

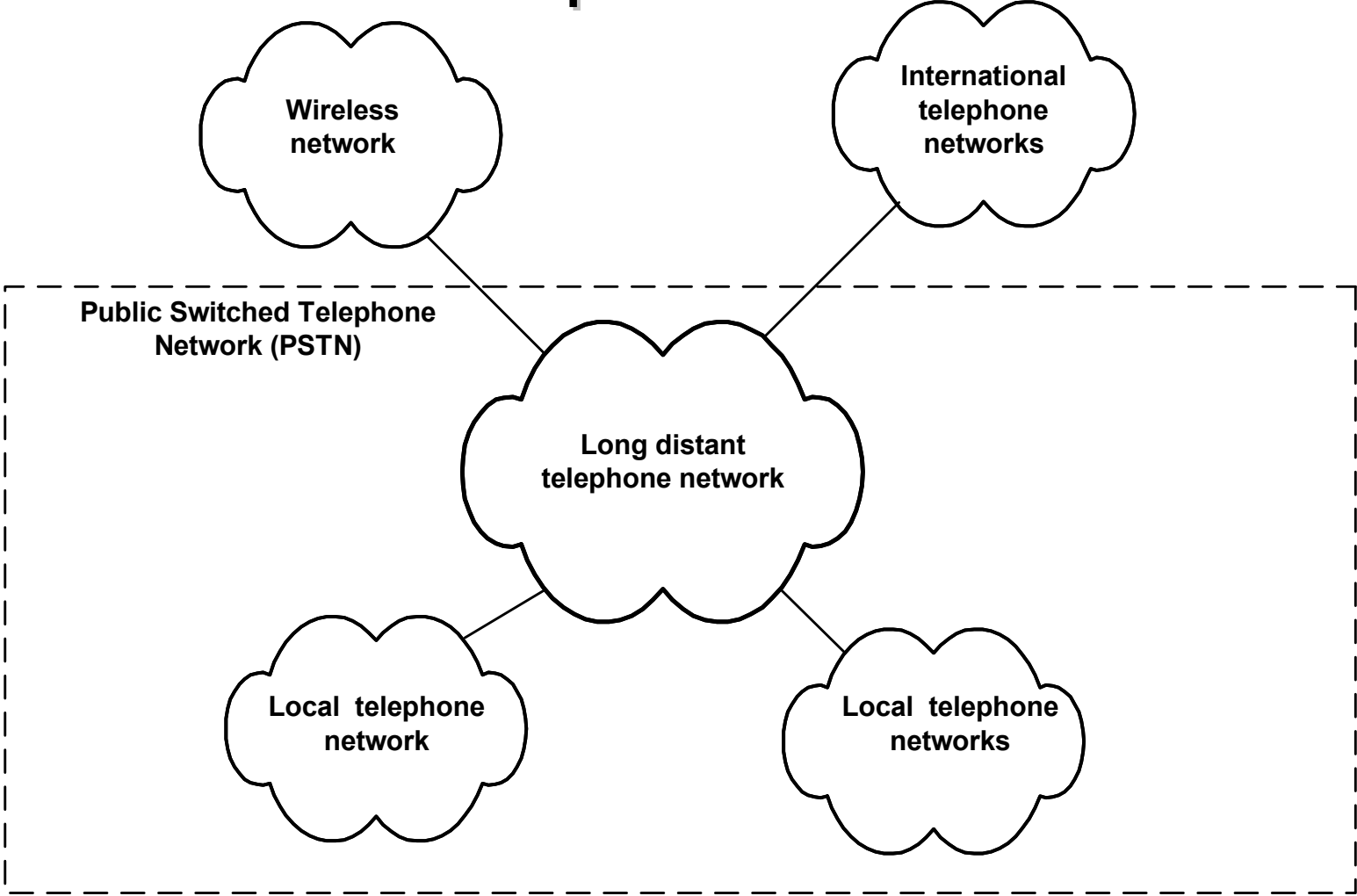
Voice Network Overview

Mohamed Sharif

Public Telephone Network

- **Comprise of several networks**
 - **Public Switched Telephone Network (PSTN)**
 - **Wireless Telephone Network**
 - **International Telephone Network**

