

Introduction to Computing (SE-101)

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Questions from previous lecture?

Data Communications

Lecture # 9

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Communications with standard Telephone & Modem

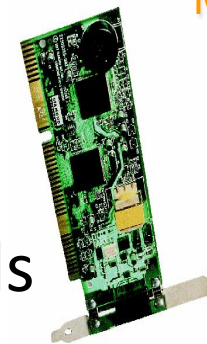
- Dedicated media
 - Media specifically used for network
- POTS
- Analog vs digital signals

Modem

- A modem translates digital computer signals into analog signals that can travel over standard telephone lines
- *Modulator-demodulator*
- Transmission speed in *bps*
- Max possible speed 56Kbps
- Error-correction protocols
 - Detect errors and request resending
- Internal & external modems, PC Cards

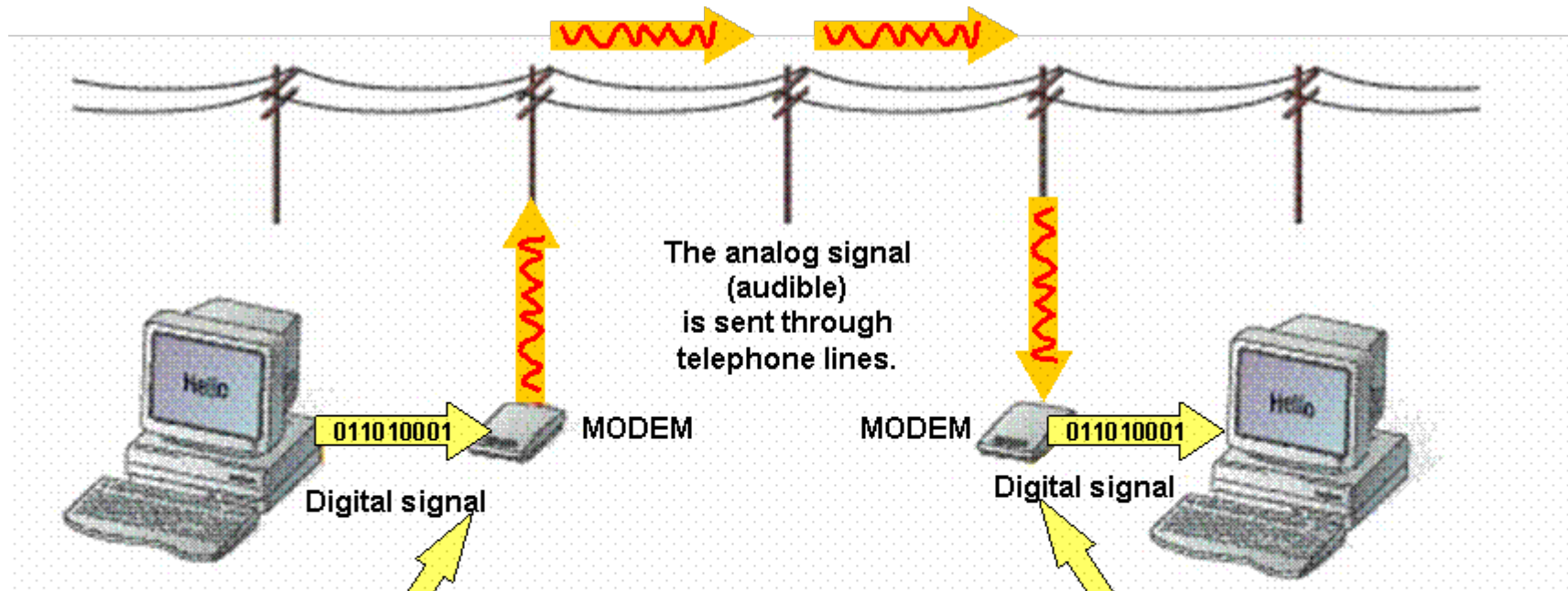


External Modem



Internal Modem

Modem



This modem converts digital to analog.

This modem converts analog to digital.

