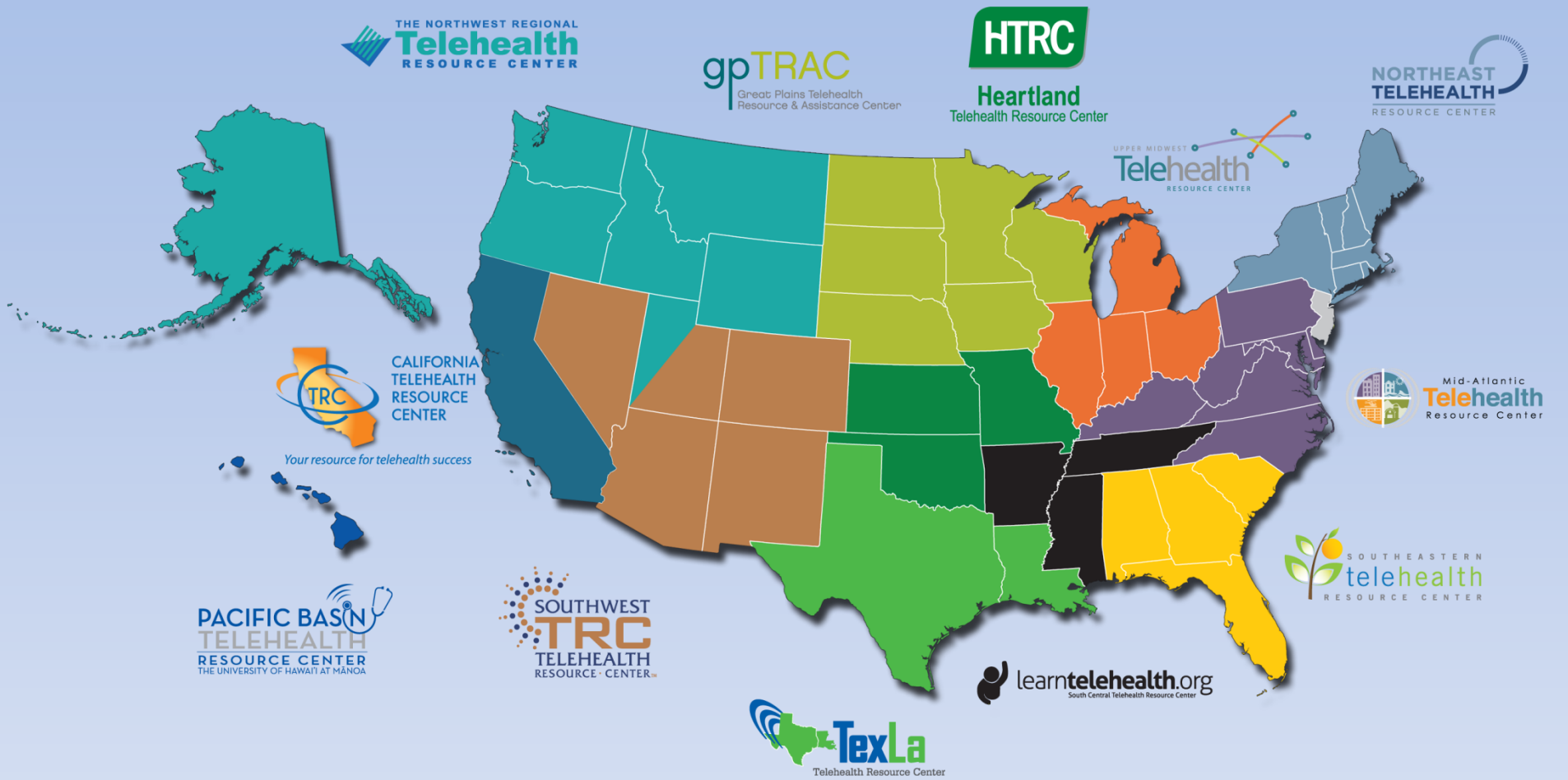
Telehealth
Resource Centers

The National Telehealth Webinar Series

Presented by
The National Network of
Telehealth Resource Centers

TelehealthResourceCenters.org



TTAC TelehealthTechnology.org National Telehealth Technology Assessment Resource Center