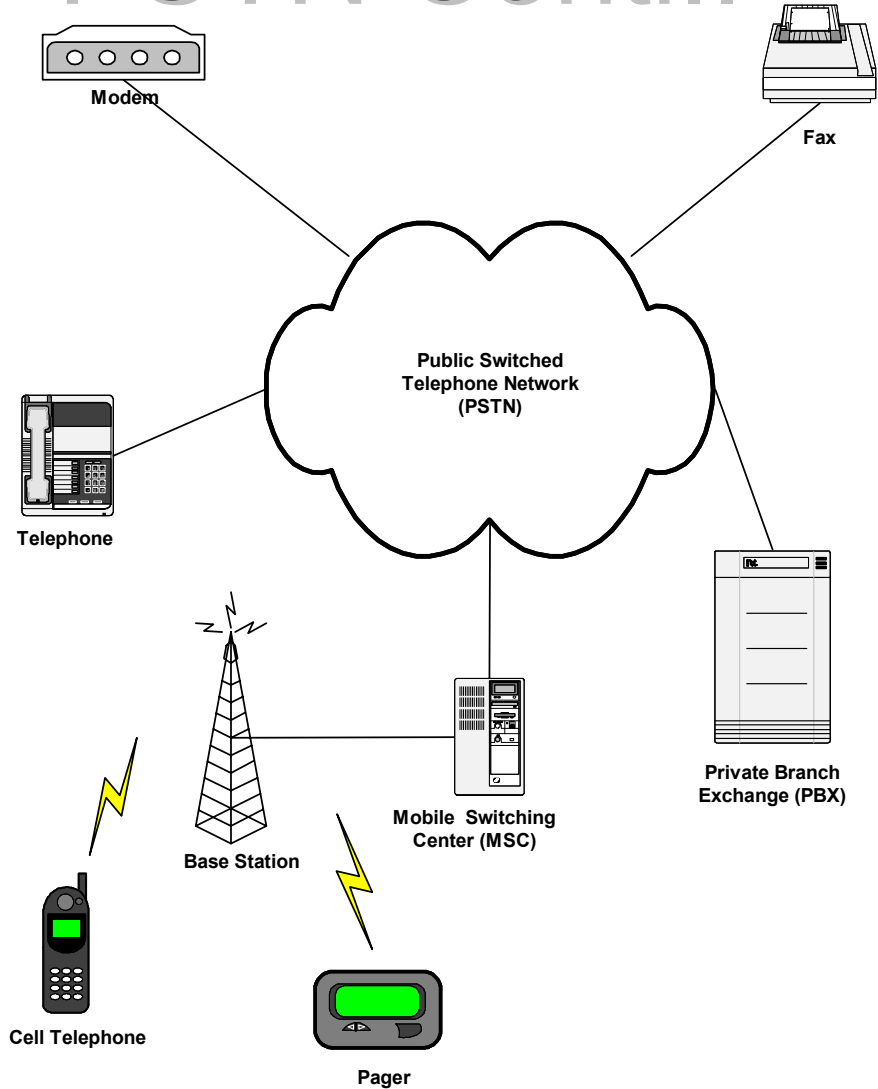
Public Telephone Network



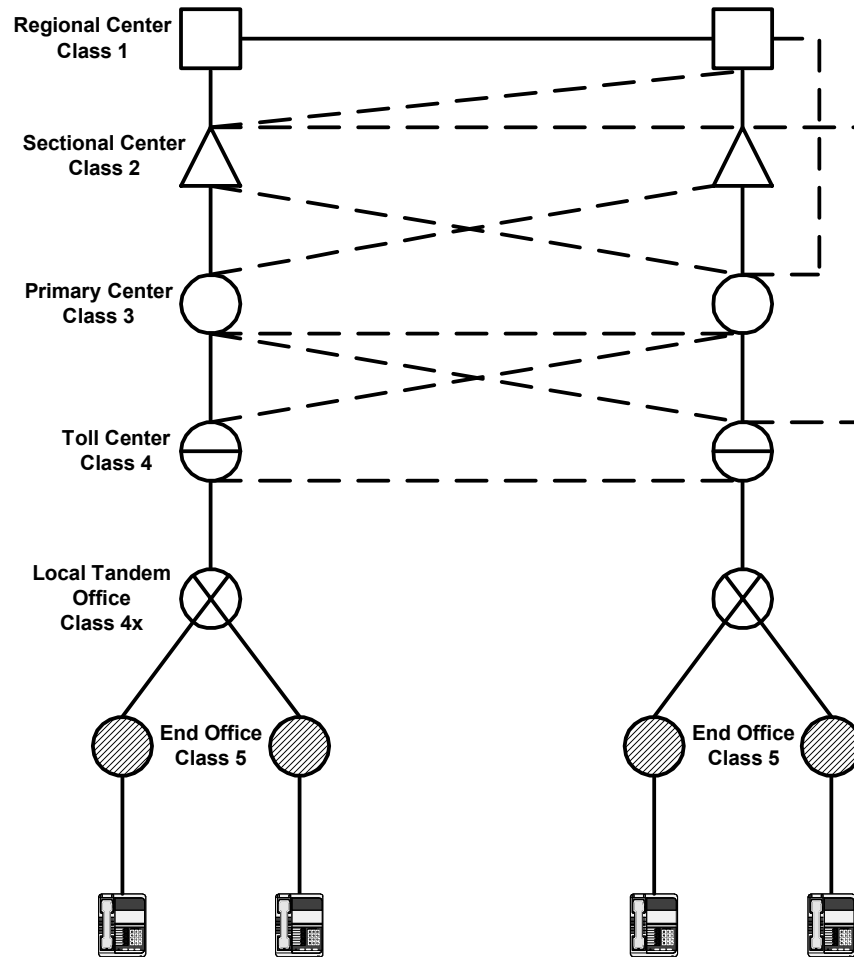
PSTN

- Several networks that are operated by different companies
- Comprise
 - Signaling Network
 - Transport Network

PSTN Conti..

