Four Things to Remember

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www.CTExpert.com

Four Things to Remember

- CT is the future
- IP Telephony is a catalyst
- Interoperability specifications are the key
- You’re in the driver’s seat

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1.

Computer Telephony is the Future

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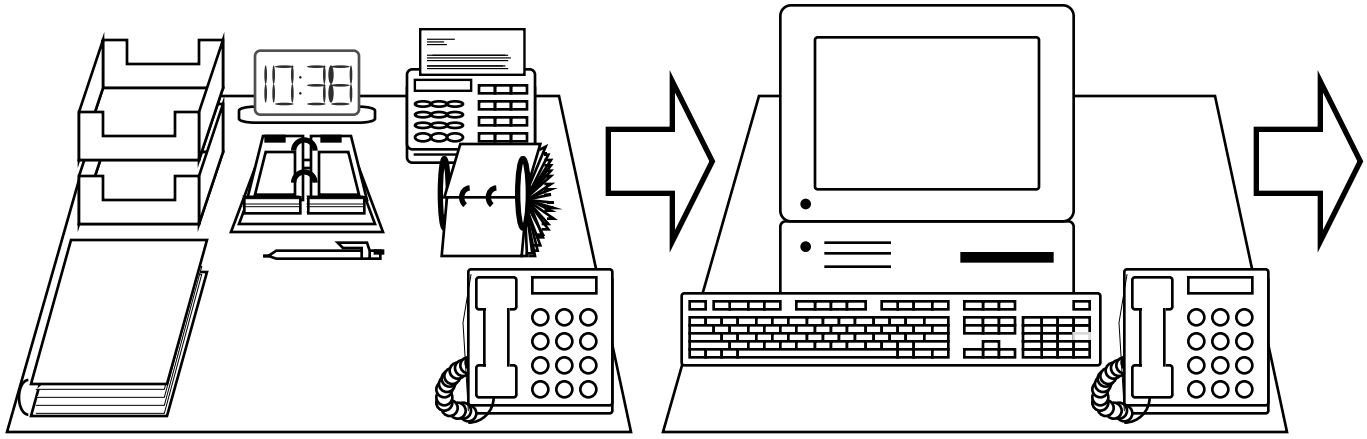
It’s Inevitable...

- The Computer
  - the new desktop
- The Telephone
  - the most ubiquitous appliance in the world



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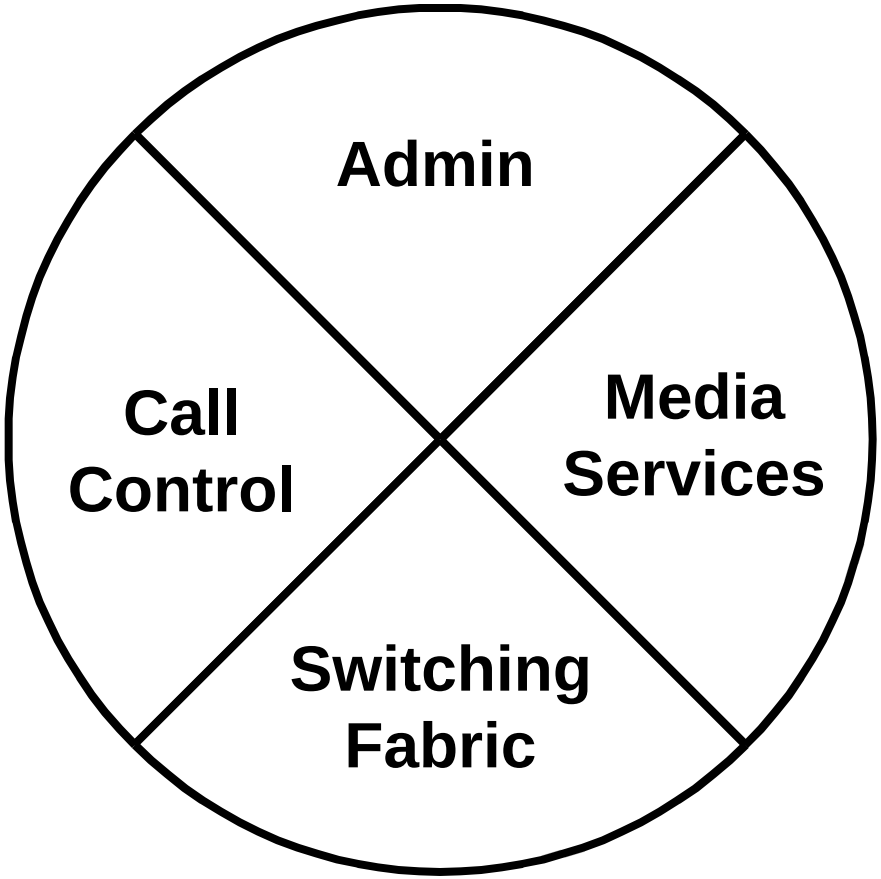
Telephone System Technologies



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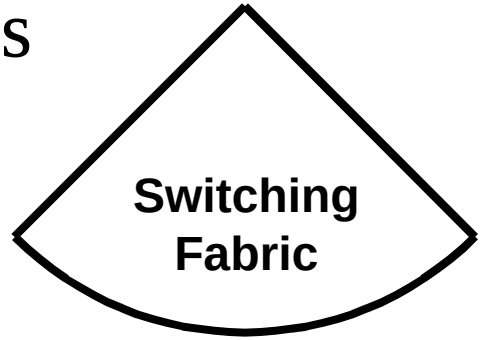
Switching Fabric

- Establishes media stream channels between endpoints and conveys signaling information



- Traditional Switching Fabric
  - TDM bus backplanes connecting line cards
  - Analog (POTS) and digital (T-1, ISDN, proprietary) telephony circuits
- IP Telephony Switching Fabric
  - Packetized voice over conventional IP networking infrastructure
  - Typically based on off-the-shelf computer technology

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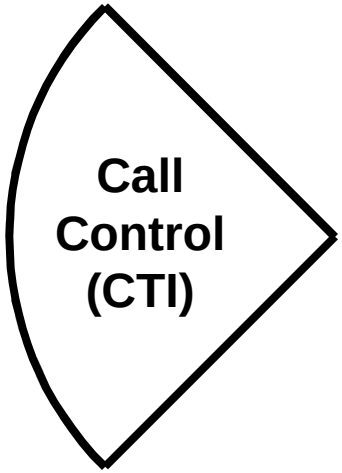
CTI Defined

- Call Control
  - Monitoring and directing calls in a telephone system
- Telephone Control
  - Monitoring and controlling features of a telephone set
- Media Binding
  - Relating other communications / telephony functionality to calls in a telephone system



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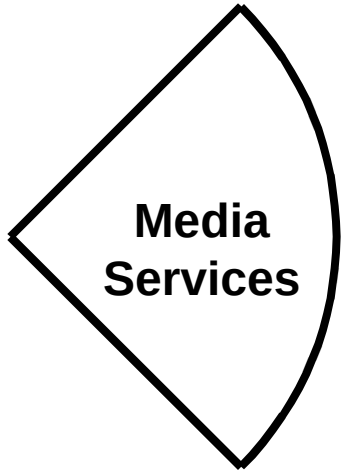
CT Media Access / Services

- Tone Detection and Generation
- Recording and Playback
- Text-to-Speech
- Speech Recognition
- Modulated Data (Modem / Fax)
- Digital Data (Compressed Video, etc.)
- Call Binding



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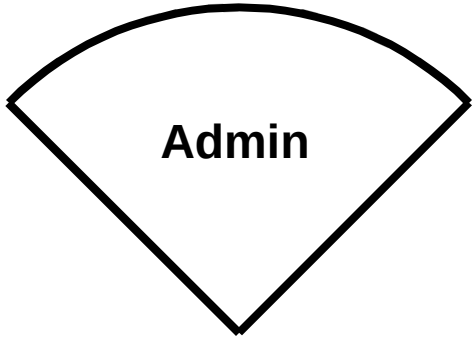
Admin

- System configuration
  - System customization
  - Moves / Adds / Changes
- Fault monitoring
- Accounting
- Performance management
- Security



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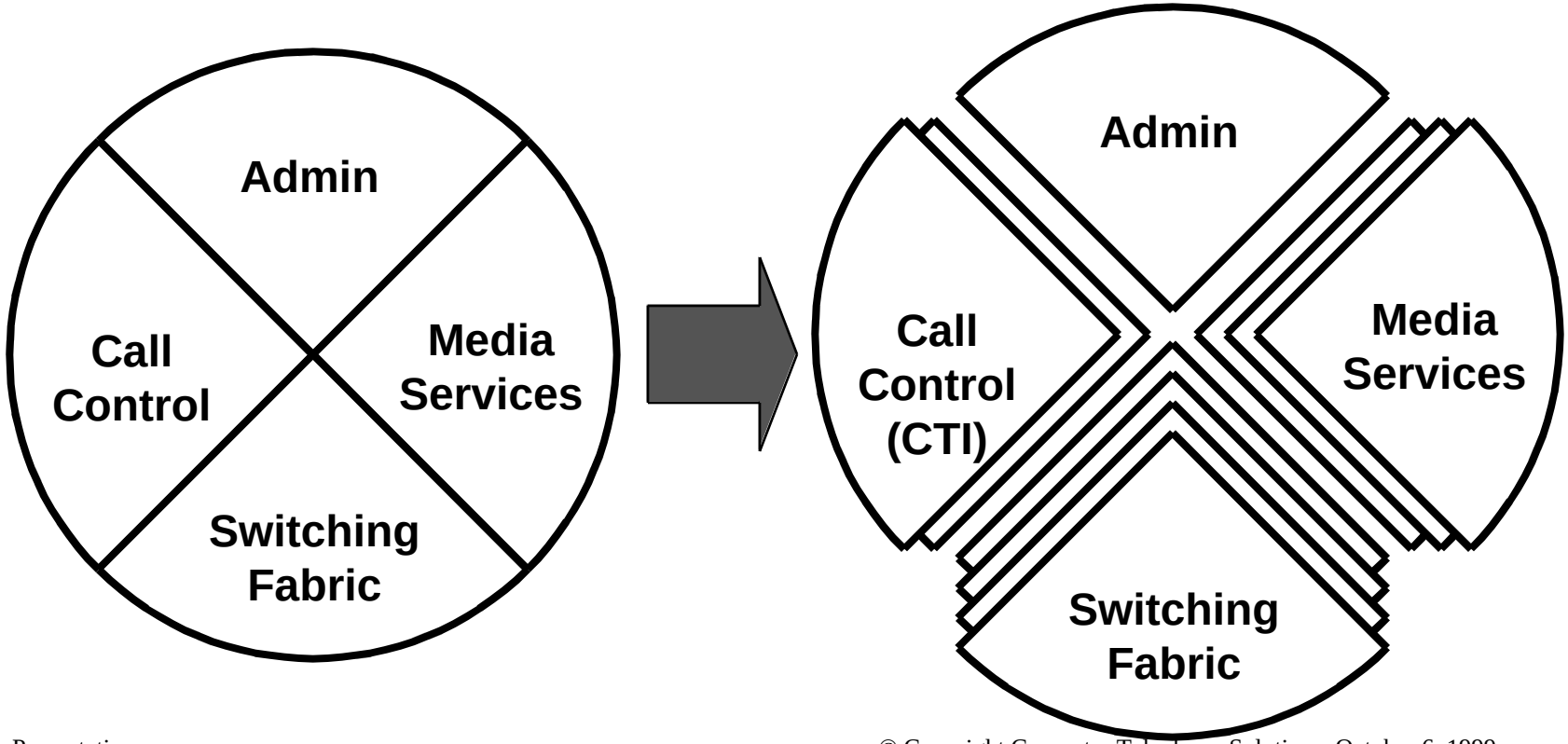
Computer Telephony Revolution

- Using off-the-shelf computer technologies to implement telephone system components
- Shift from Monolithic to Modular systems



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The Promise of CT Technology

Telephone systems

that are

tailored

to the

specific needs and **preferences**

of **users**

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2.

IP Telephony is a Catalyst

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Motivation for Single Network

- Engineering
  - Because we can?
  - More elegant?
- Economics
  - Cheaper to Install?
  - Cheaper to Maintain?
- Applications
  - New capabilities?
  - New flexibility?