Using Modems for File Transfer

- File transfer
 - Process of exchanging files between computers
- Uploading
 - Sending file to another computer using computer
- Downloading
 - Receiving file from another computer
- File transfer protocol
 - Required by both PCs involved in file transfer

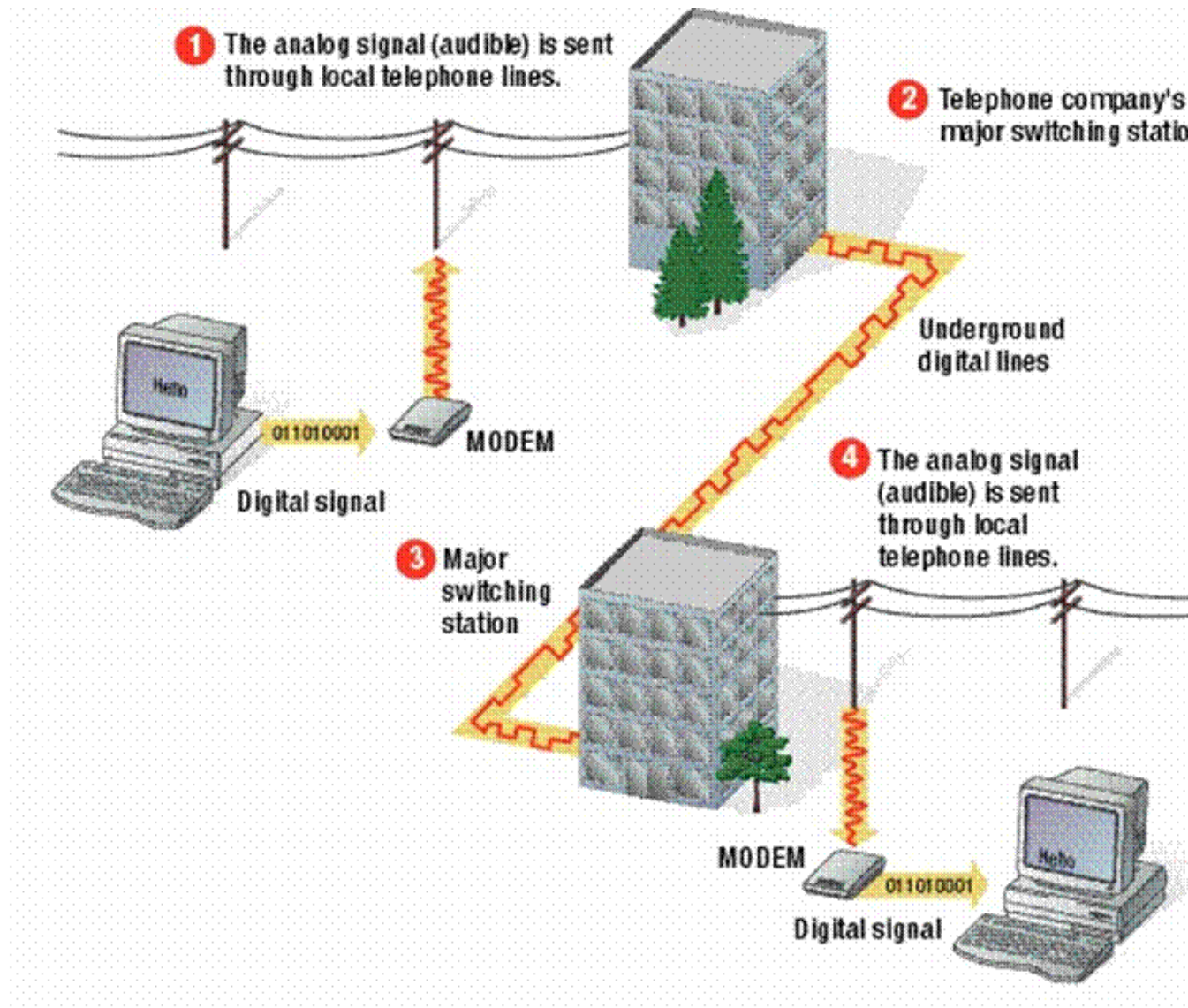
File Transfer Protocols for Modems

- Kermit
- Xmodem
- Ymodem
- Zmodem
- MNP

Using Digital Telephone Lines

- Telephone companies are now installing digital telephone lines, which are dedicated to transmitting data in digital format.