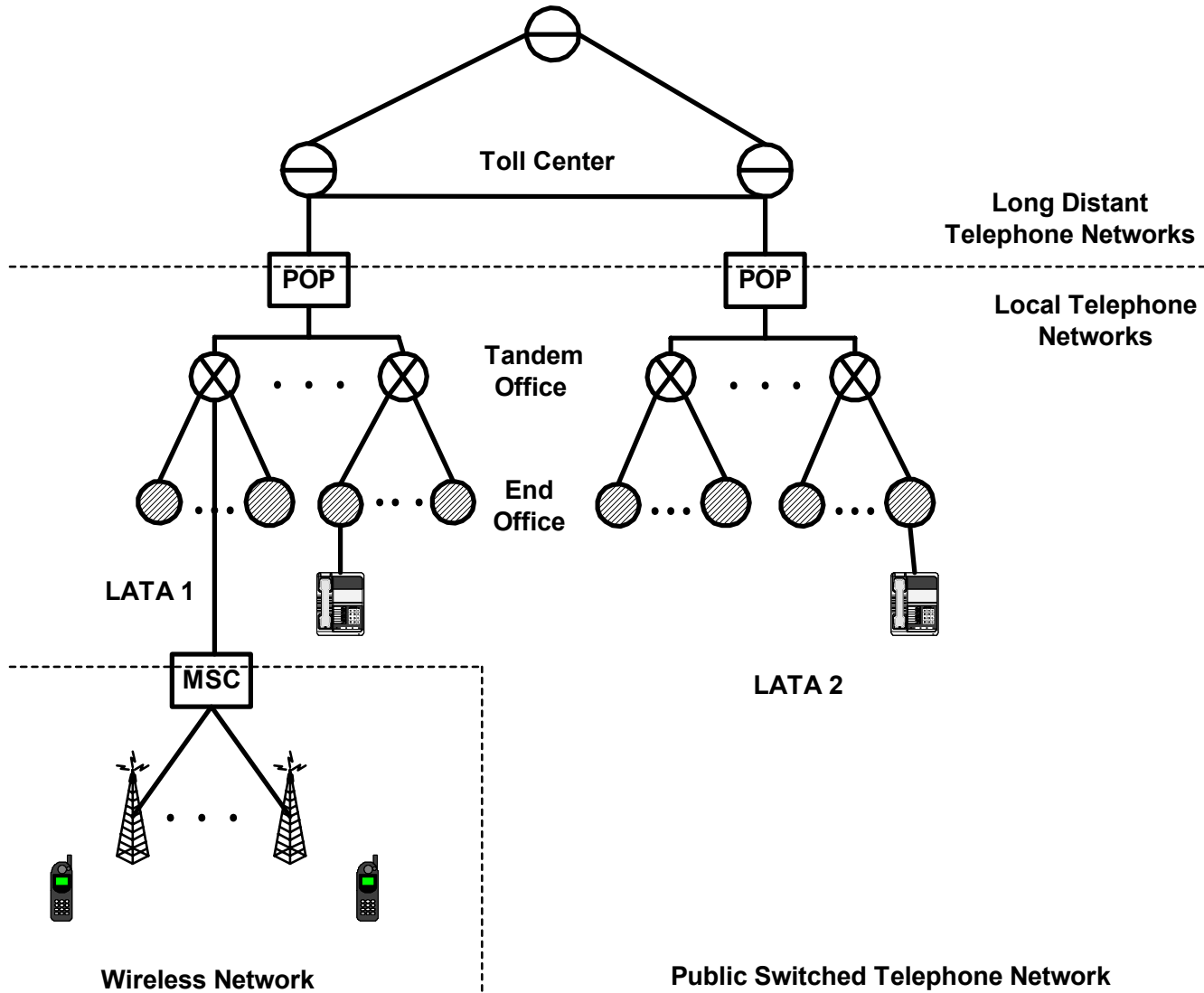


Transport Network



--- Possible High-usage Trunk
— Final Trunk

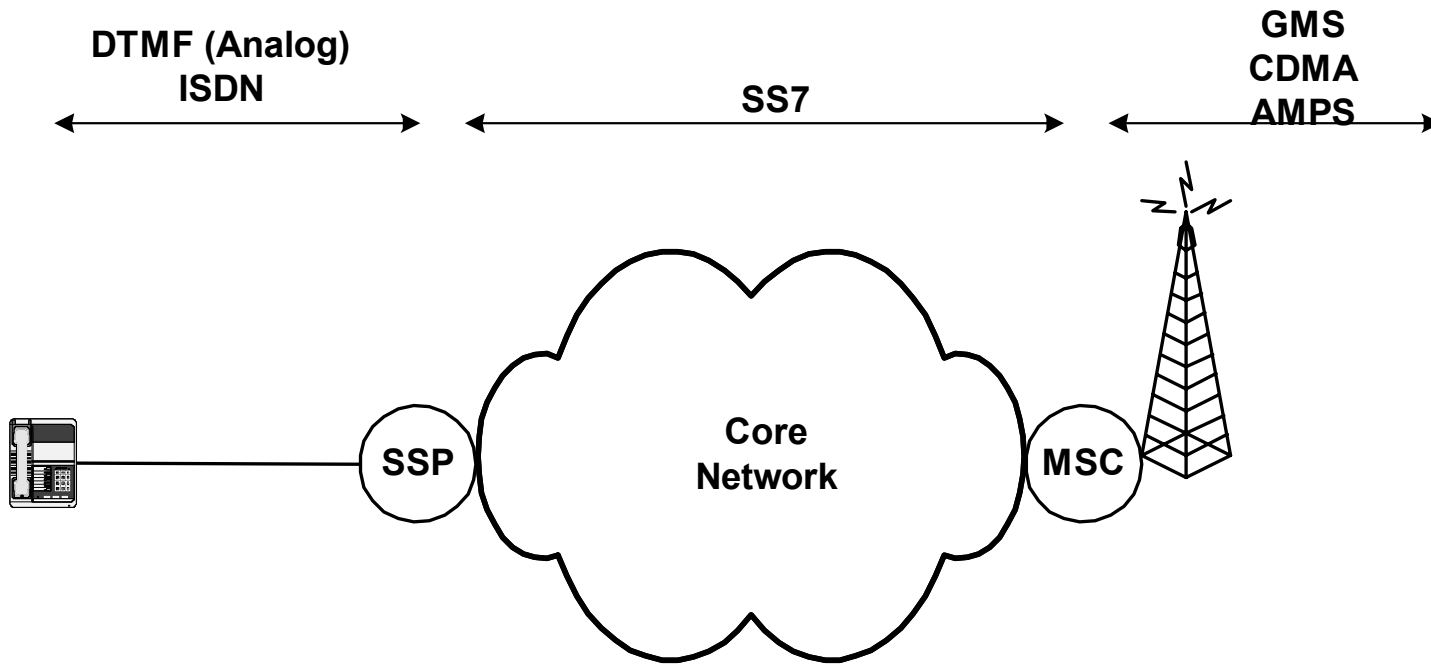
