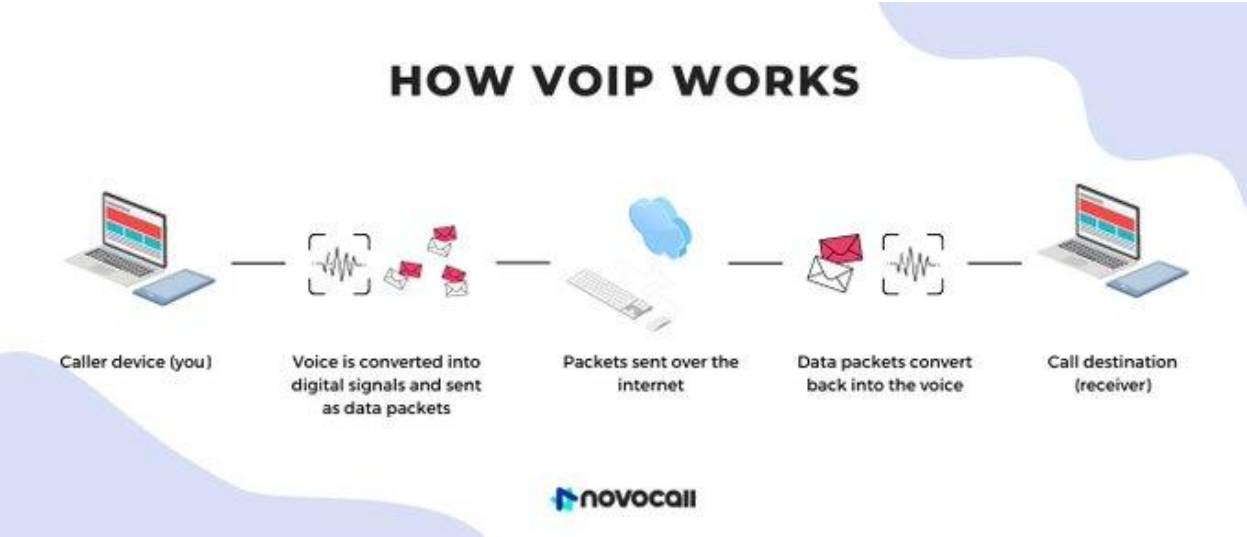
VoIP can utilize cell phones, desk phones ("hard phones"), mobile devices, and even computers equipped with headset microphones ("softphones") to connect callers—allowing you to communicate with new or existing hardware.

A VoIP phone refers to any VoIP-enabled device that can transfer voice data over the internet. A VoIP phone could be a mobile device, desktop, tablet, web browser, or desk phone.

HOW VOIP WORKS

At a basic level, VoIP phones work by sending and receiving calls over the internet instead of through traditional telephones and wiring. Speaking with a bit more detail, here's how VoIP works:

1. Your VoIP-enabled device connects to the internet with an assigned IP address.
2. Your VoIP service establishes the connection and begins exchanging data packets over a packet-switched network via media delivery protocols, like Session Initiation Protocol or SIP, when you dial a phone number.
3. Your VoIP phone converts the data packets into sounds that you can hear.