Center for Connected Health Policy

2 National Resource Centers

NRTRC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

12 Regional Resource Centers

Network Connectivity 101

A primer for the networking novice

Donna Bain, Assessment Specialist

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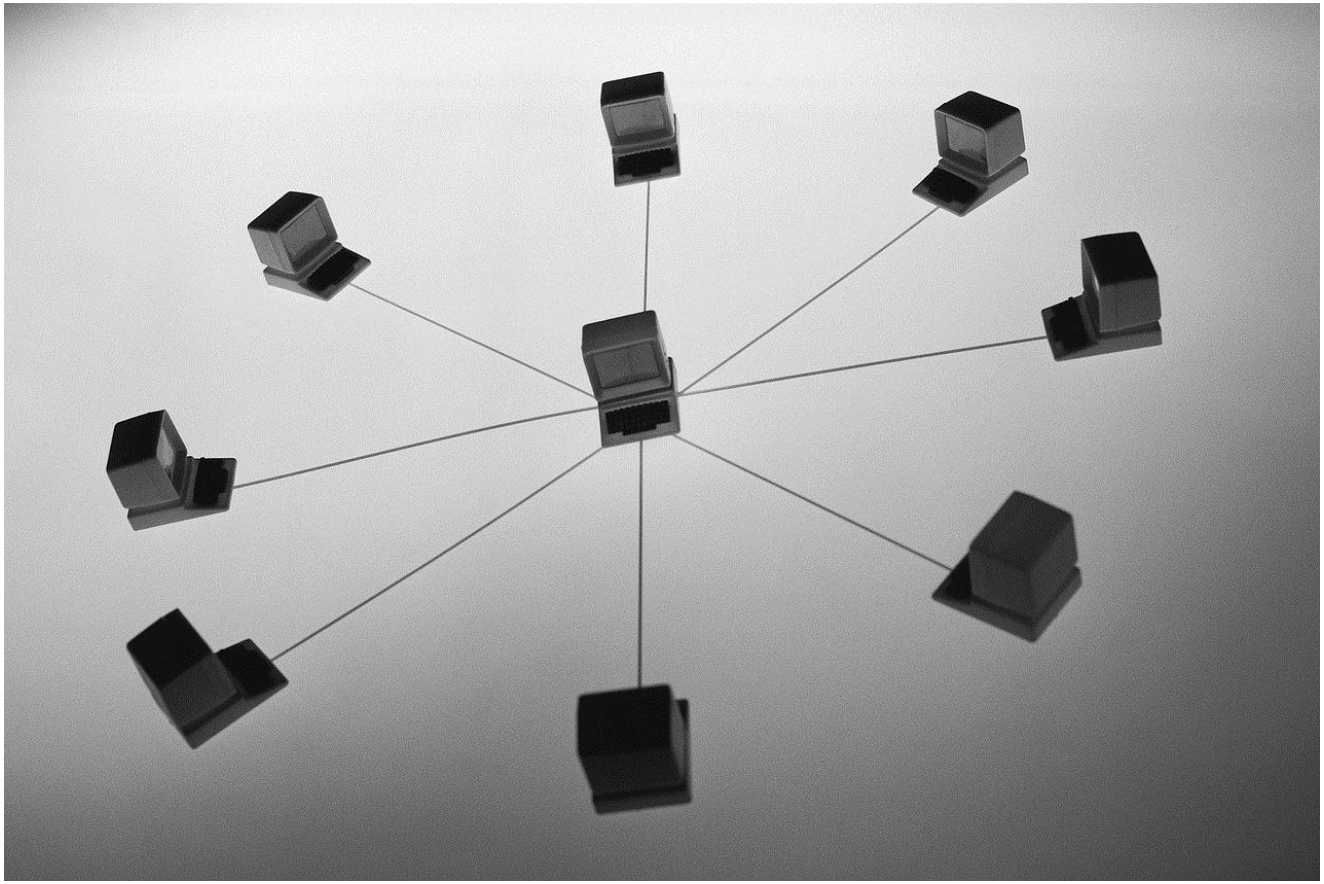
What is a network?