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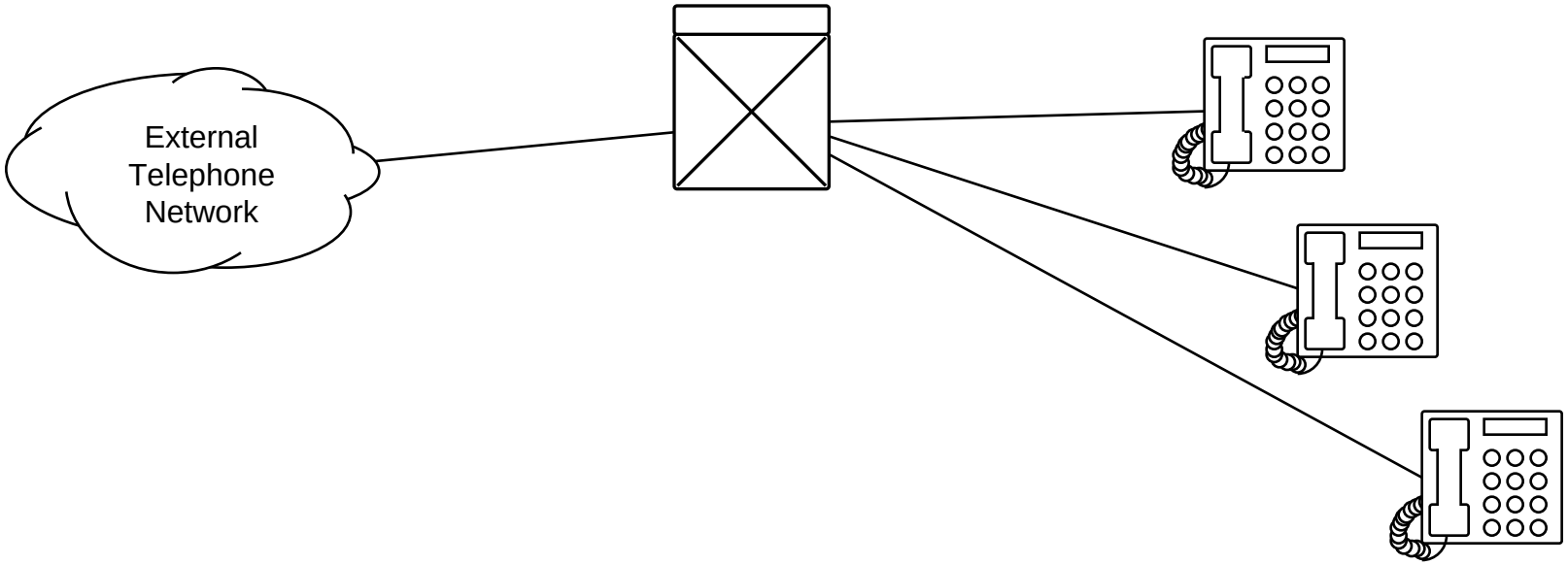
CT in Traditional Configurations



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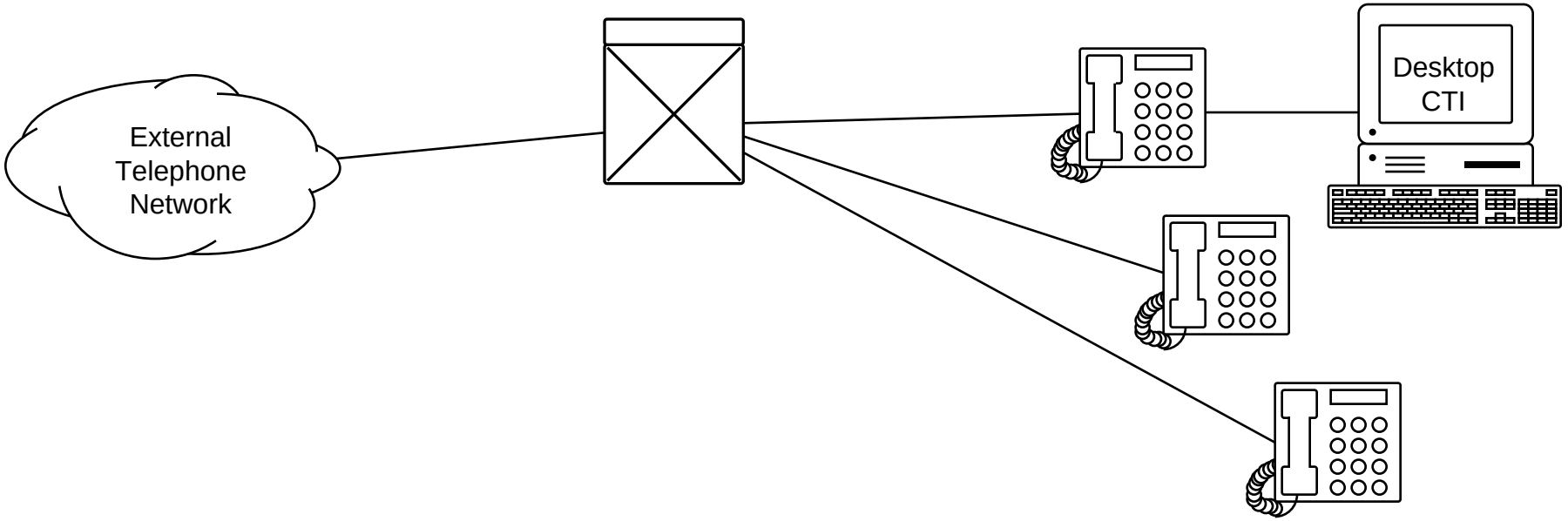
CT in Traditional Configurations



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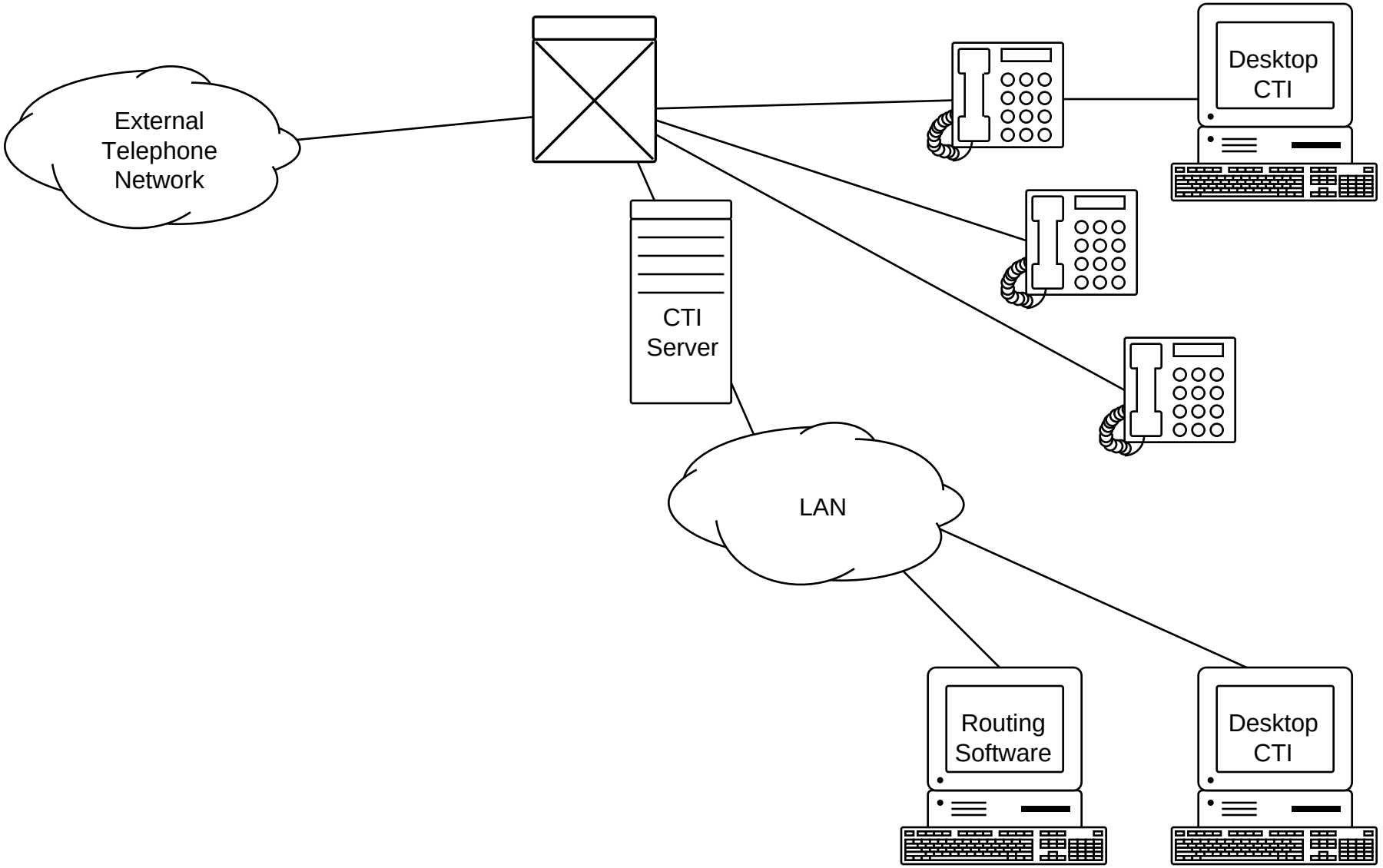

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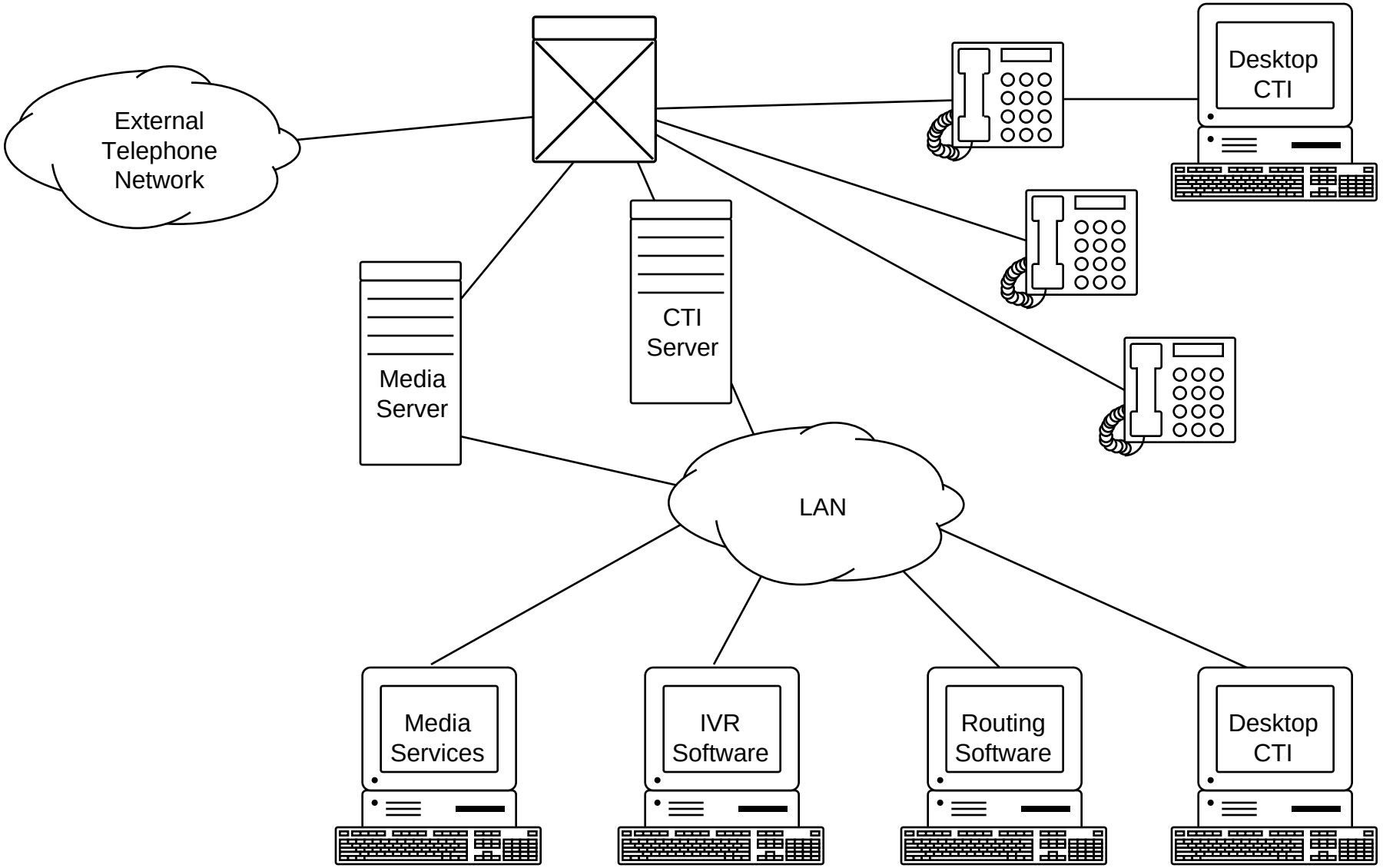
CT in Traditional Configurations



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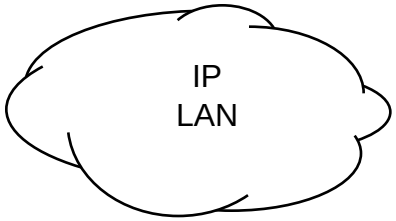
IP Telephone System Implementation



