A long-exposure night photograph of a modern, curved building with a glass facade, illuminated with blue and white lights. The image is filled with horizontal light trails from moving vehicles, creating a sense of motion and speed. The building's architecture is futuristic, with a large, rounded, dome-like structure.

# **Gear up your PBX**

## **Cut Costs, Boost Profits**

Version 20160711

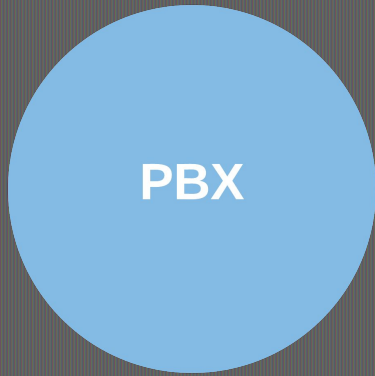
# **IP Telephony and 3CX**



# Goal of this Module

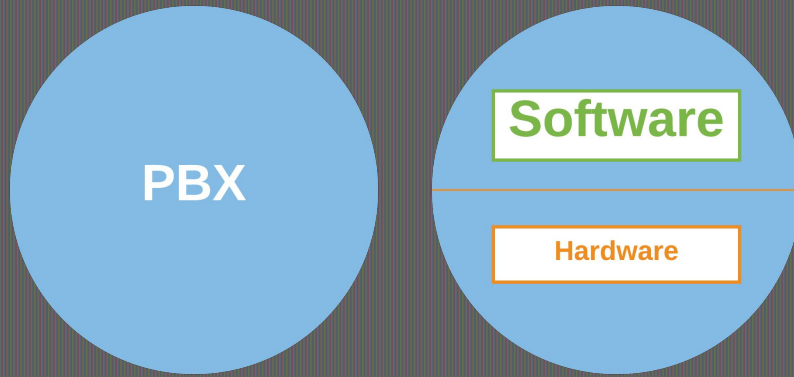
- What is a PBX
- What is PSTN
- What are 3CX Bridges & Tunnels
- What is VoIP

# What is a PBX ?



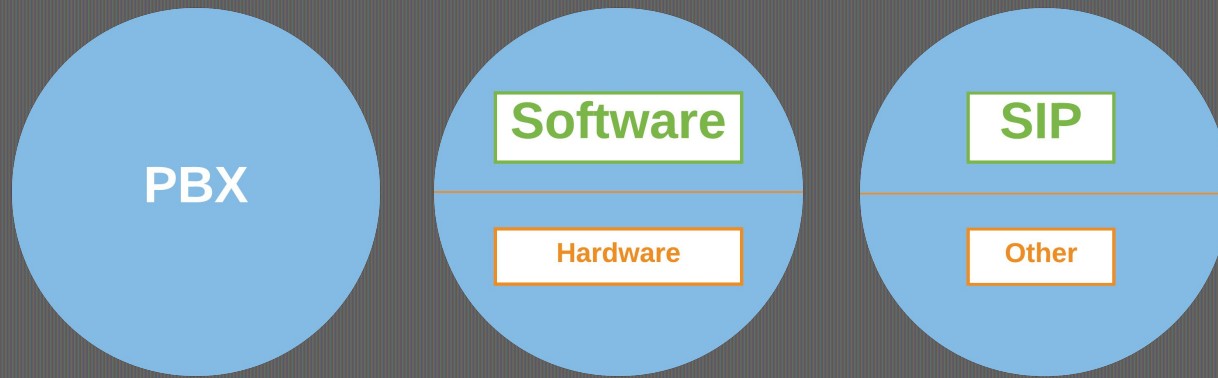
- PBX → Private Branch Exchange  
→ Provides Internal Telephony
- People → Extensions  
→ Free Internal Calls