A network connects things together



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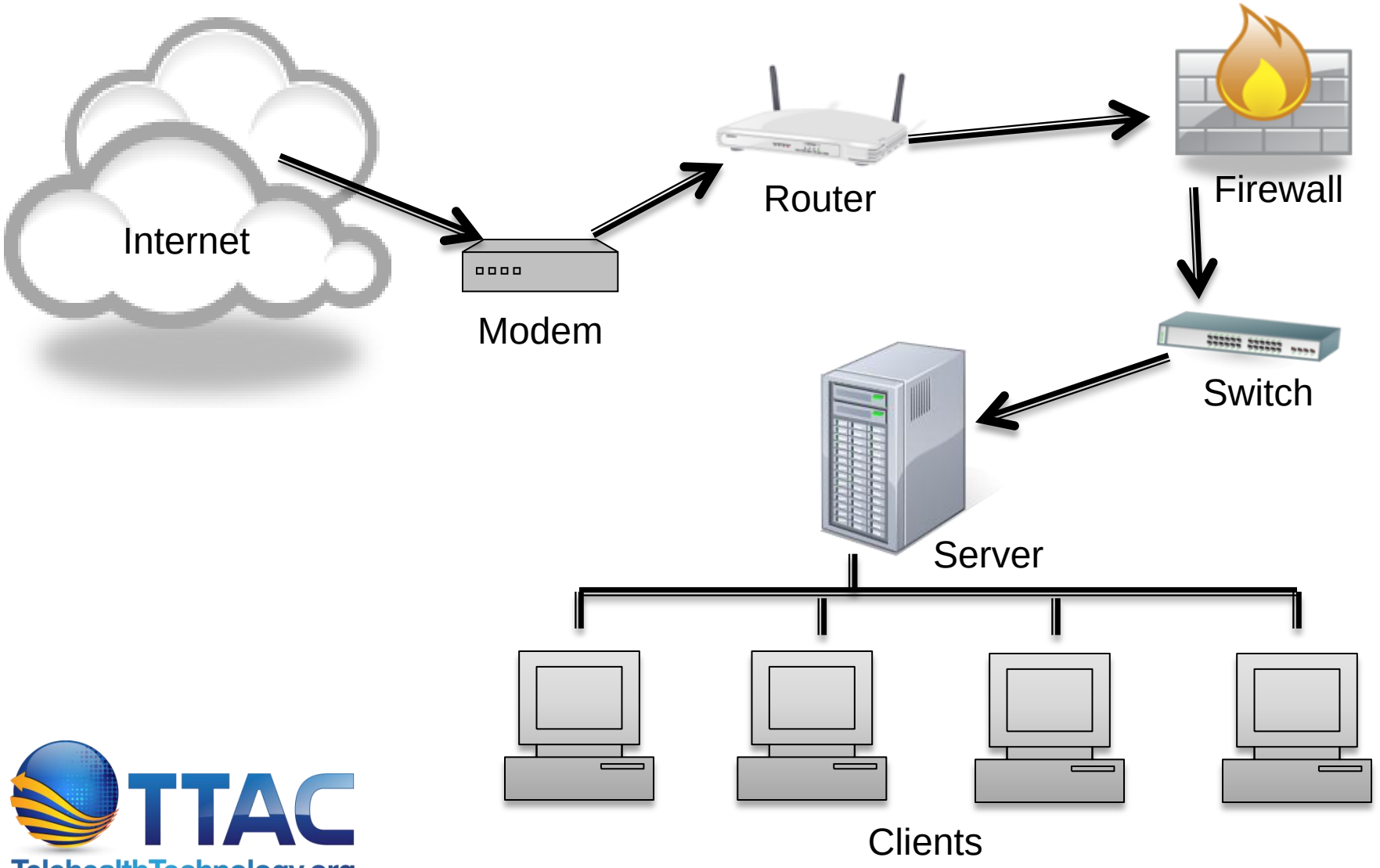
Identifying Characteristics of a Computer Network

- Networks enable sharing of resources (data files, printers, Internet access)
- Networks need specialized hardware and software to function

Computer Network Diagram



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Types of networks by size

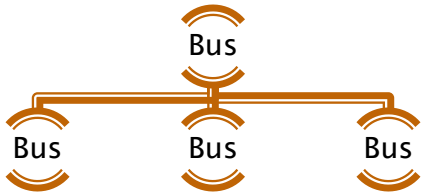
- Global Area Network – GAN
- Wide Area network – WAN
- Local Area Network – LAN
- Personal Area Network – PAN
- Body Area Network – BAN