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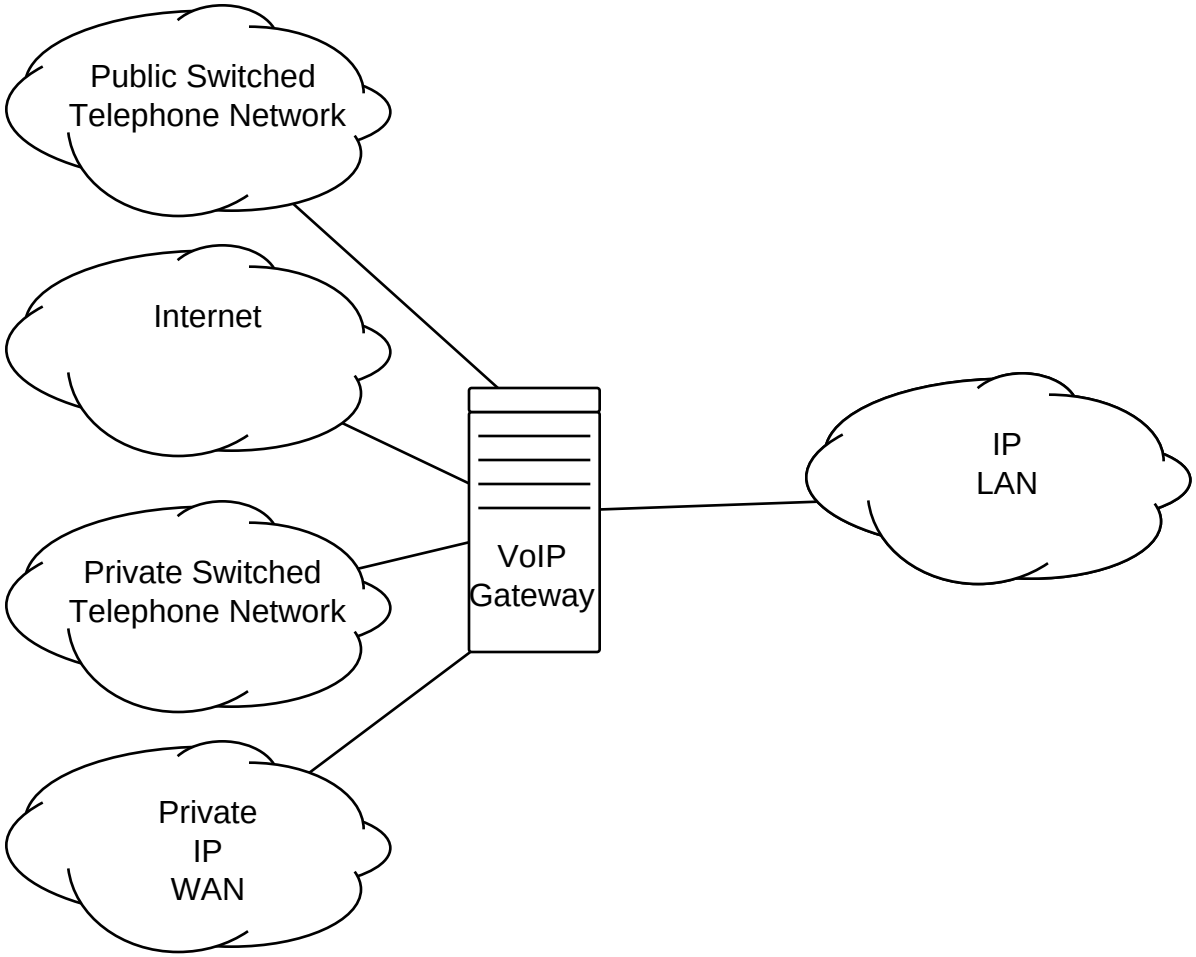
IP Telephone System Implementation



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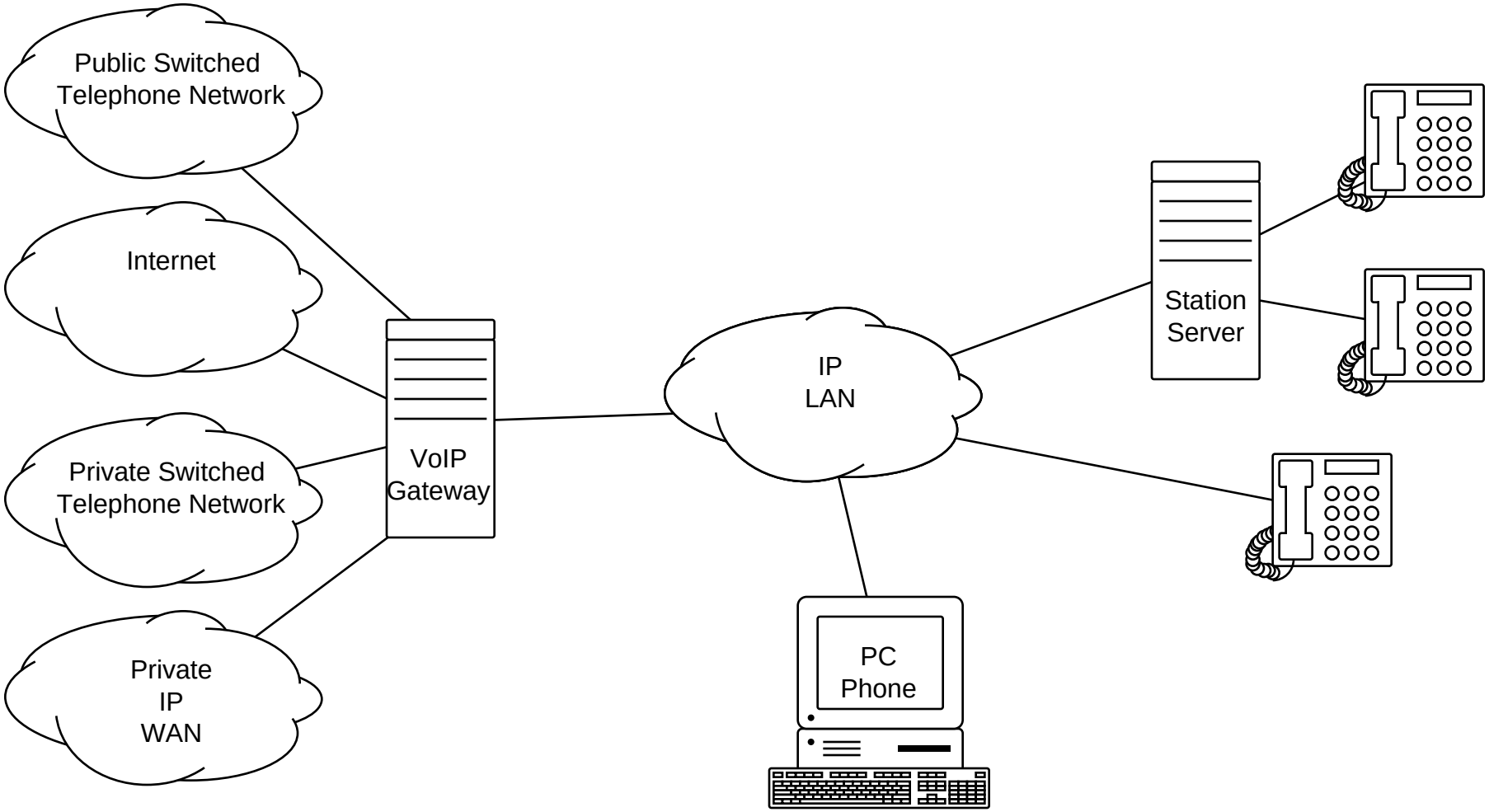

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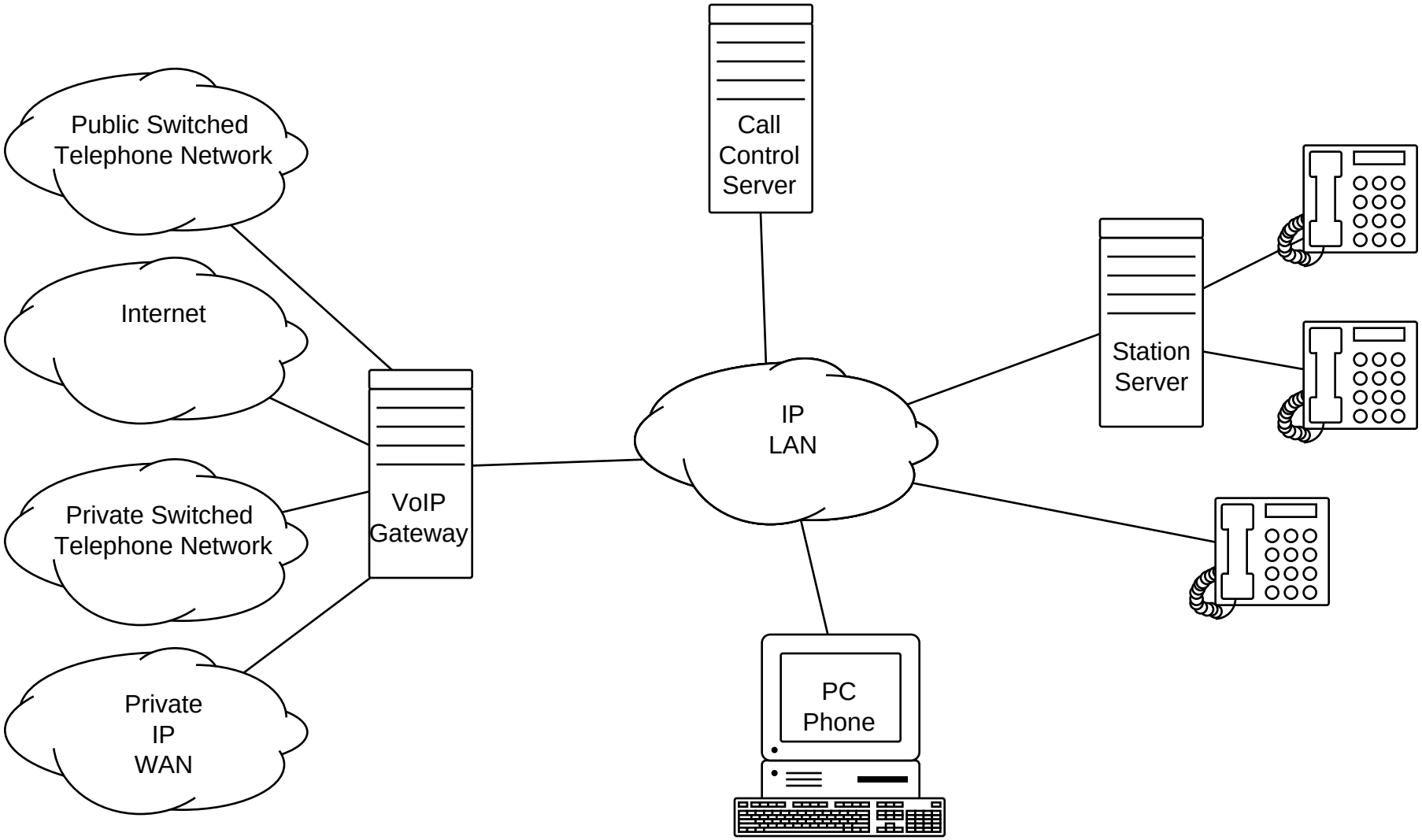