# What is a PBX ?



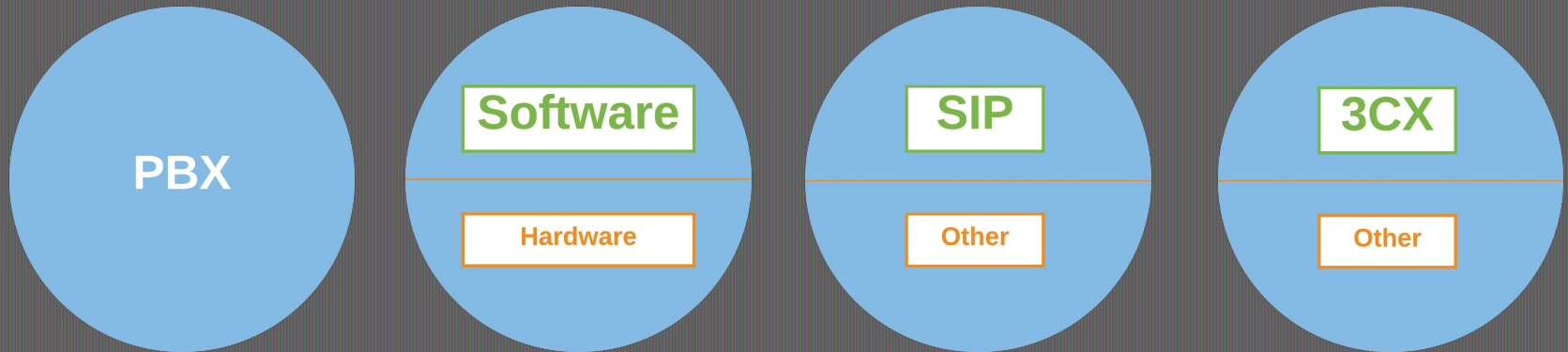
- PBX → Private Branch Exchange
  - Provides Internal Telephony
  - Installed as Application
- People → Extensions
  - Free Internal Calls

# What is a PBX? (Technology)



- PBX → Private Branch Exchange
  - Provides Internal Telephony
  - Installed as Application
  - Uses SIP to exchange Information
- People → Extensions
  - Free Internal Calls
  - May use Softphone as Telephone

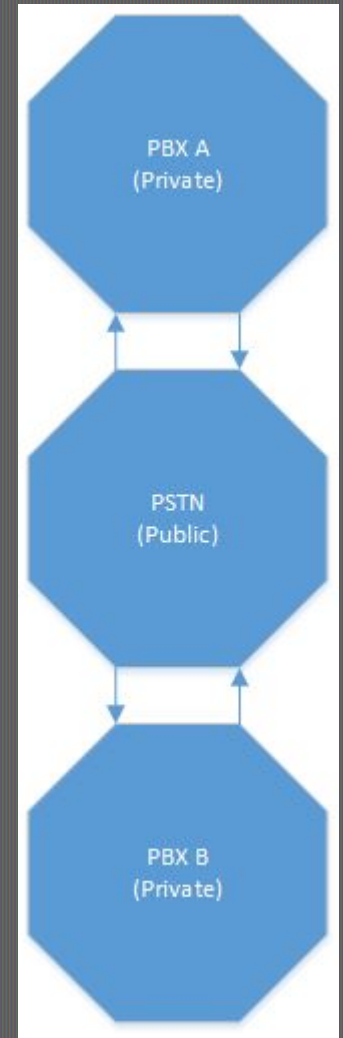
# What is a 3CX?