Transport Network



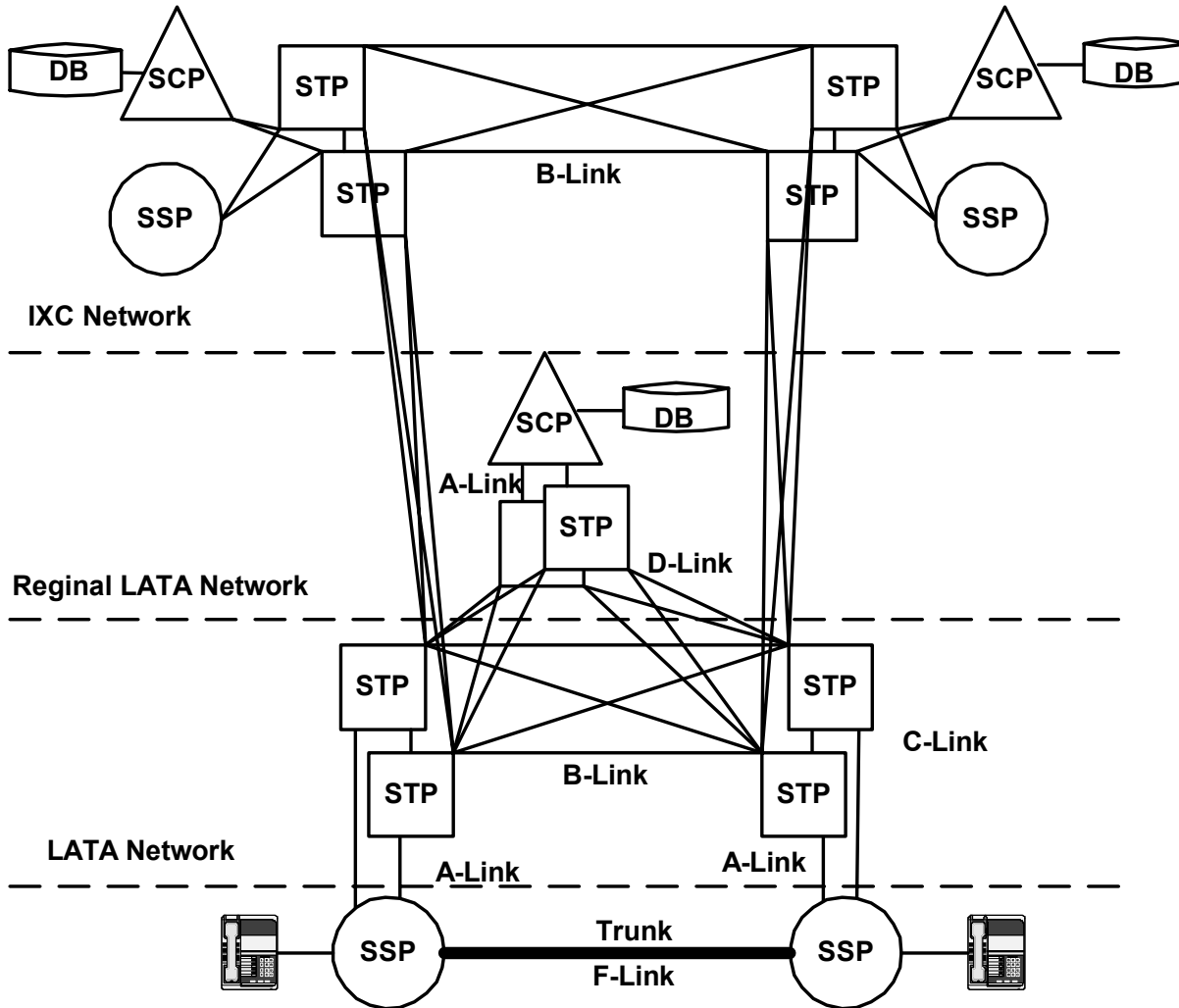
Signaling Network

- Signaling protocol
 - In-band Signaling
 - Dial Pulse (DP)
 - Dual-Tone Multi-Frequency (DTMF)
 - Out-band Signaling
 - Signaling Systems # 7 (SS7)
 - Integrated Service Digital Network (ISDN)