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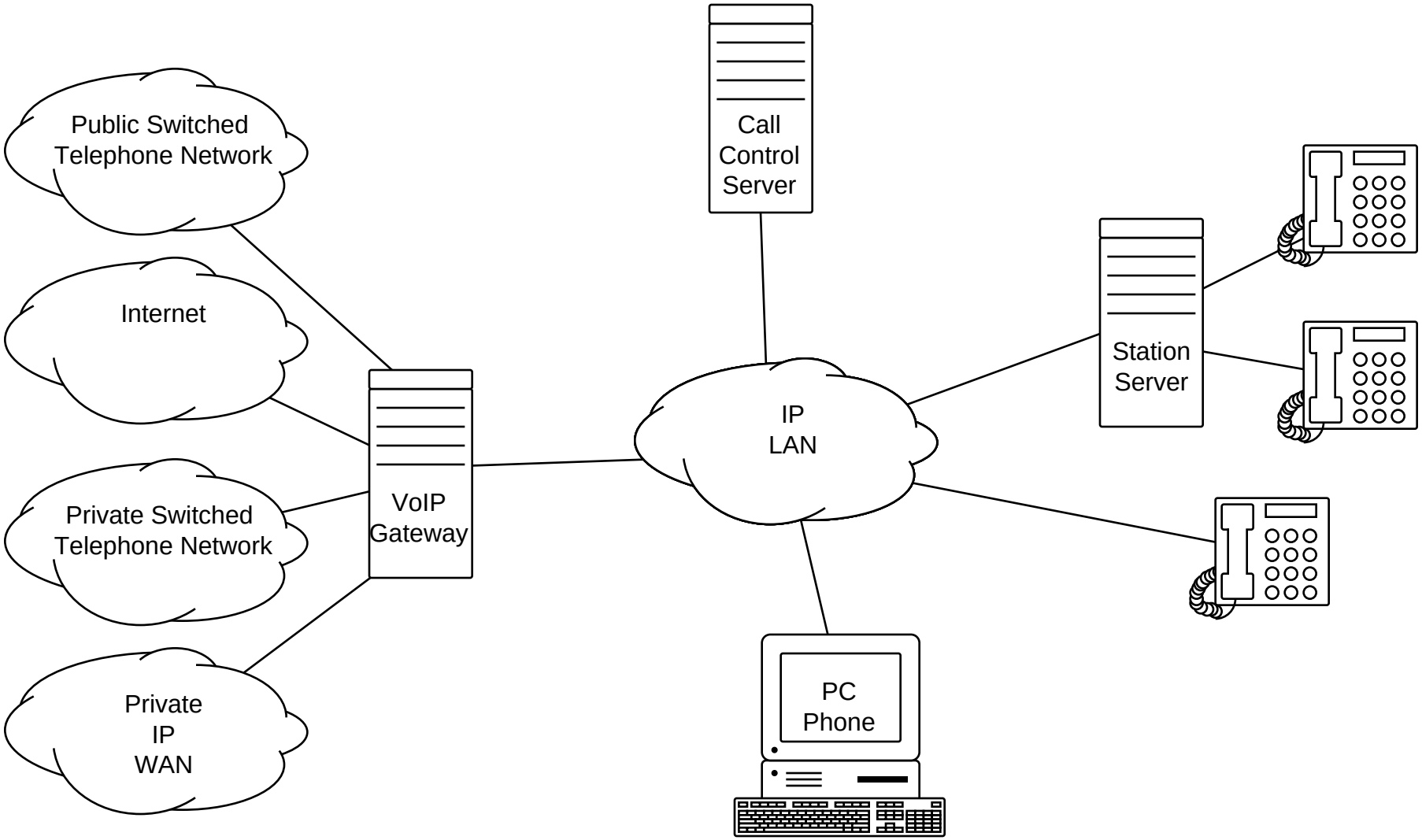

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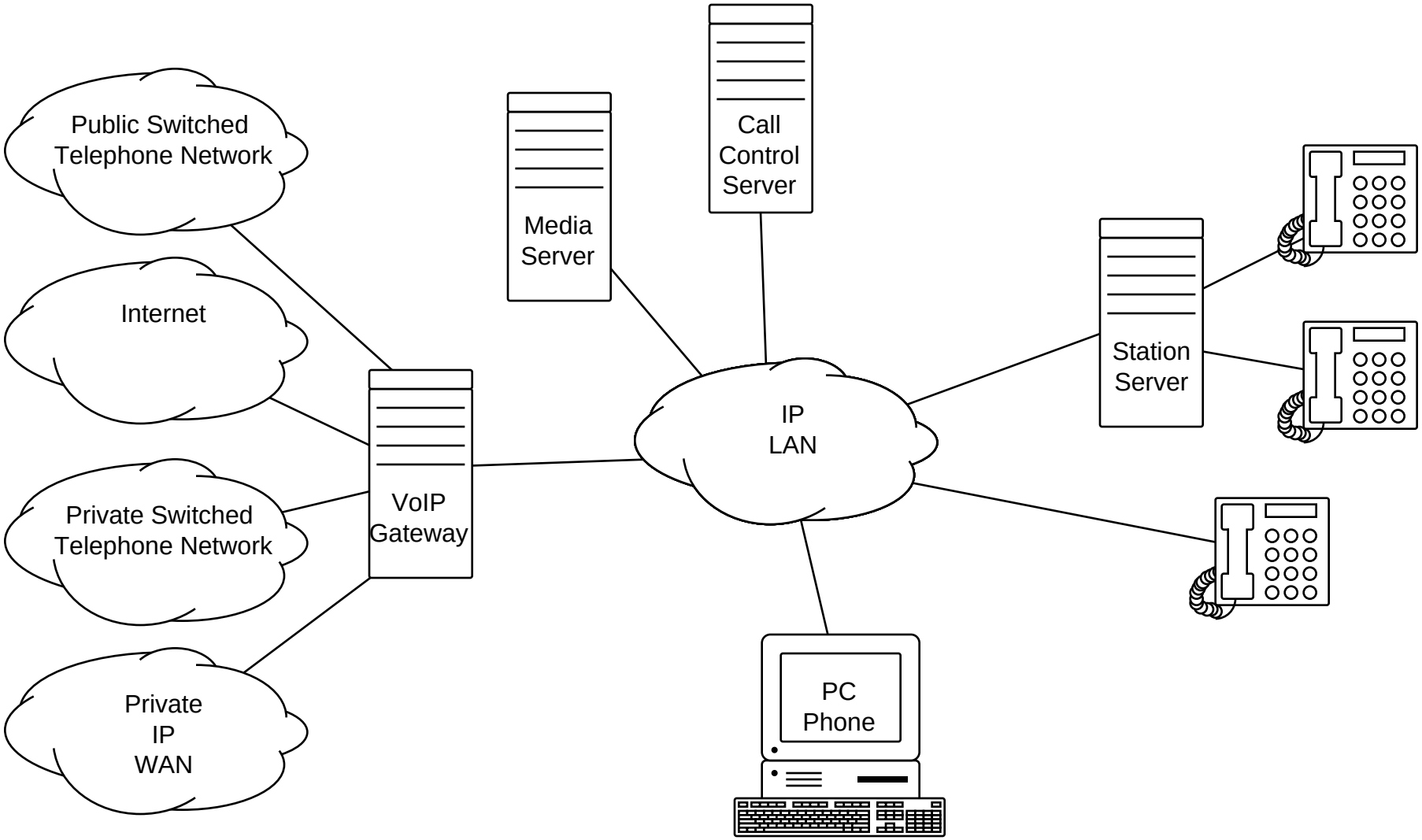

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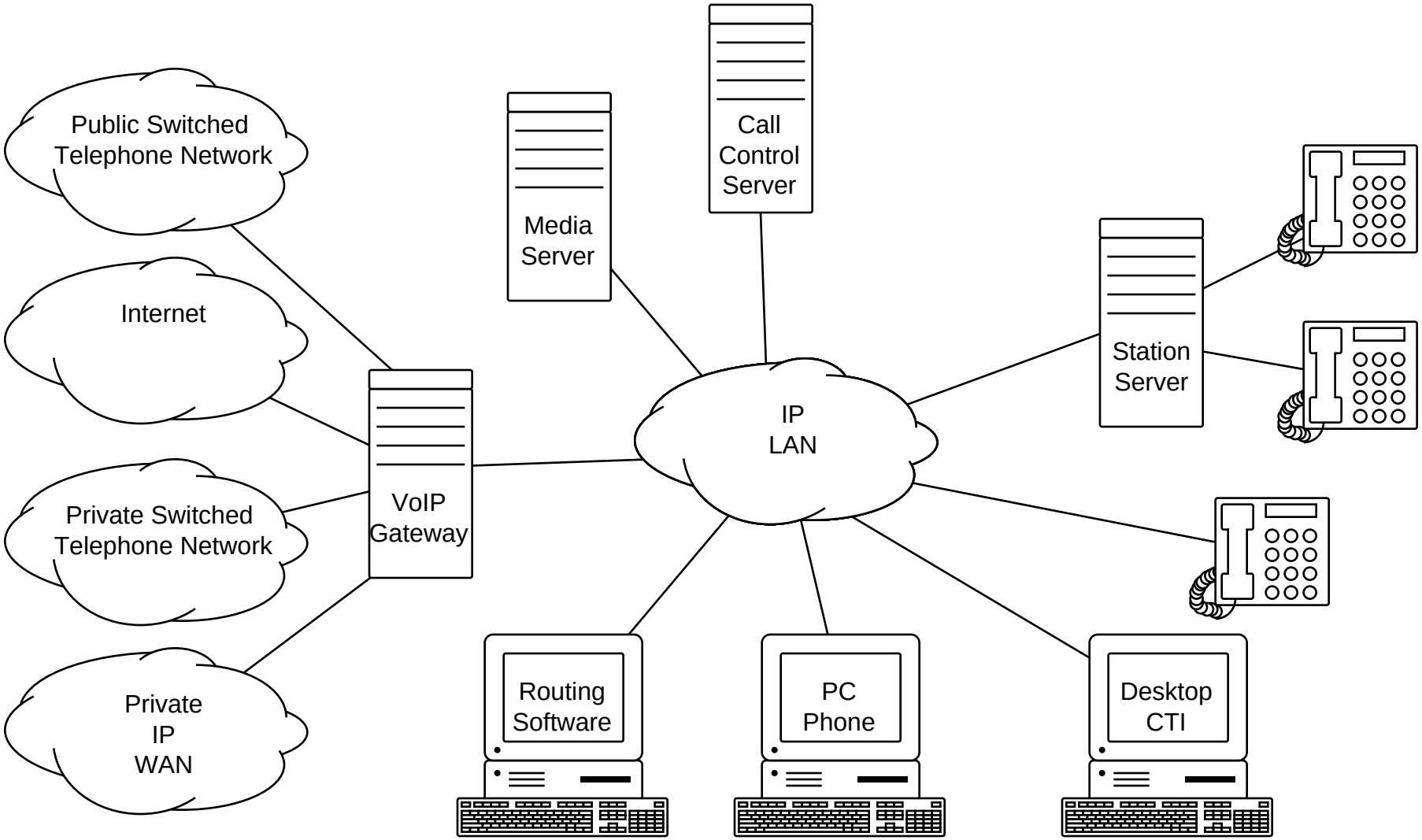
IP Telephone System Implementation



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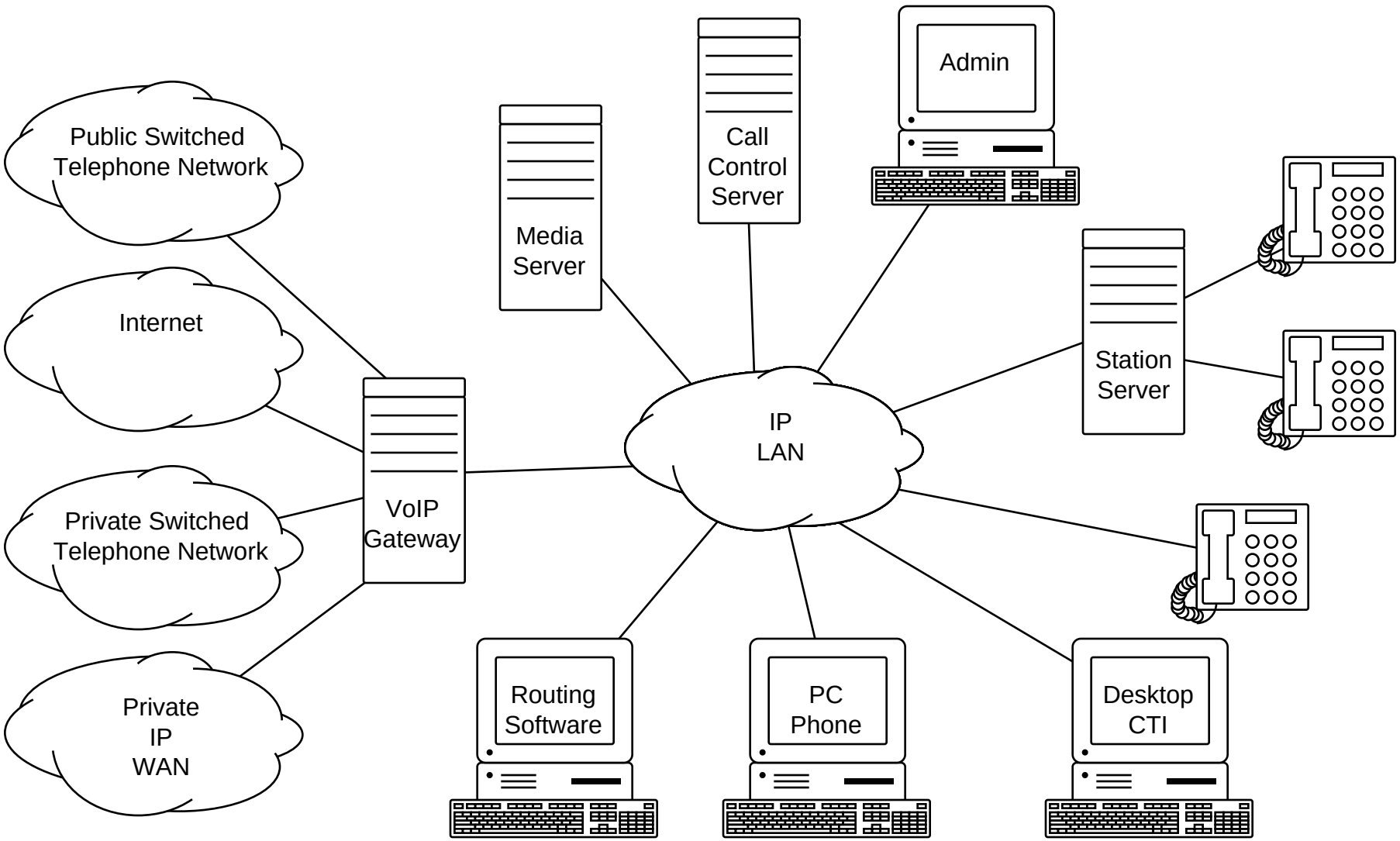

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IP Telephony is a Catalyst

- Customer motivation is for telephone systems...
  - that are open and modular
  - present no barriers to computer telephony applications
- IP Telephony is about...
  - bringing the benefits of computer telephony to the switching fabric
  - componentizing the telephone system
  - eliminating dependence on a single vendor
- Other new switching fabric options are just as significant

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3.