- 3CX Phone System
  - Provides Internal Telephony
  - Installed as Application (Local or in the Cloud)
  - Uses SIP to exchange information
  - Central gateway to the PSTN
- People → Extensions
  - Free Internal Calls (incl. transfers, conferencing, collaboration)
  - May use Softphone as Telephone

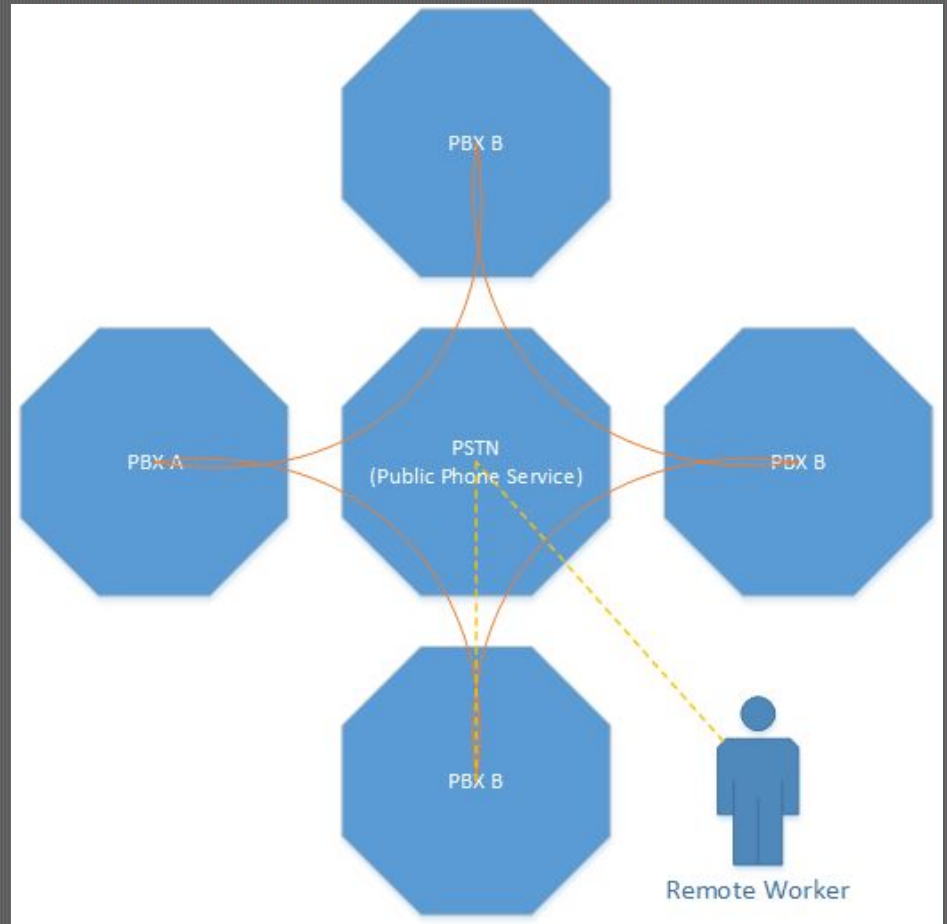
# What is PSTN?

- PSTN → Public Switched Telephone Network  
→ Use Charges may apply
- Subscribers = Numbers
  - Homes (~One Number, MSN)
  - Companies (Many Numbers, DID)
    - Managed by a PBX
    - Route and Distribute Calls