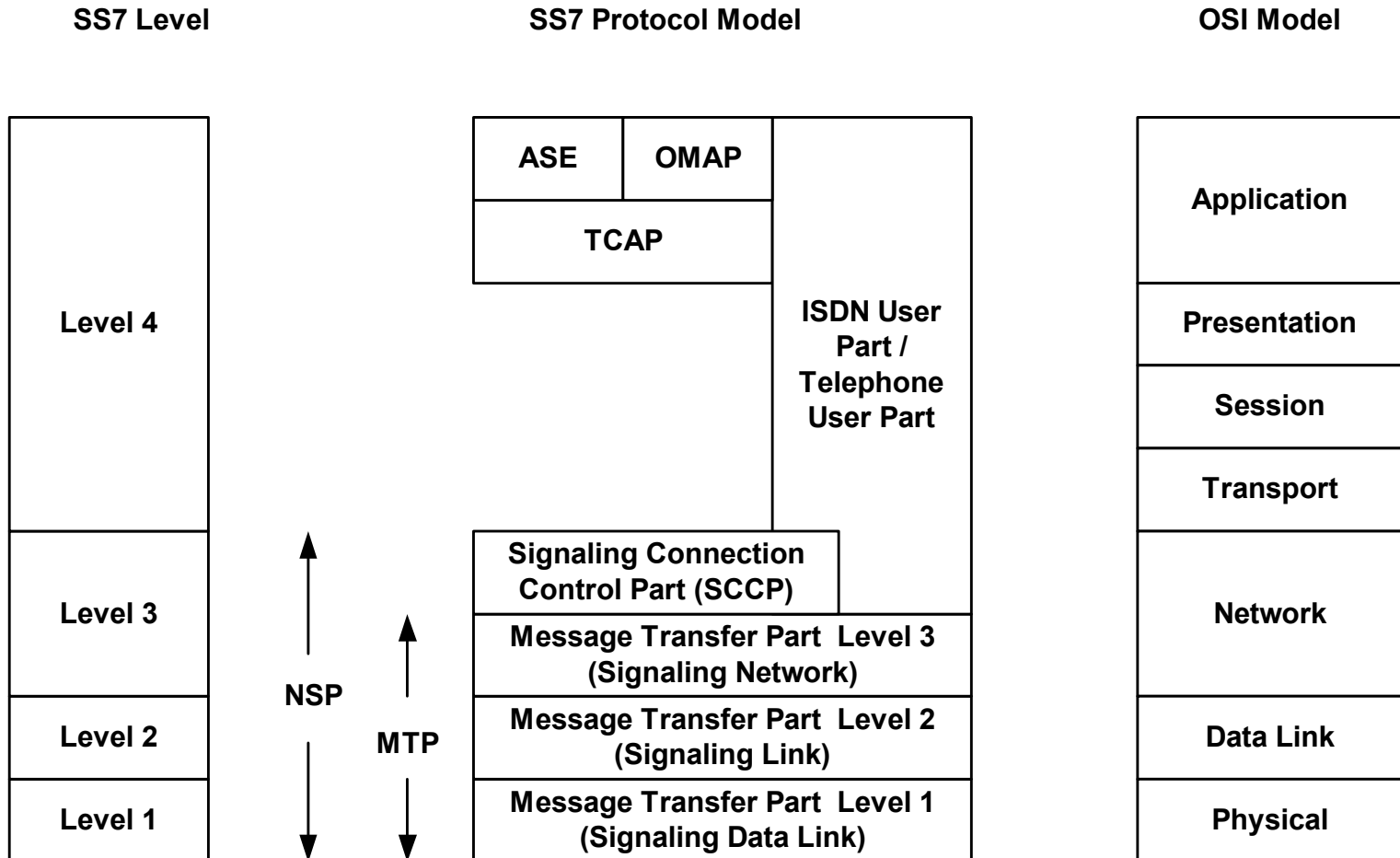
Signaling Network Interfaces



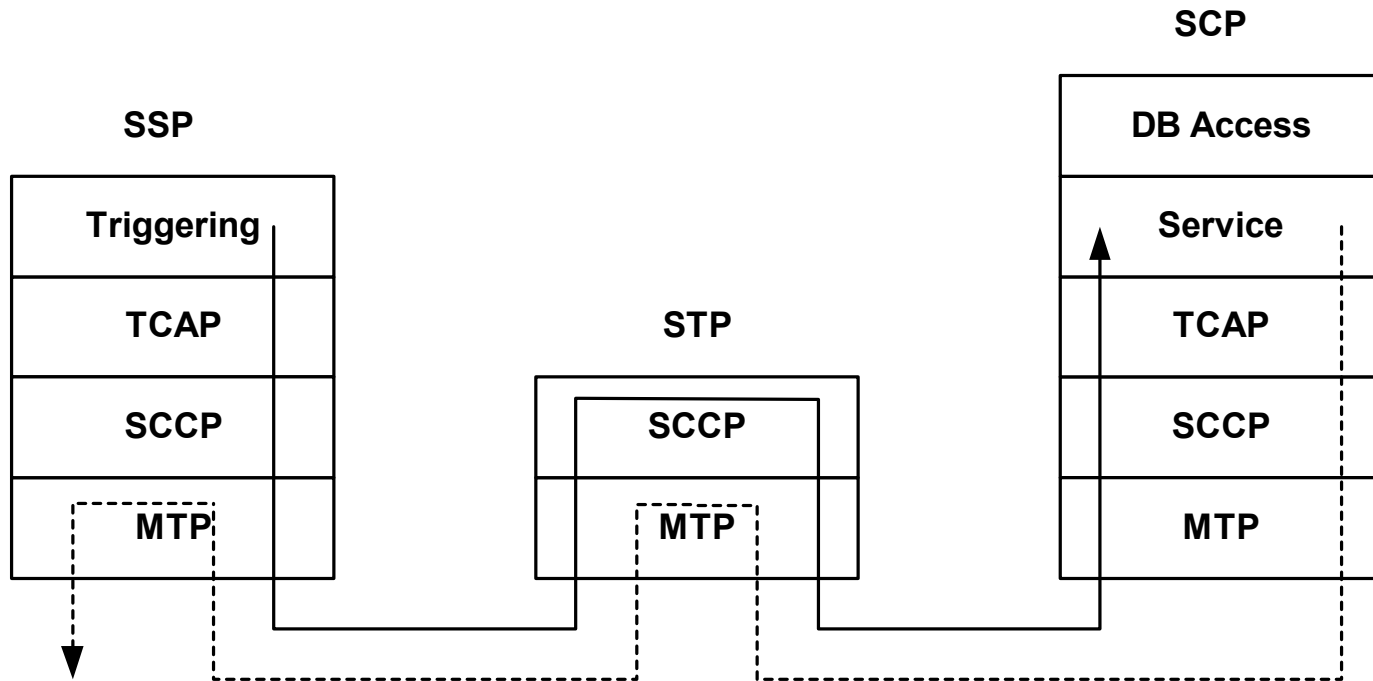