Interoperability Specifications are the Key

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Value Chain — Product Requirements

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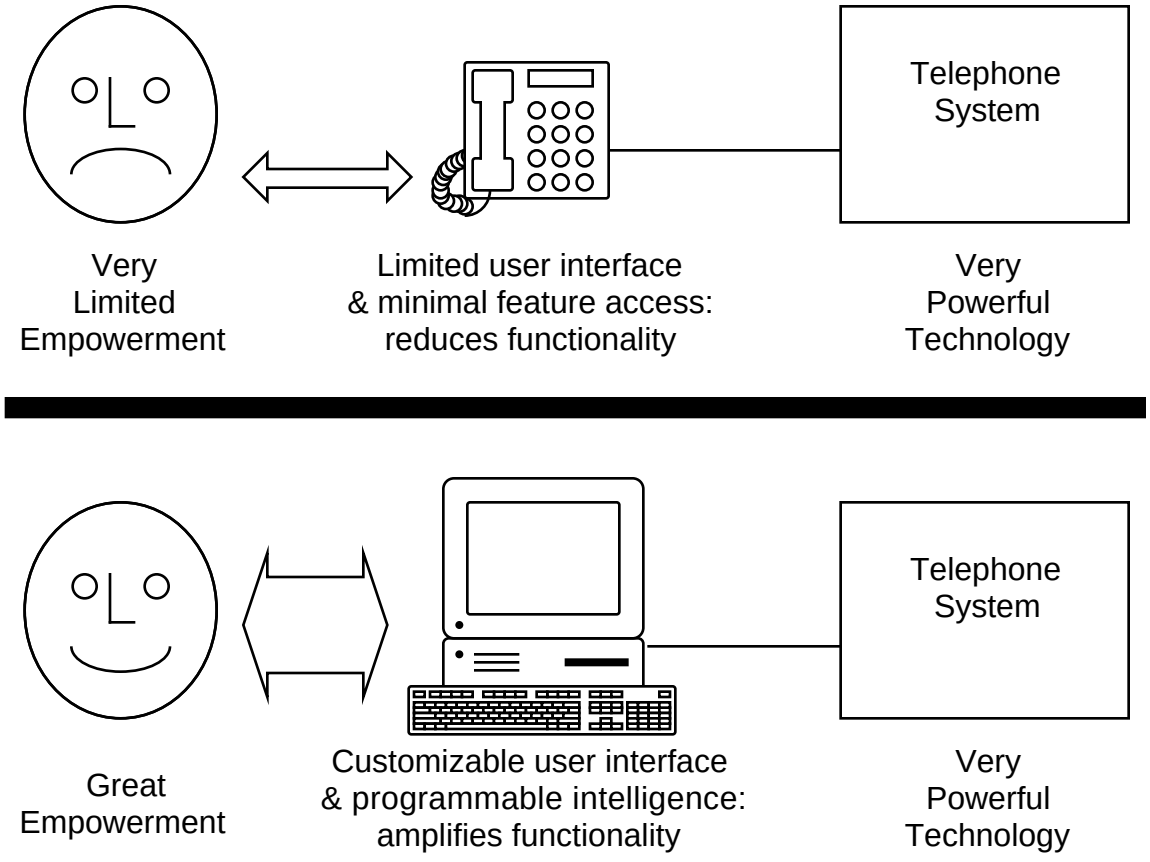
User Point of View



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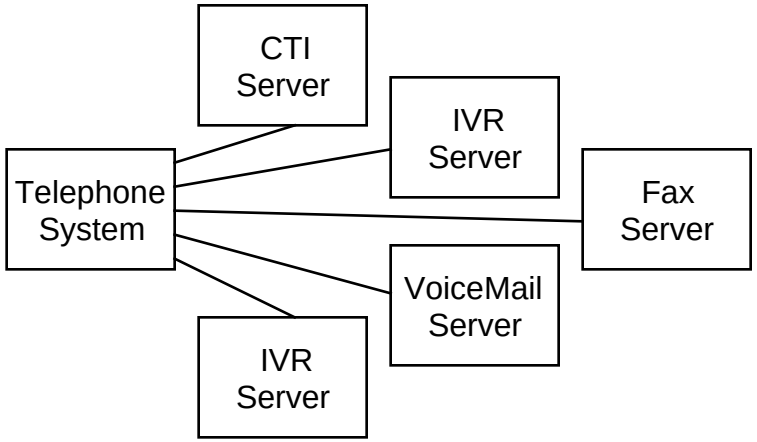
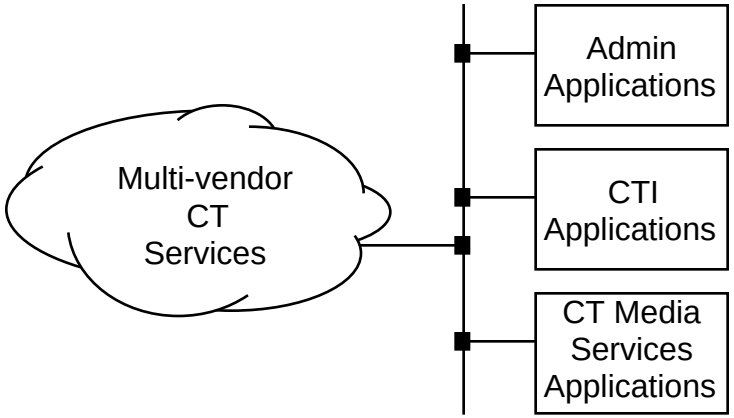
Customer's Point of View





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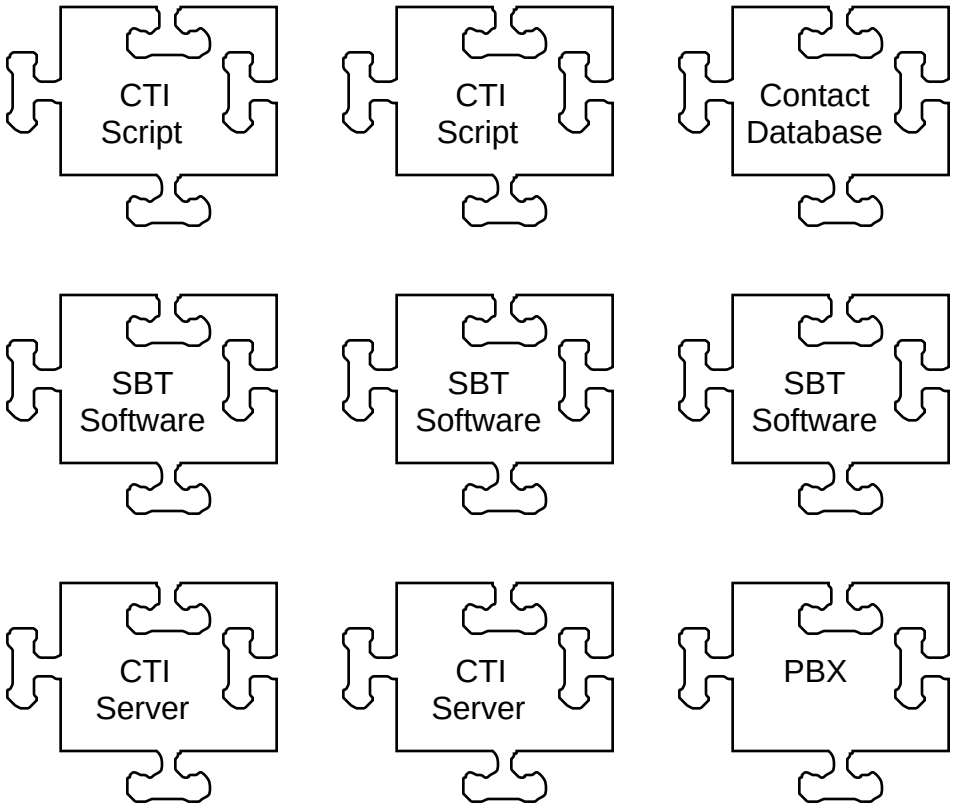
Integrator's Point of View



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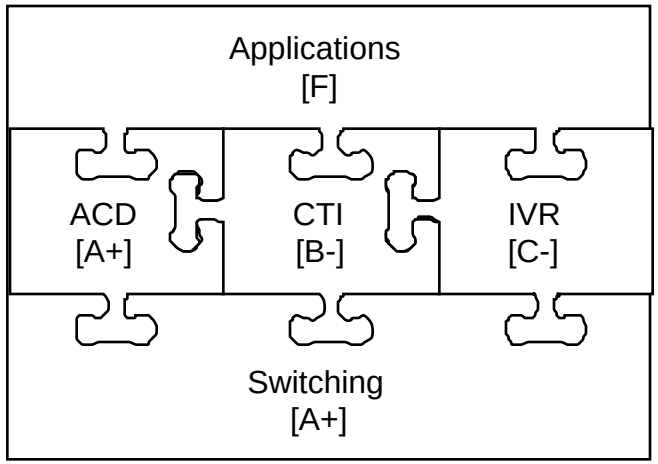
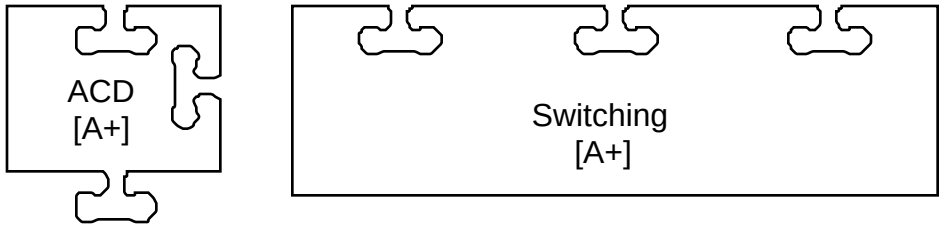
Vendor's Point of View





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Focus on Modularity and Prioritize Interoperability

- Standards and other interoperabilty specifications allow for modular systems
- Modularity is a measure of maturity

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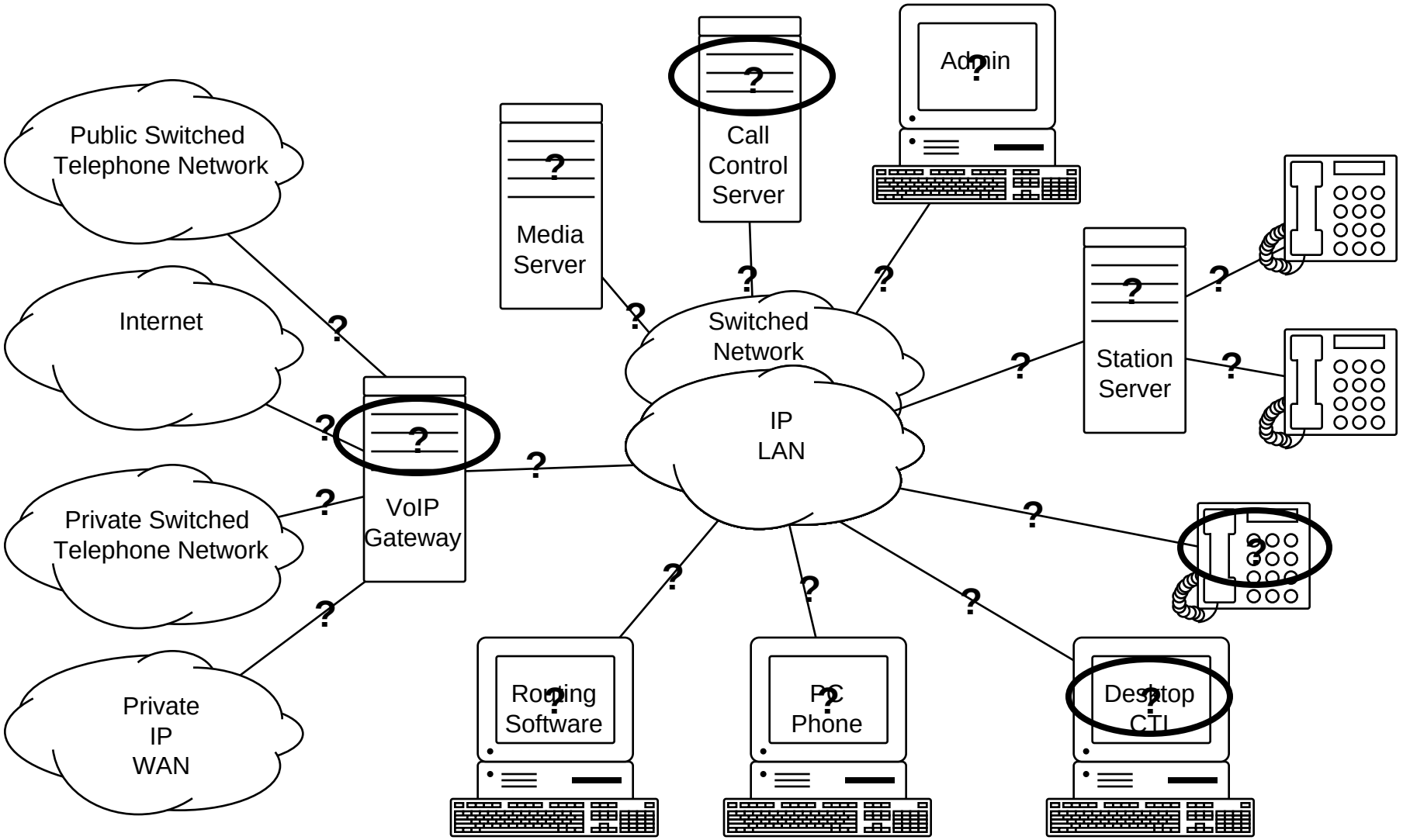
Telephone System Implementation