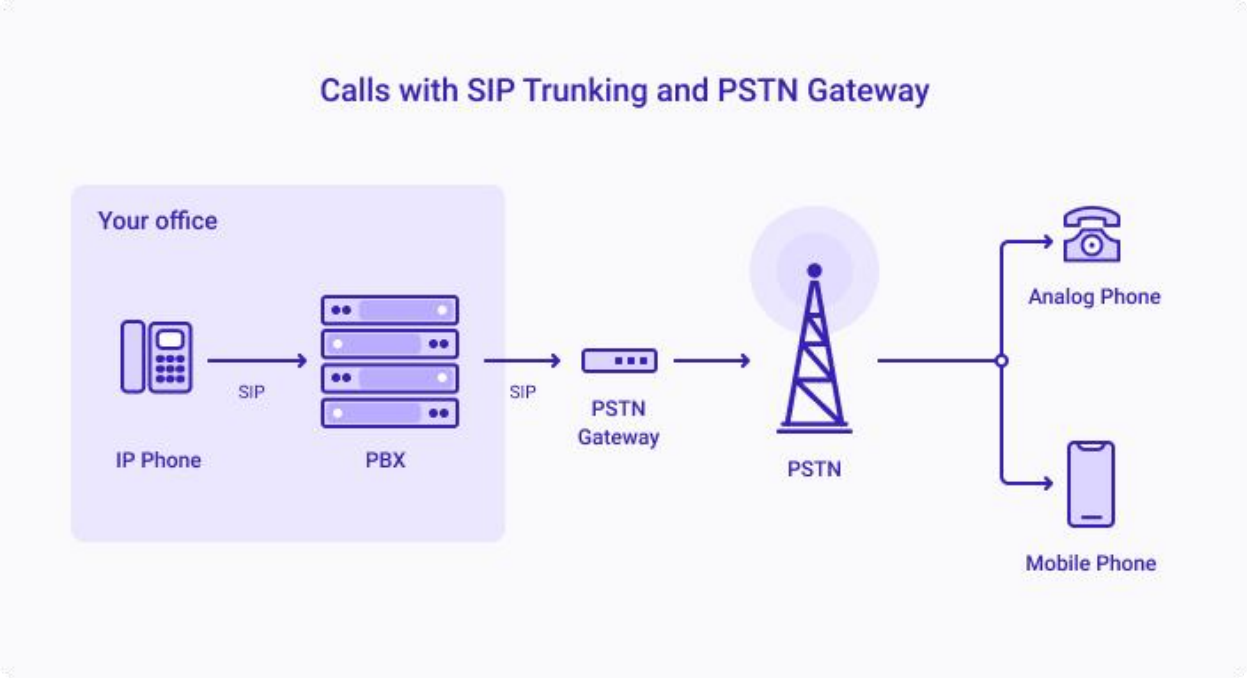


***The traditional way which we are following to make inbound and outbound calls is where we are using VoIP.

Examples : Skype, Google Hangouts, Zoom, WhatsApp, Facebook Messenger

SIP TRUNKING:

SIP (Session Initiation Protocol) trunking refers to the process by which phone calls take place via an internet connection rather than traditional phone lines. By transmitting these calls online rather than through traditional phone lines, businesses can reach any customer around the world as long as they have a phone number.
SIP trunking uses an existing PBX, or private branch exchange, to route both inbound and outbound calls to the outside world. To utilize a SIP system, the traditional system and PBX must be connected to the cloud.
SIP trunking works by enabling your existing phone system to operate on the cloud, allowing businesses the flexibility needed to meet customers where they are. Calls are typically routed through your phone system via an on-premise PBX, through a SIP trunk, and onward to the outside world.



VOIP	SIP
1. VOIP replaces the old PSTN networks.	1. SIP gets connected to the PSTN.
2. VOIP uses IP addresses and packet switched networks to share data packets over the internet.	2. SIP uses VOIP and also a PBX system so that it can connect to a PSTN at the end. In other words, SIP is another form of VOIP.
3. VOIP can use various protocols like SIP, H.323, or others.	3. Uses the **SIP** protocol specifically.
4. VOIP can connect with other VoIP users or phone systems over the internet.	4. SIP connects on-premises or cloud PBX systems to the PSTN for external calls.

Terminologies:

PBX System : A **PBX (Private Branch Exchange)** is a private telephone network used within an organization or business. It allows internal communication between employees and also connects to the external public telephone network (PSTN) to make and receive calls. PBX systems were traditionally used to manage phone lines and improve the efficiency of voice communication in large or medium-sized businesses. In recent years, the concept has evolved with the rise of **VoIP (Voice over Internet Protocol)**, which provides greater flexibility and cost savings.

PSTN : The **Public Switched Telephone Network (PSTN)** is the traditional telephone network that has been used for over a century to transmit voice calls. It consists of a worldwide system of interconnected **analog and digital telephone lines, cables, satellites, and cellular networks** that enable voice communication over long distances. The PSTN is a **circuit-switched** network, meaning that a dedicated communication path is established between two callers for the duration of a call.

PSTN is also sometimes referred to as the **plain old telephone service (POTS)**, especially when referring to its original analog form.

In **VoIP SIP trunking**, the **Public Switched Telephone Network (PSTN)** plays an important role by serving as the **bridge** between the **Internet-based VoIP network** (which uses **SIP trunks**) and the **traditional phone networks** (like landlines and mobile phones). Essentially, **SIP trunking** allows businesses and organizations to use **VoIP technology** for calling and

communication, while still maintaining the ability to make and receive calls to and from the **PSTN** (landlines and mobile numbers).