SS7 Topology



SS7 Protocol

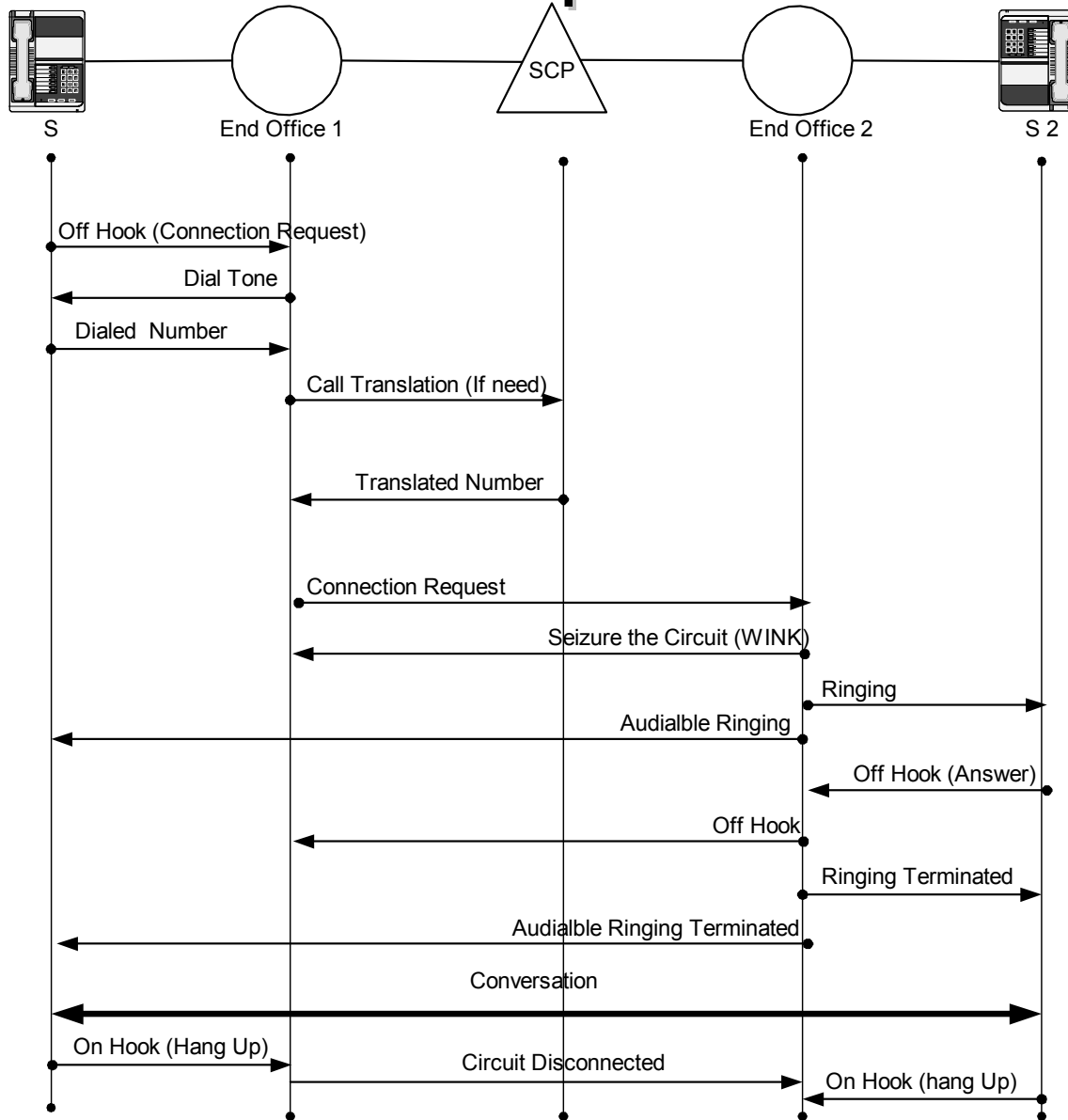


SS7 Protocol Conti..