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Specifications and Standards

- Standards Bodies
  - ITU
  - ANSI
- Individual Vendors
  - Microsoft
  - Telcordia / Level3
- Industry Organizations
  - IETF
  - ECTF

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Three Types of Specifications

- Models
  - Agreement on terminology and concepts
  - Standardized abstraction
- Programmatic Interfaces
  - For software modules on the same platform
  - May or may not be platform independent
- Protocols
  - Platform independence
  - Plug and Play interoperability

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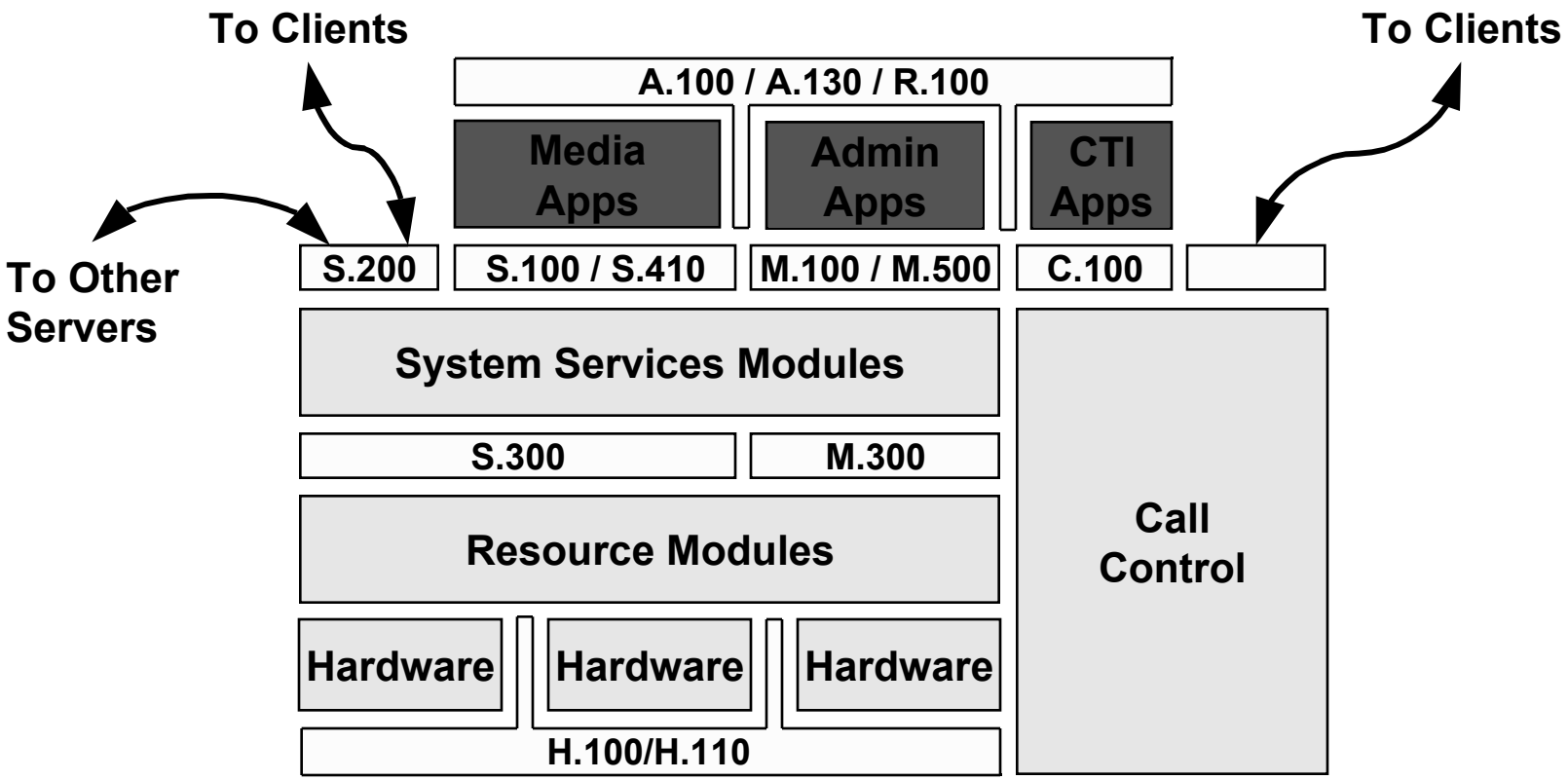
ECTF Framework



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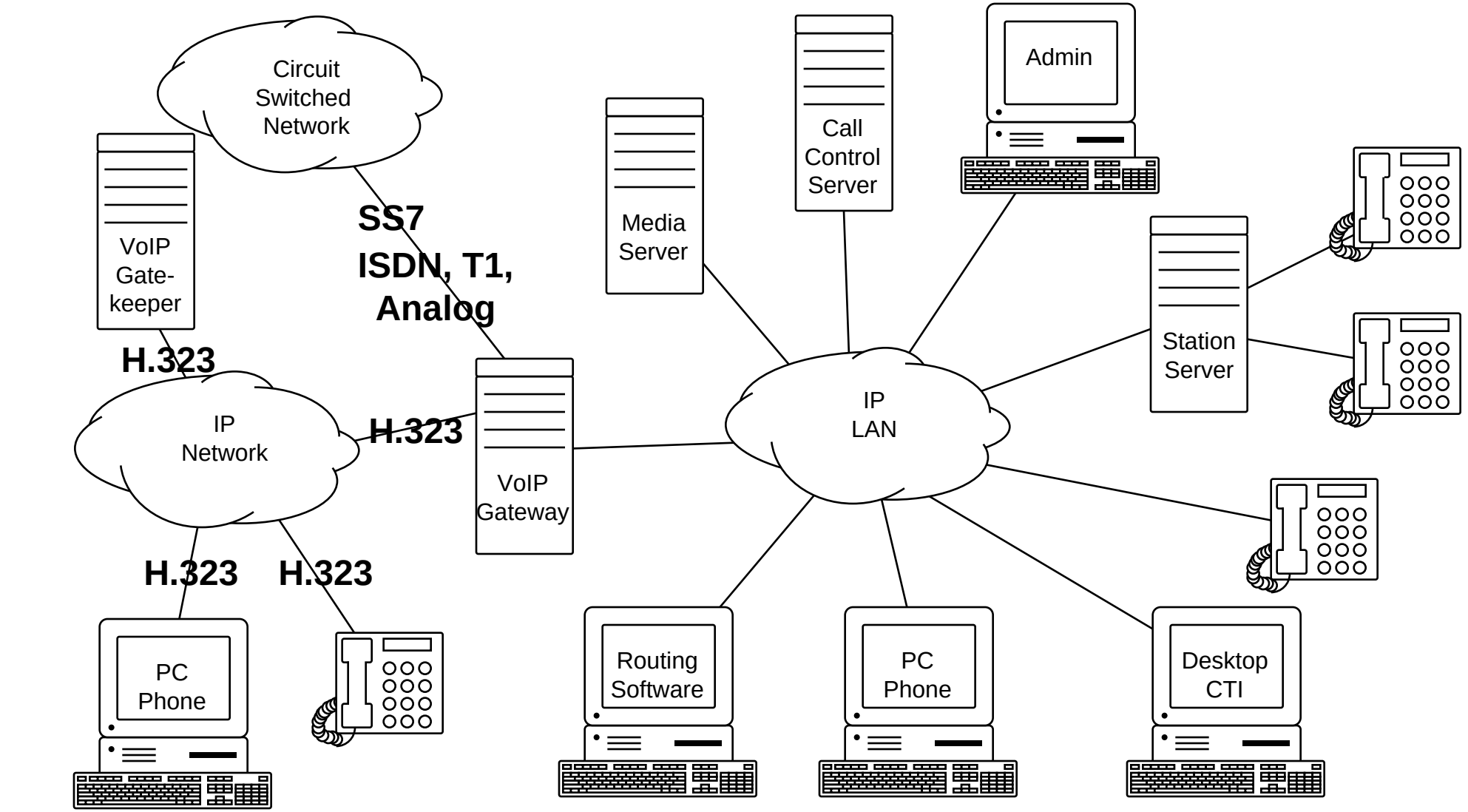
Public Network Switching / Signaling



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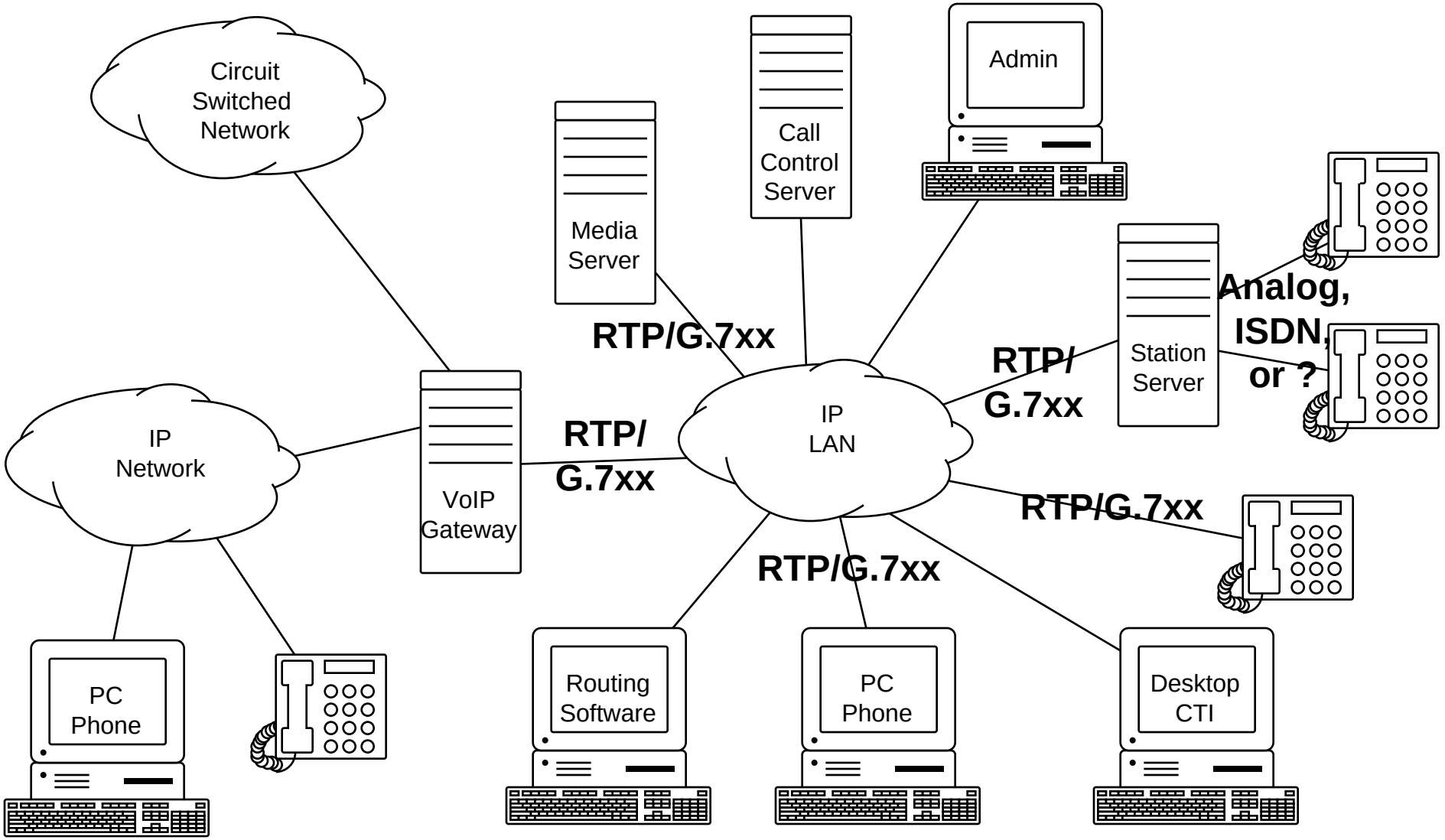
Switching: Media Streams