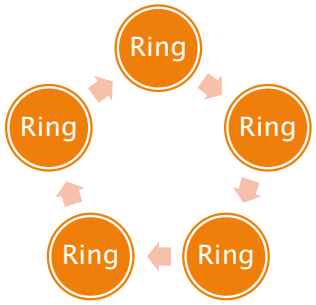
Network Architecture

- Network architecture is made up of

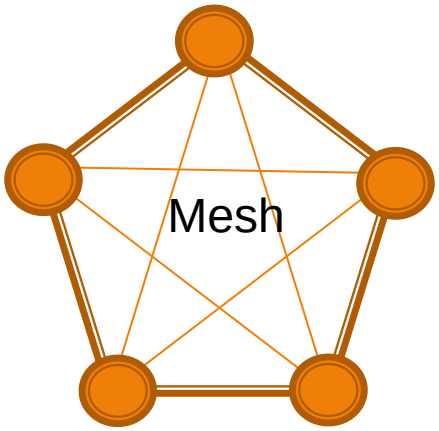
1. a topology
2. a cable type (or wireless)

Network Topologies

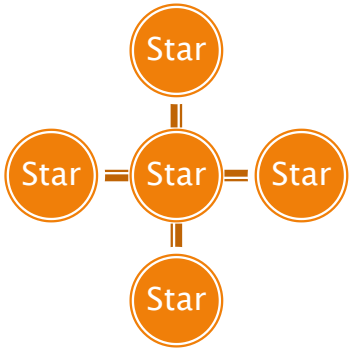




- Topology is the physical layout of the computers, cables, and other network components.
- Bus Topology
- Star topology
- Mesh Topology
- Ring Topology
- Wireless Topology
- Hybrid Topology



Wireless



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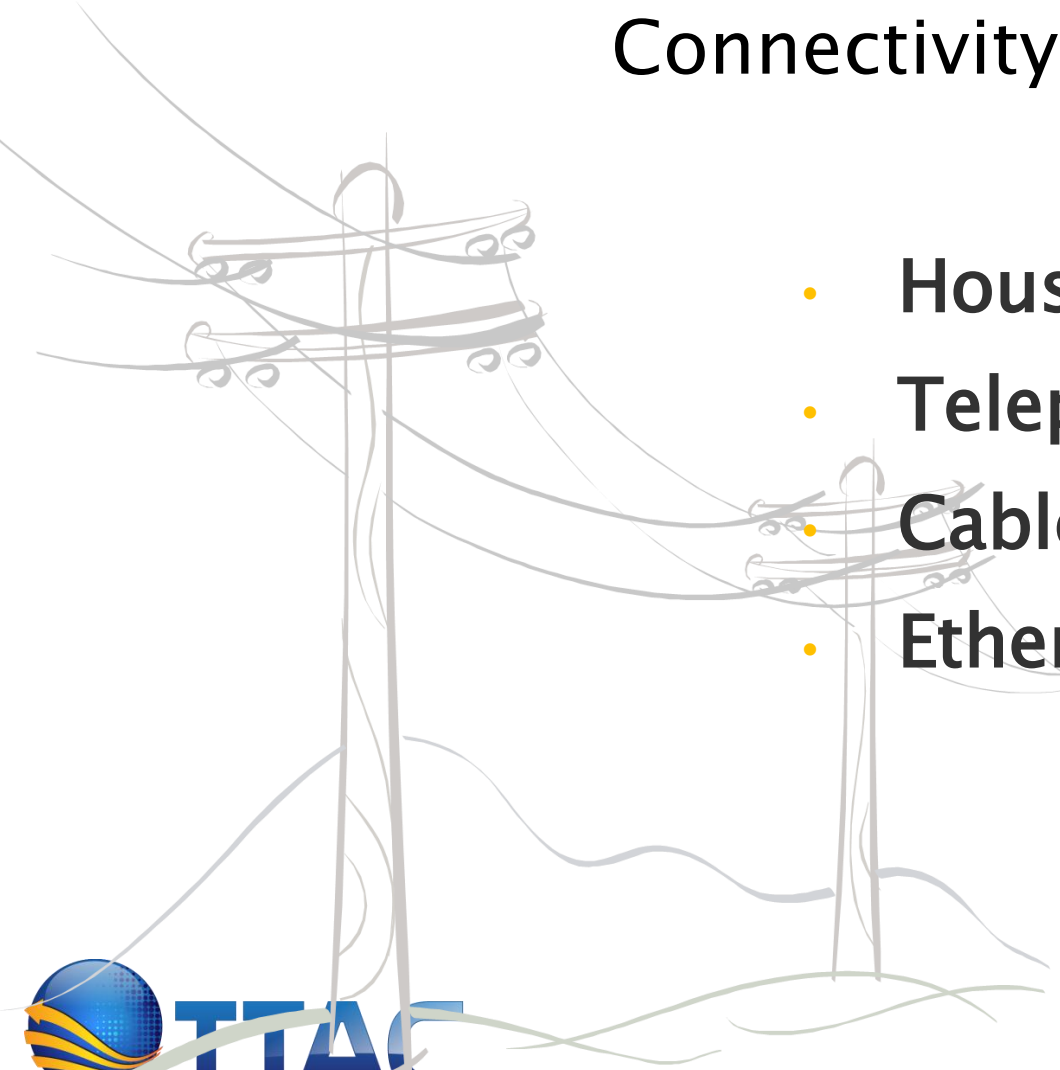
Hard-Wired Networks