# What is PSTN?

- Remote Worker
  - From Home
  - Uses PSTN
  - Subject to charges





# What is PSTN?



- Accessible via Gateway
- Accessible via DSL

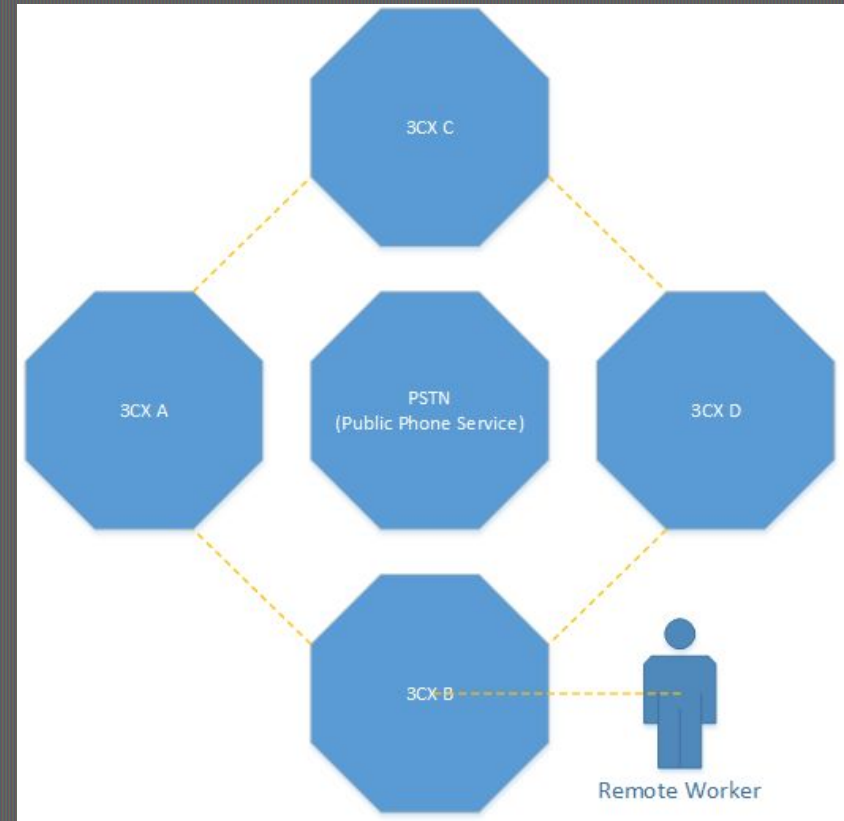
3CX can use multiple PSTN technologies at once

Porting

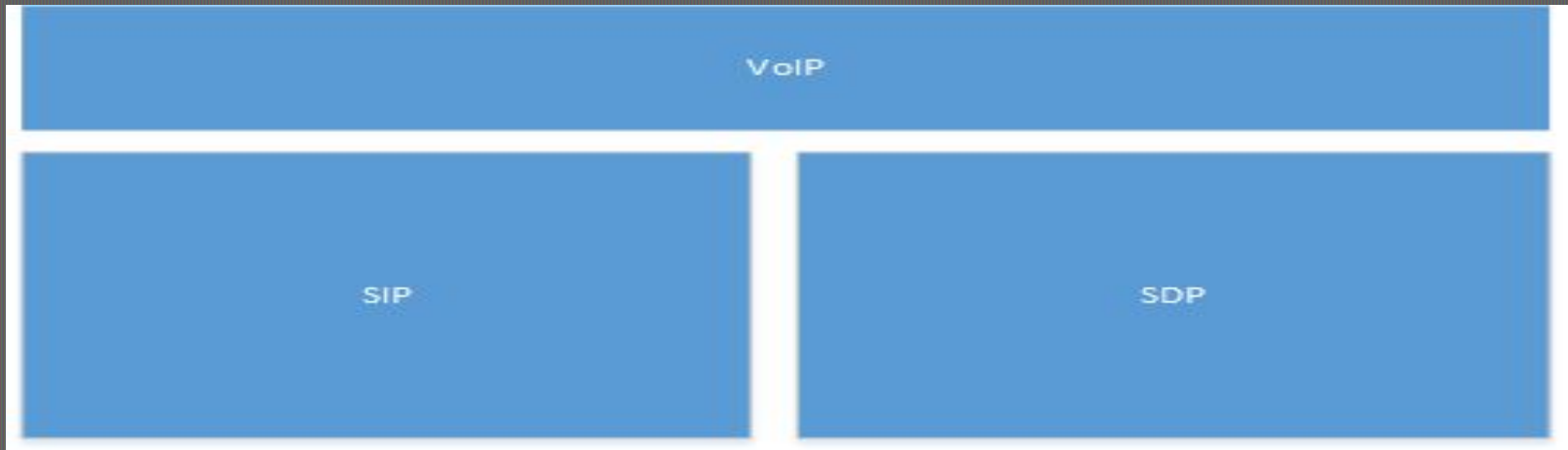


# What are 3CX Bridges & Tunnel?

- 3CX Bridge
  - Connects multiple 3CX PBXs
  - Does not use PSTN
  - Over IP
- 3CX Tunnel
  - A 3CX protocol
  - Masks VoIP Traffic



