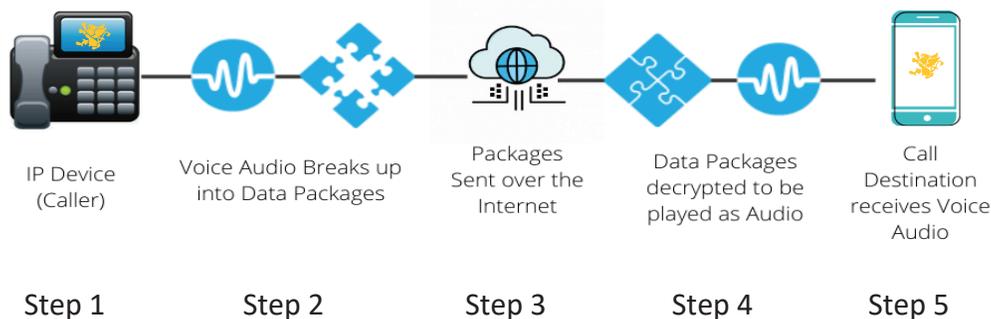


VoIP Technology and How it Works 🦁

"VoIP" stands for Voice over Internet Protocol. It is a Technology that allows the transmission of voice and multimedia content over the Internet rather than traditional telephone networks. It allows us to make voice telephone calls using an Internet connection instead of a regular landline network.

Here are some steps that VoIP **Telephony traffic** follows:

1. **Voice Digitization** – When someone speaks into a device such as IP desk phones, their Voice is converted from Analog to Digital data.
Analog Data – Information is transmitted in continuous waveform signals
Digital Data – Information is translated into binary format (0s and 1s)
2. **Packetization**- Digital voice data is divided into small packets. Each packet contains additional information such as IP address and Sequence number
3. **Packet Transmission**- These packets of data are then transmitted over the IP network. These packets can take different path to the destination and are sent separately.
4. **Routing** - The network analyzes the destination IP address on each packet and forwards them to their intended destination. Various routing protocols and algorithms are used by these devices to determine the most efficient path for packets to travel.
5. **Packet Reception**- The packets are collected and reassembled at the receiving end in the correct order based on the packet Sequence numbers.
6. **Voice decoding** - Digital voice data is converted back into analog signals through a process called digital-to-analog conversion after the packets are reassembled. The recipient can hear the voice by playing the analog signals through the audio output device.



Modern VoIP technology allows voice data to be transmitted in a digital format on IP networks, allowing for cost-effective and flexible communication. It allows voice data to be sent to a variety of recipient devices and is not constrained to using traditional telephone lines.

Our Cisco IP Telephony desk phones at St. Clair College follow the above steps to allow your voice calls to be transmitted inside the college as well as to contacts outside the college and around the world.