Transmitting Data Through Digital Phone Lines



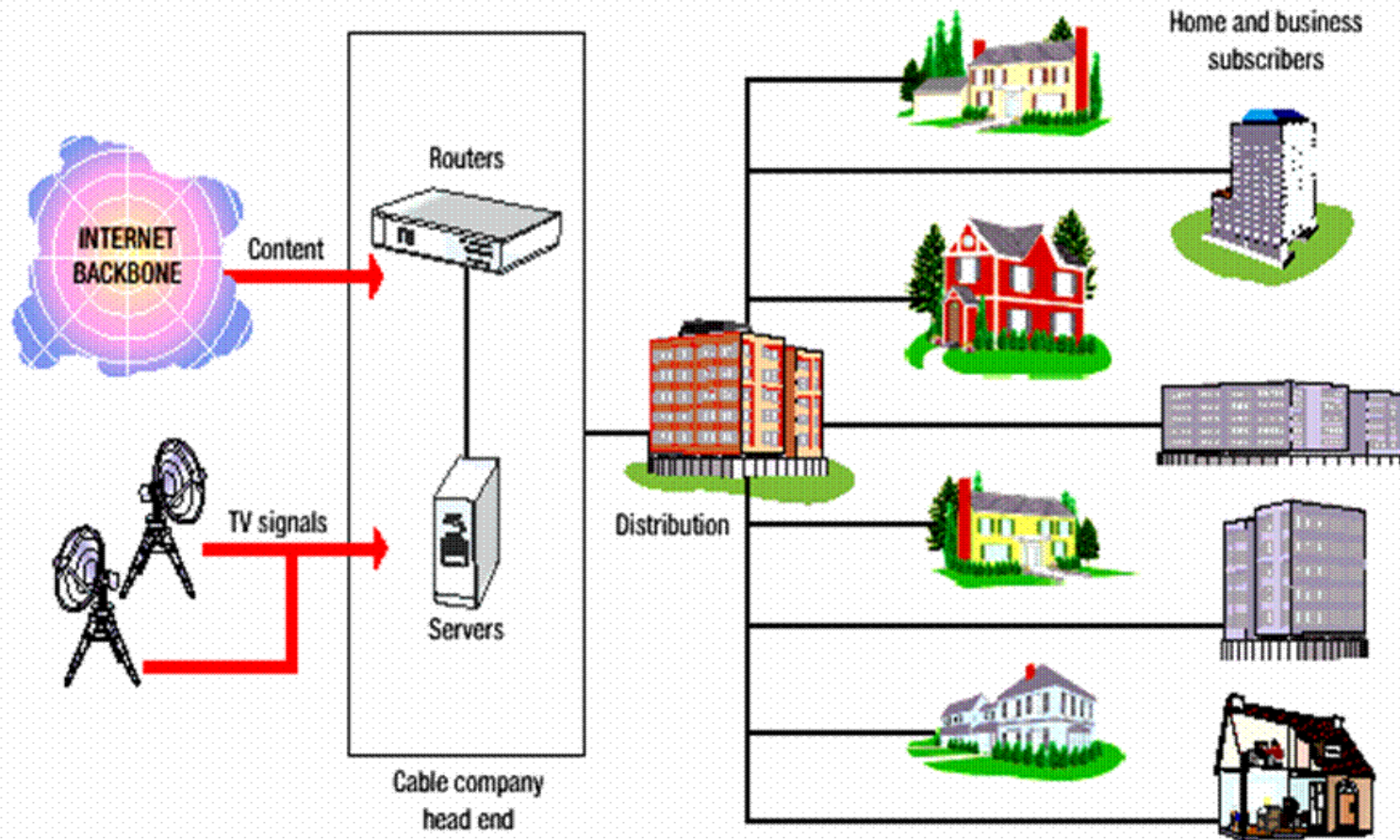
Digital Telephone Lines

- Broadband connection
 - Any connection that may transmit data faster than that of a dial-up connection using modem
- ISDN, T1, T3, DSL, Cable Modems, ATM
- Use different number of channels to carry data

Cable Modem Connections

- Cable modem technology lets home computer users access the Internet through their cable TV lines

Cable Modem Technology



Wireless Networks

- Connect PCs to a network without wires
- Wireless standard: 802.11 or Wi-Fi
- Wireless Access Point (WAP)
- Wireless Adapter
- WLAN/WWAN

Using Email & Online Services

- Understanding E-mail
- E-mail addresses
- Listserv systems
- E-mail clients
- Chat (IRC)
- Instant messaging (IM)

Questions?

If you have any query please feel free to ask

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Reference

- The slides were taken from the book:
 - “Introduction to computing” by Peter Norton