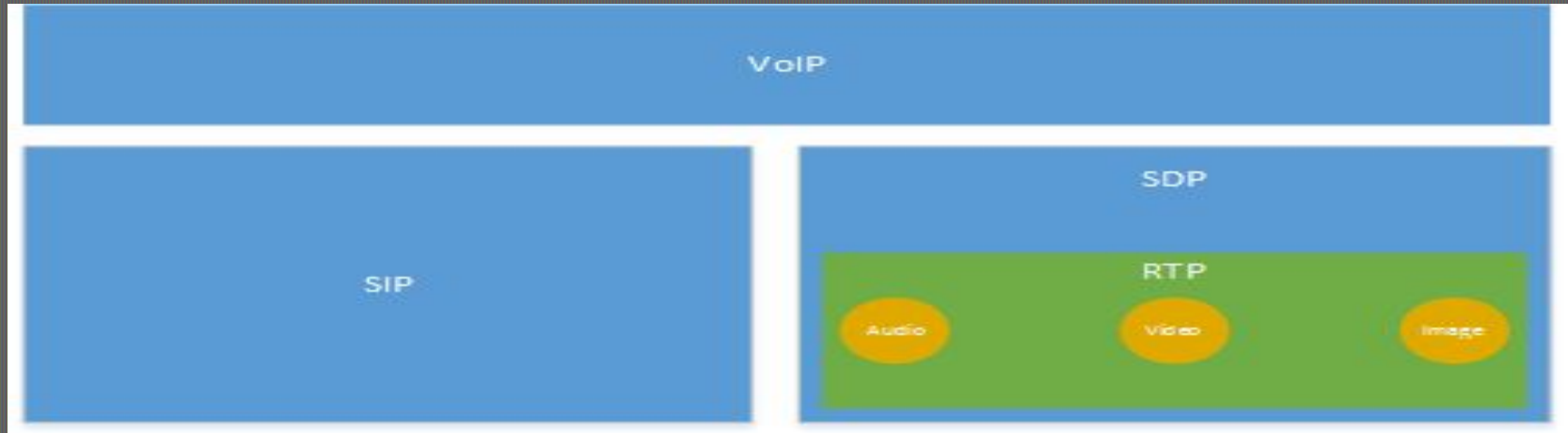
# What is a VoIP?



## Voice over Internet Protocol

- Session Initiation Protocol  
→ Call Signalling
- Session Description Protocol  
→ Content Negotiation