Connectivity using wires or cables



- Household electrical wiring
- Telephone wiring
- Cable television
- Ethernet cables

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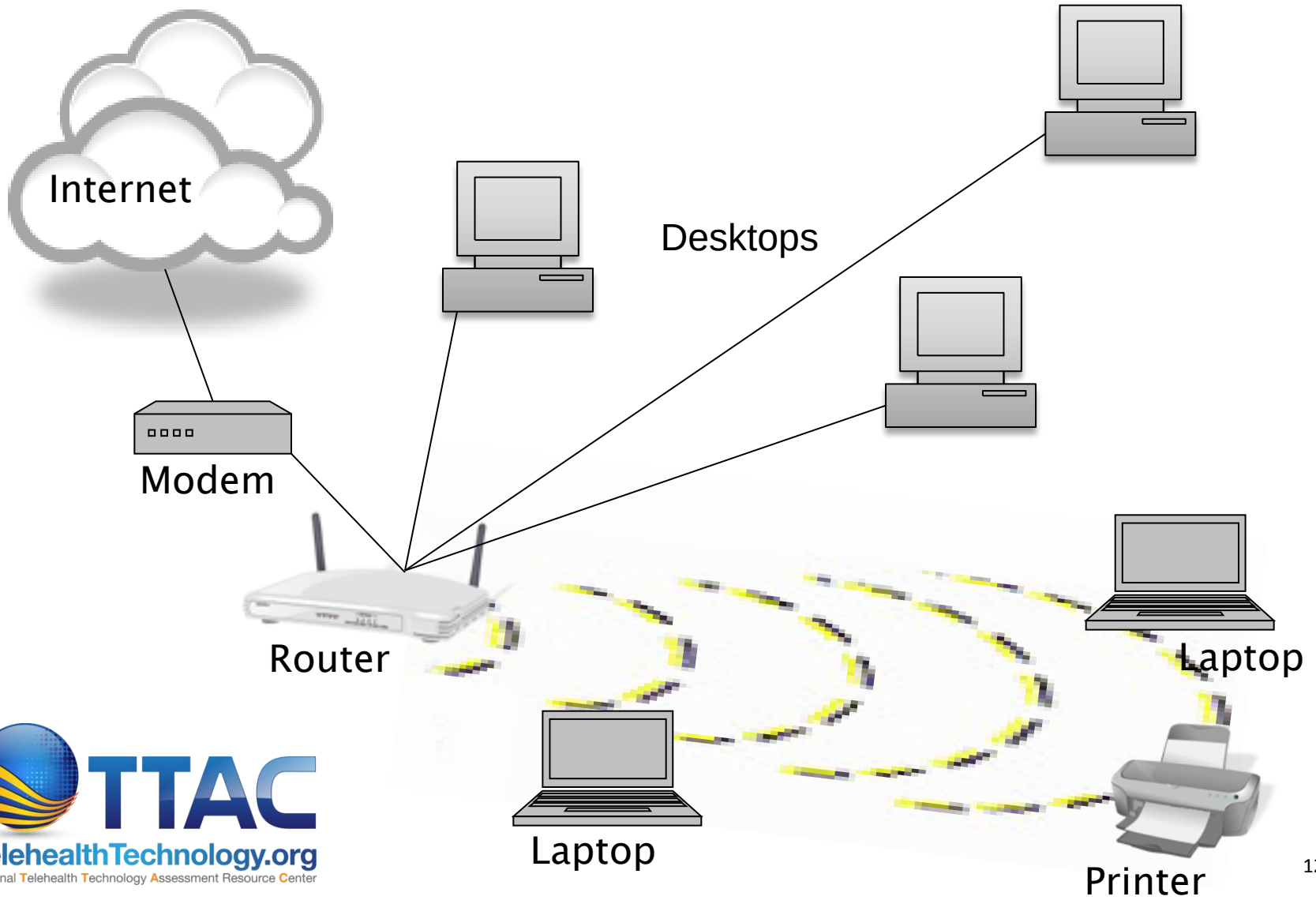
Wireless networks