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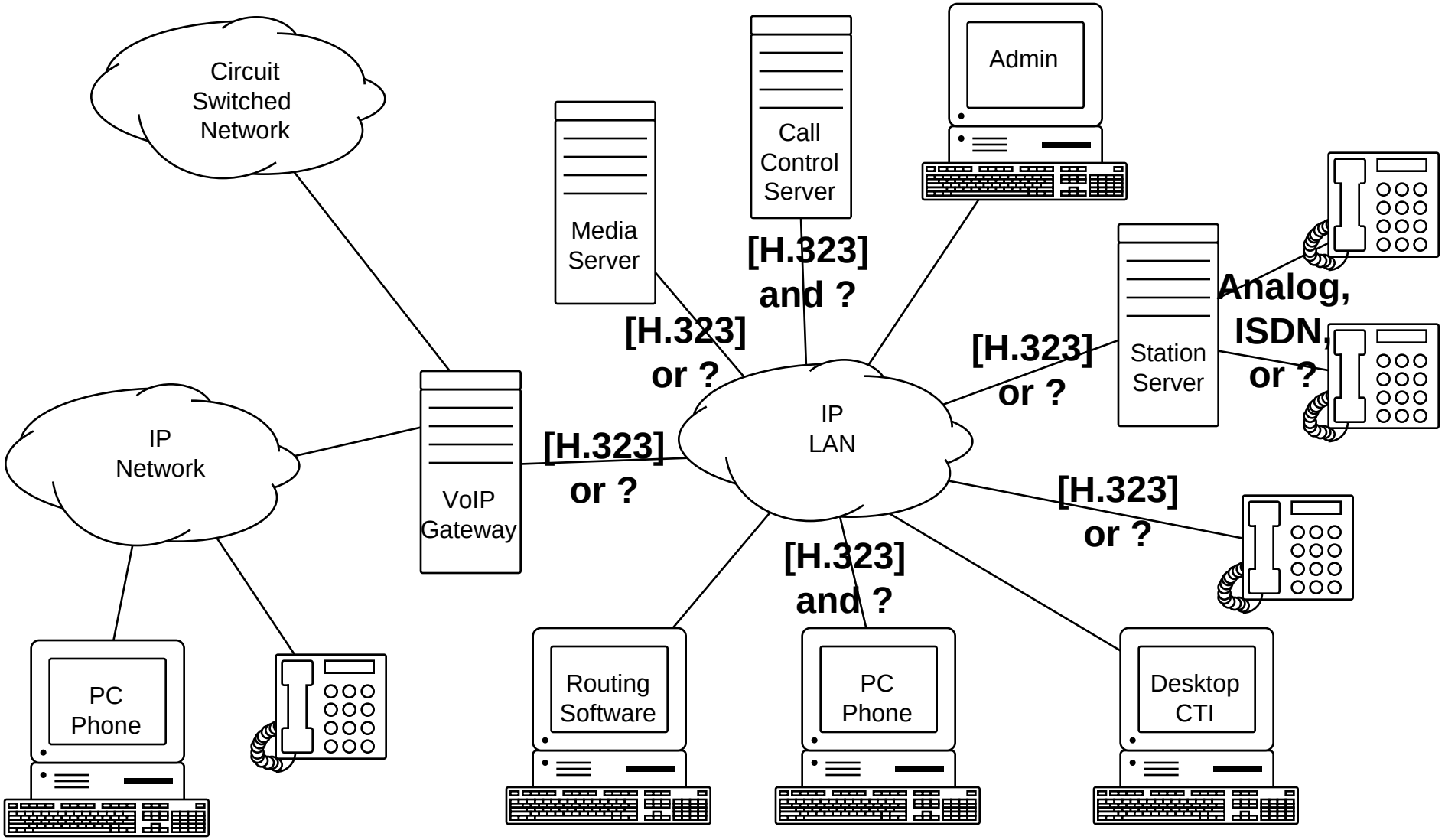
Switching: Signaling



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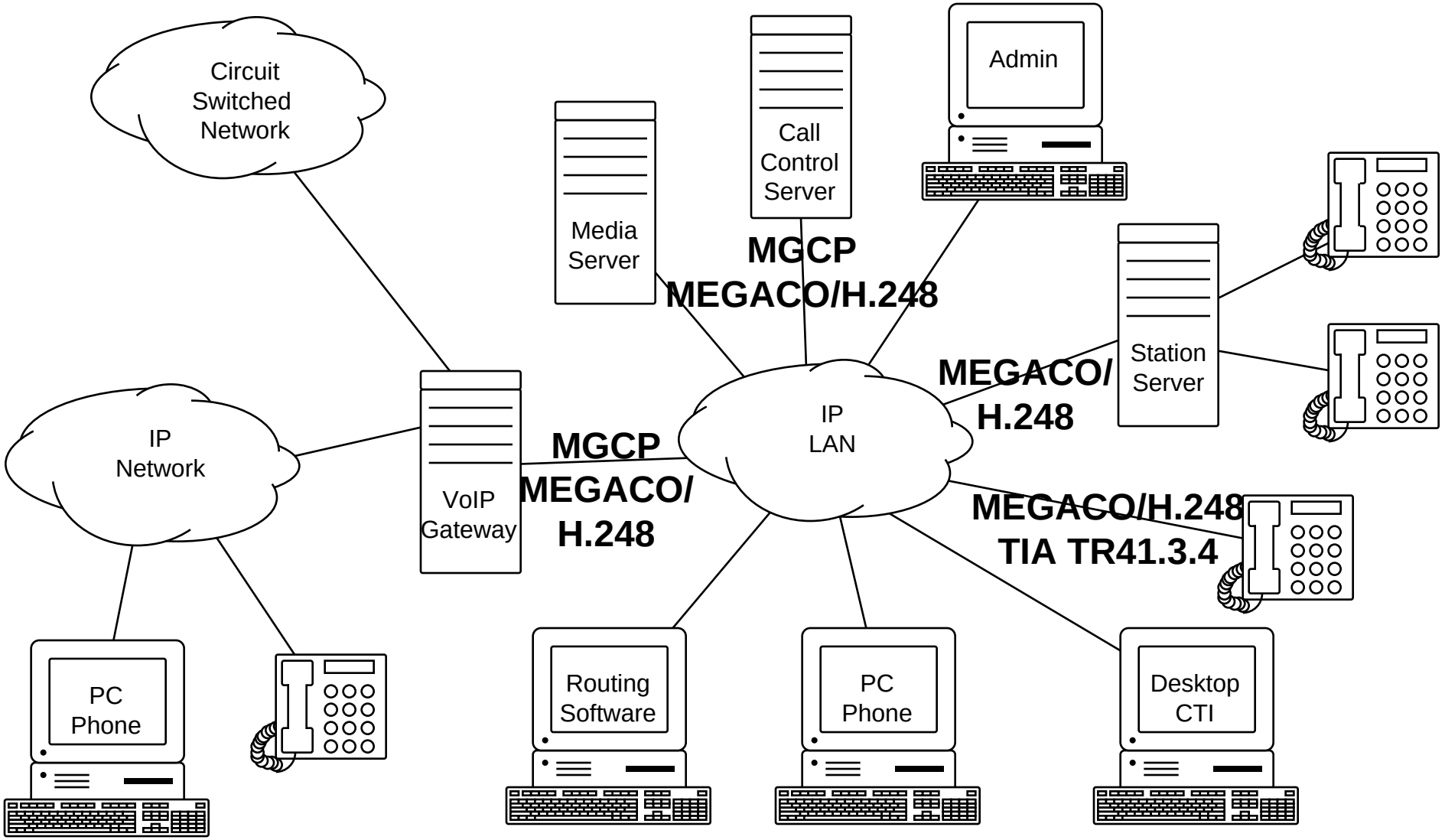
Switching Fabric Control



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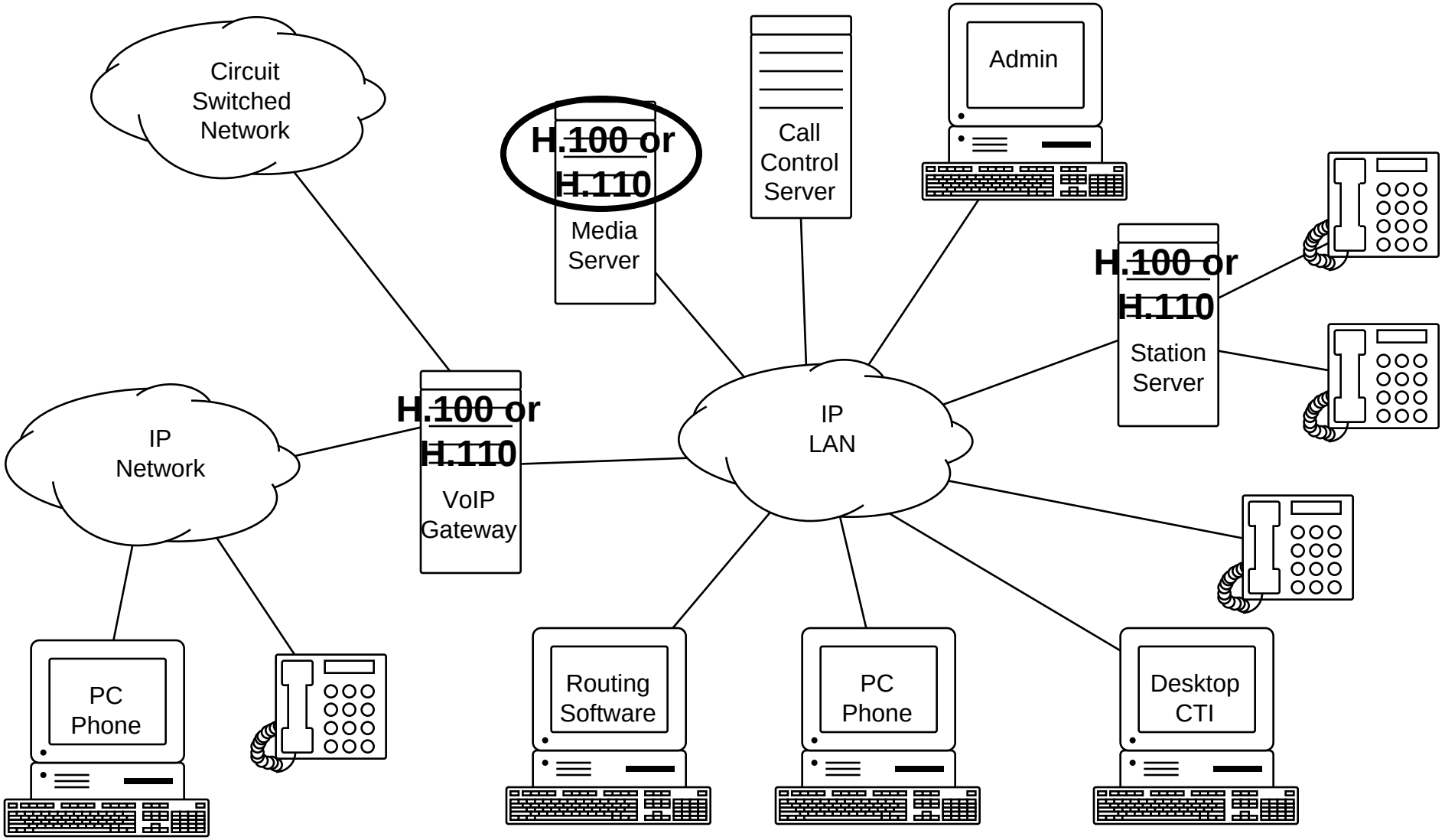
Switching Fabric: TDM Bus