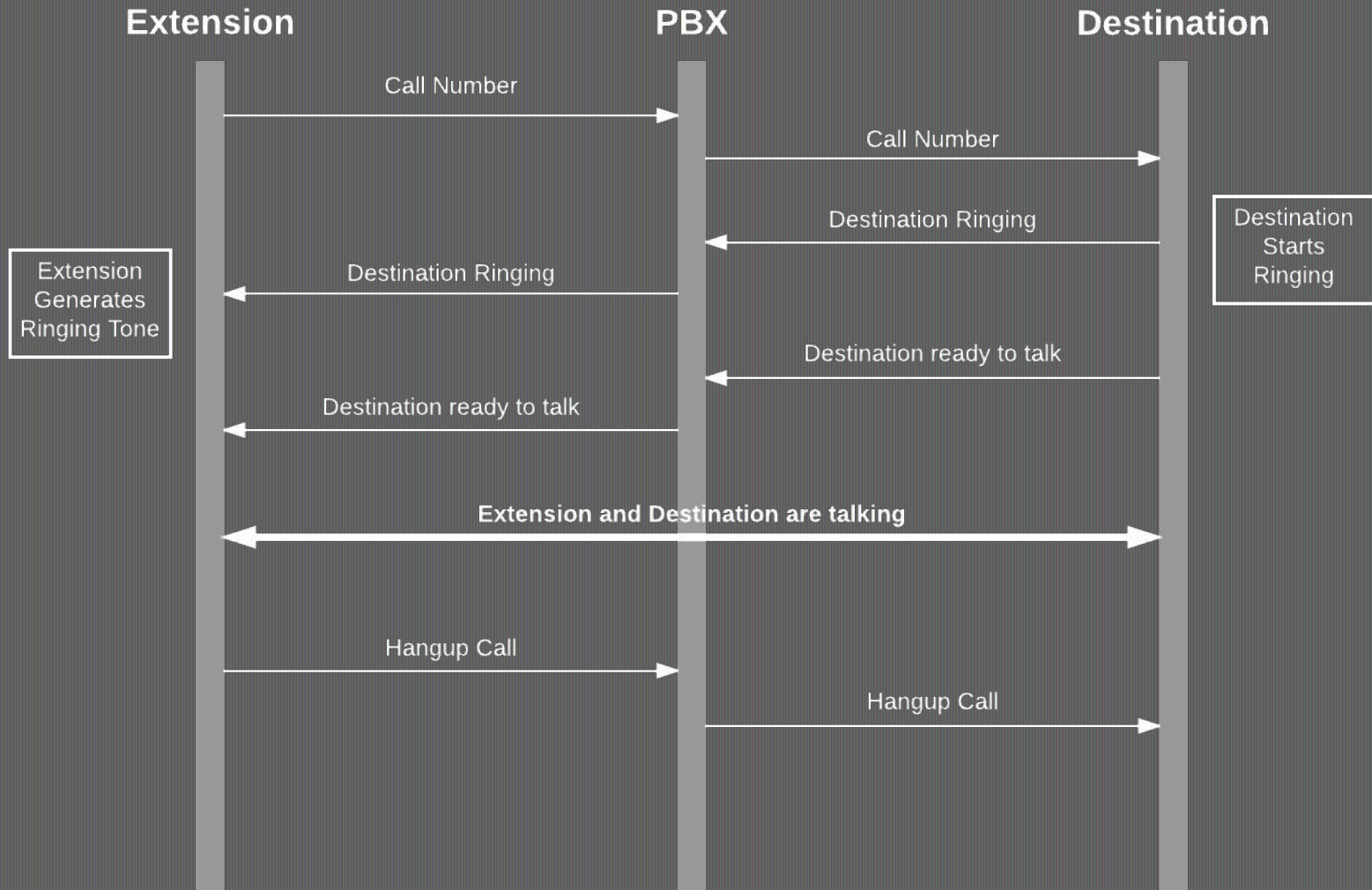
# What is a VoIP?



## Voice over Internet Protocol


- Session Initiation Protocol  
→ Call Signalling
- Session Description Protocol  
→ Content Negotiation
- Real-Time Transport Protocol
  - Content Type
    - Audio (Voice)
    - Video
    - Image (Fax)

# How SIP Works



# Benefits of using 3CX ?

- Software-based
  - Ease of installation
  - Easier to configure
  - Easier to manage through Web GUI
  - Scalable
  - Better Productivity through the use of 3CX softphones
- RFC-compliant
  - No Vendor Lock
  - Works with many VoIP providers and devices
- VoIP
  - Eliminate Phone Wiring
  - Significant cost using VoIP Providers



# **Gear up your PBX**

## **Cut Costs, Boost Profits**

**More Training Material at:**  
**[www.3cx.com/3CXAcademy](http://www.3cx.com/3CXAcademy)**



# Lingo Terms

- PBX
  - Private Branch Exchange
  - Telephone System
  - Enables users to make calls
- Presence
- SIP Trunk vs VoIP Provider
- Provisioning
- STUN
- SBC