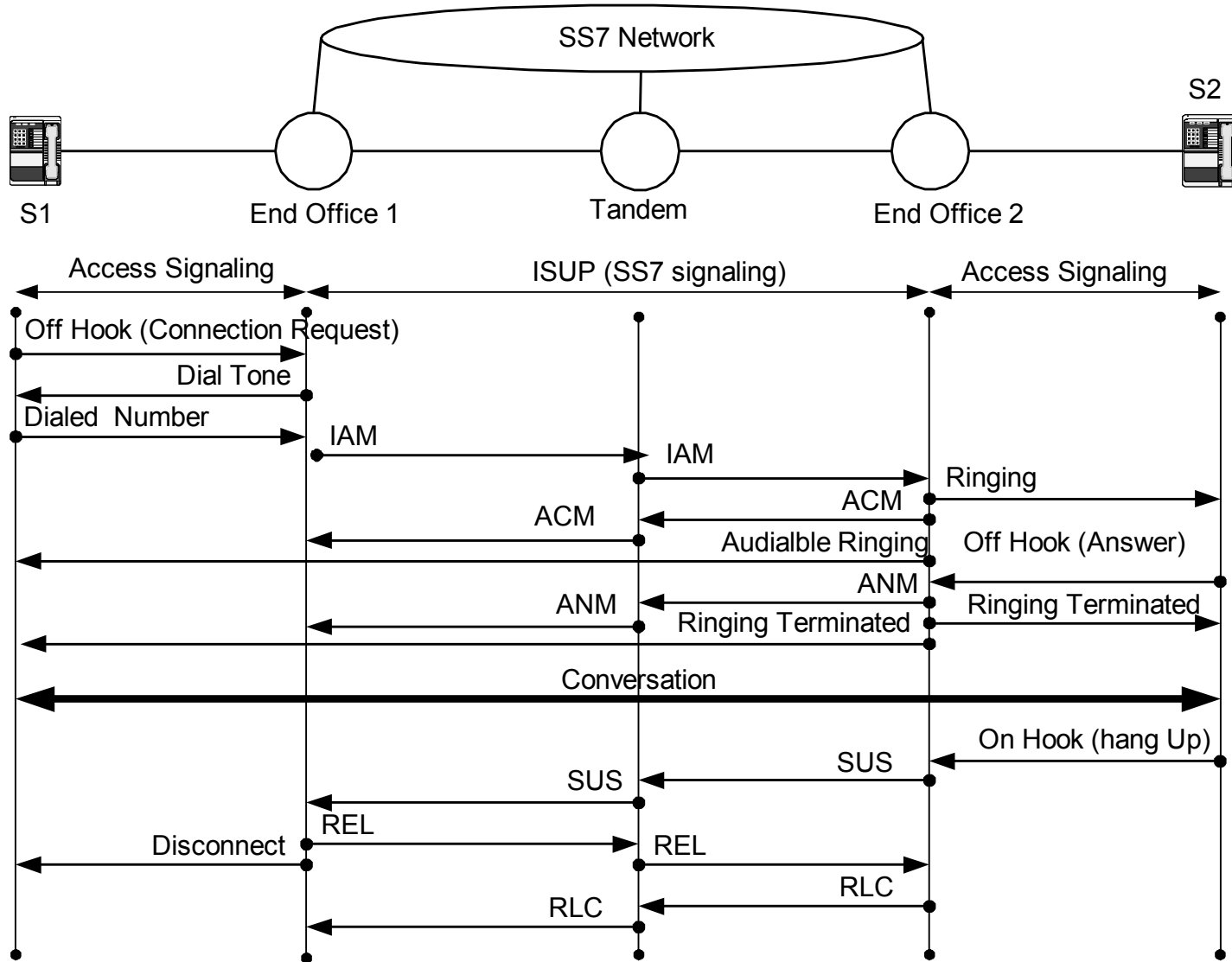


————— Triggering request
- - - - - Call-handling instruction

Call Set up Process



Call Setup process in SS7



Wireless Network

- Radio Technologies
 - AMPS, GSM, CDMA
- Network Systems
 - Signaling, Transport
- Mobility Management
 - GSM, IS-41

Wireless Network