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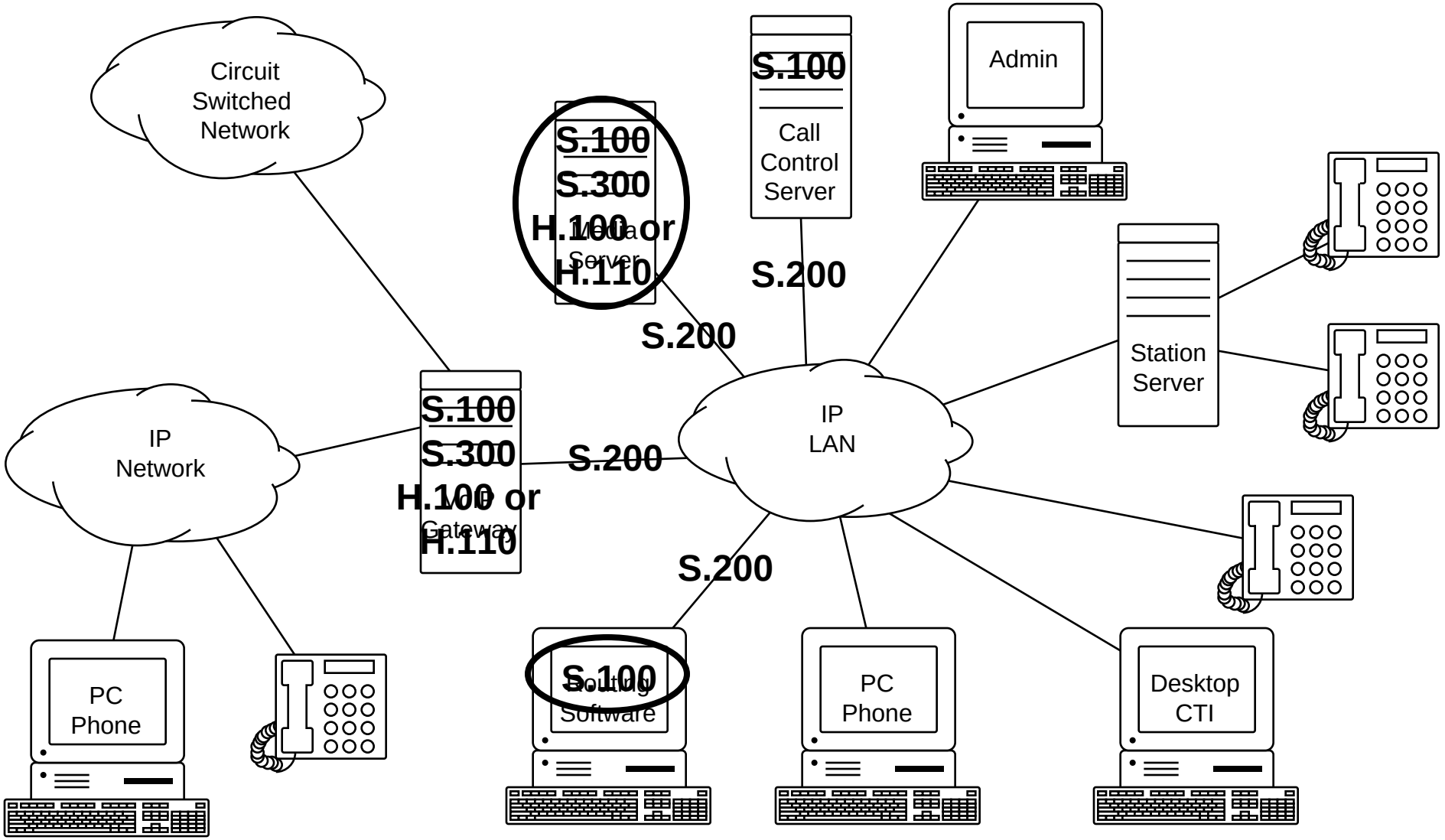
Media Services



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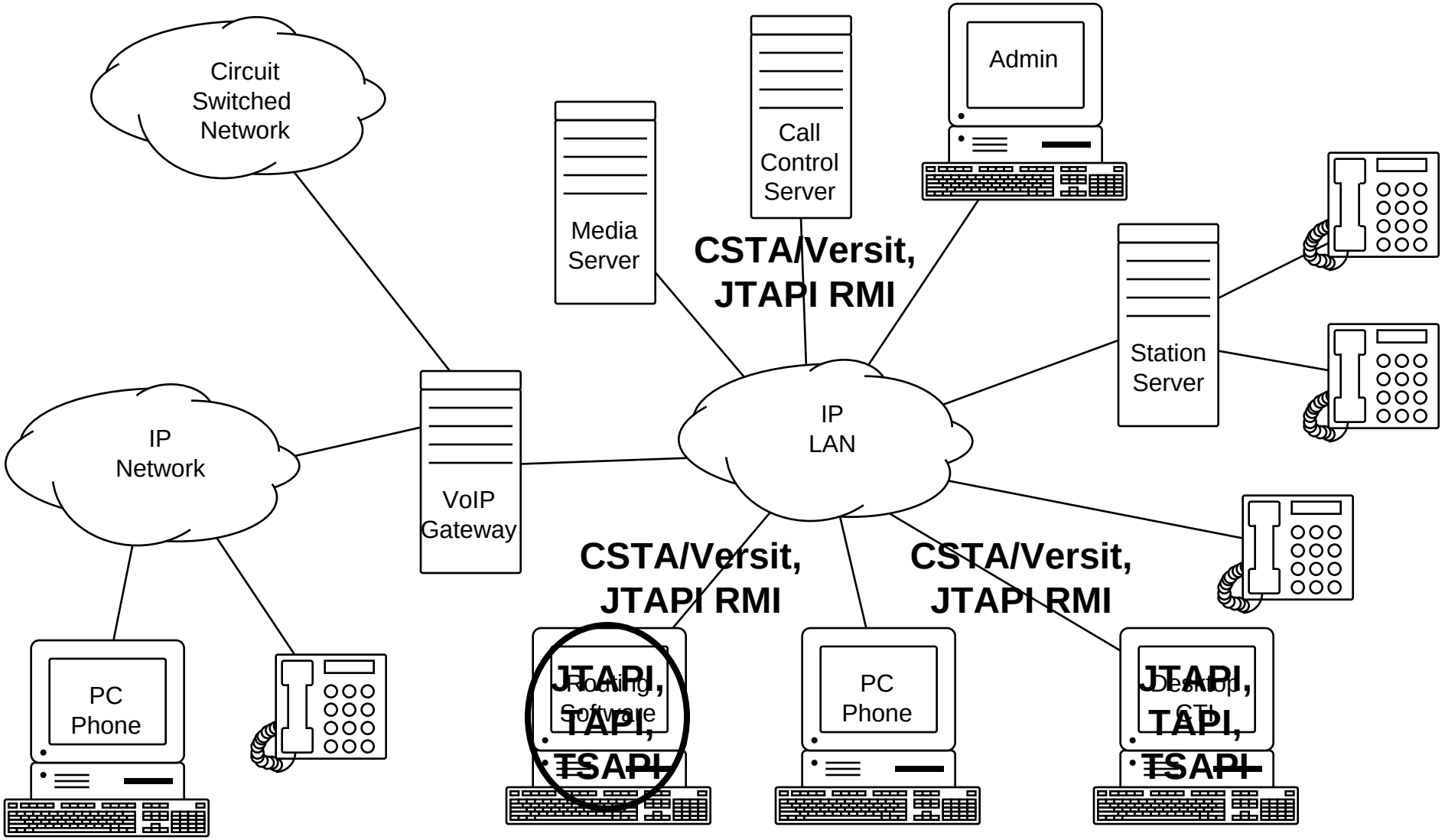
CTI / Call Control



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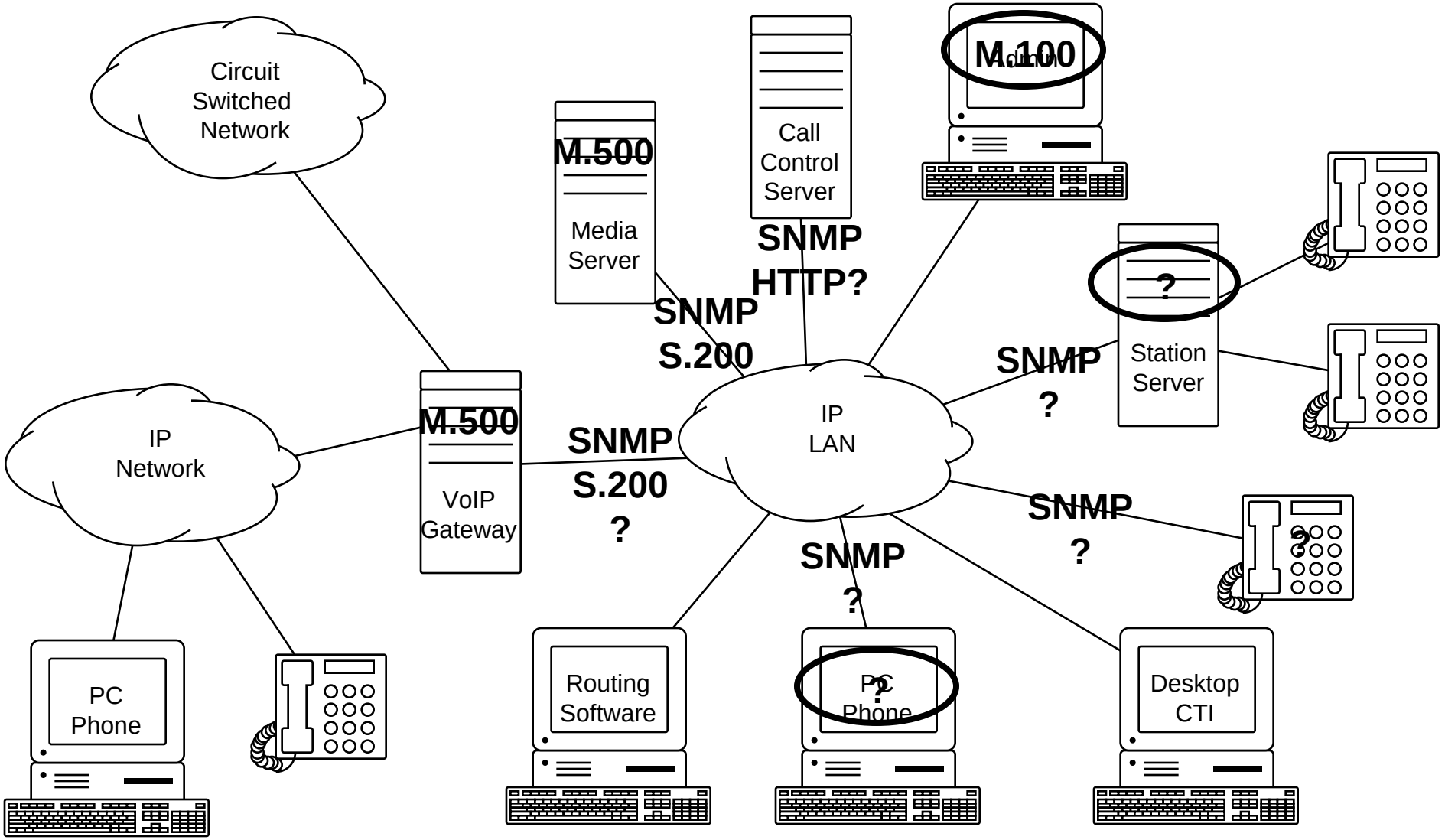
Administrative Services



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Maturity Checklist

- Framework
  - ECTF
- Call Model
  - C.001
- Published APIs / Multi-platform
  - TAPI, TSAPI, JTAPI, S.100, M.100
- Open Protocols
  - H.323, MEGACO / H.248, Versit / CSTA, S.200
- Plug & Play Products

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4.

You are in the Driver's Seat

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What should you be doing?

- Get tough with vendors
  - Get “Questions for Vendors” from the ECTF
  - Encourage vendors to implement and ship products based on specifications (not just to talk about it)
- Think modular
  - Shop for components
  - Support manageable diversity
  - Build in a modular fashion by taking advantage of interoperability specifications wherever possible
- Don’t rush
  - If appropriate, defer purchases or invest in products that will help you migrate over time

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Become Familiar with Specifications

- Standardized terminology
  - Allows comparison of different vendor's products
- Standardized models
  - Provides framework for designing solution independent of specific products
  - Serves as checklist for product features
- Resources include:
  - www.ECTF.org
  - www.CTExpert.com

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Know Your Requirements

- Don’t take anything for granted
- What do you have that you don’t really need?
- What do you need?
- If it ain’t broke don’t fix it
- Leave all your options open

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Know your Priorities

- Where do you stand to gain the most benefit?
  - CTI Applications?
  - Media Services Applications?
  - Admin?
  - Switching Fabric?

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Don’t make any assumptions

- Support for one specification doesn’t guarantee that there is support for another
- Support for an API on one platform doesn’t guarantee that any other platforms are supported
- IP Telephony is just a new switching fabric

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Four Things to Remember

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- IP Telephony is a catalyst
- Interoperability specifications are the key
- You’re in the driver’s seat

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