Connectivity provided using radio waves

Microwave Tower,
Juneau, Alaska

Wireless signals transmitted from wired equipment



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IP (Internet Protocol) Addressing

From:
199.59.217.11

To:
199.27.176.8

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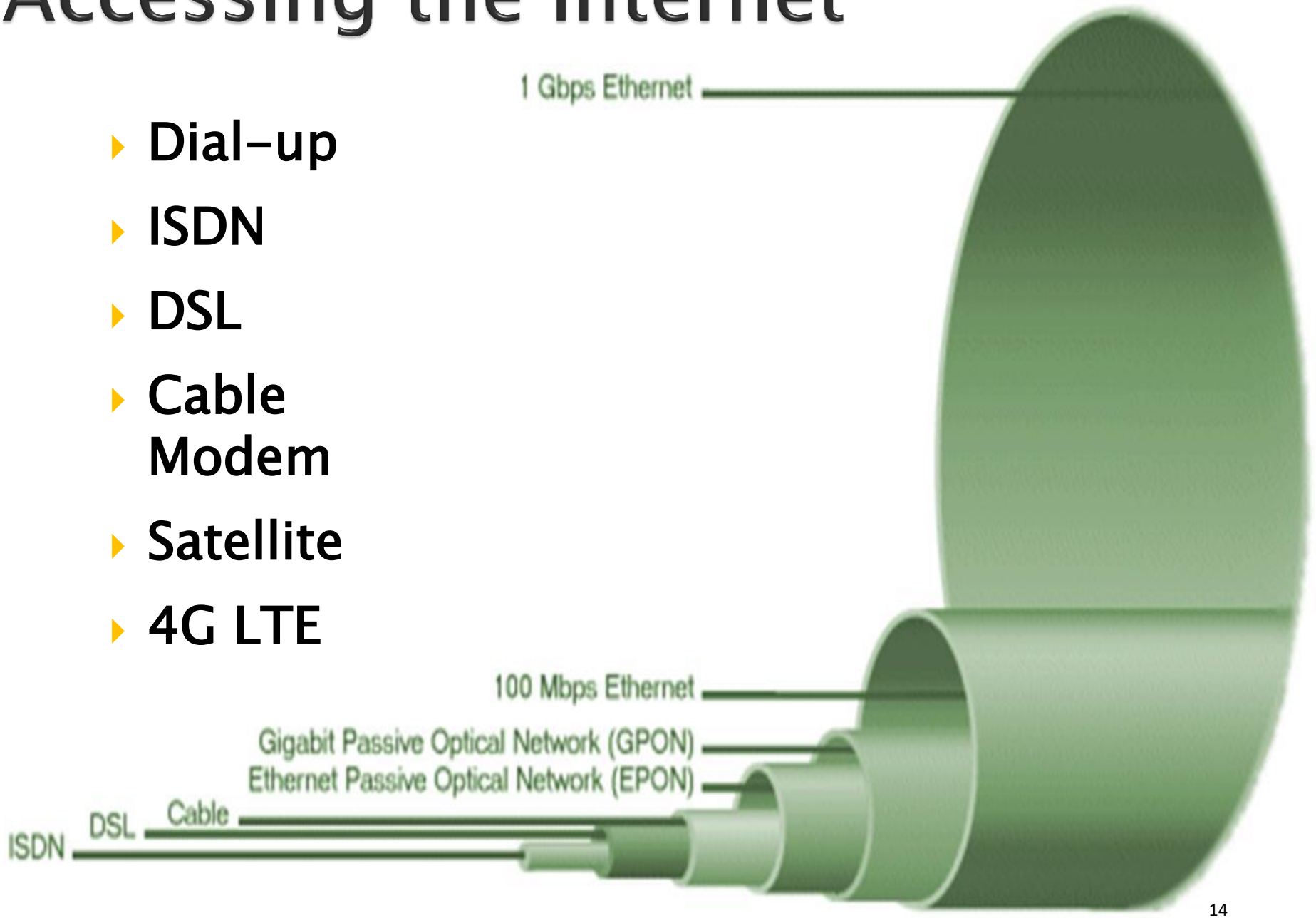
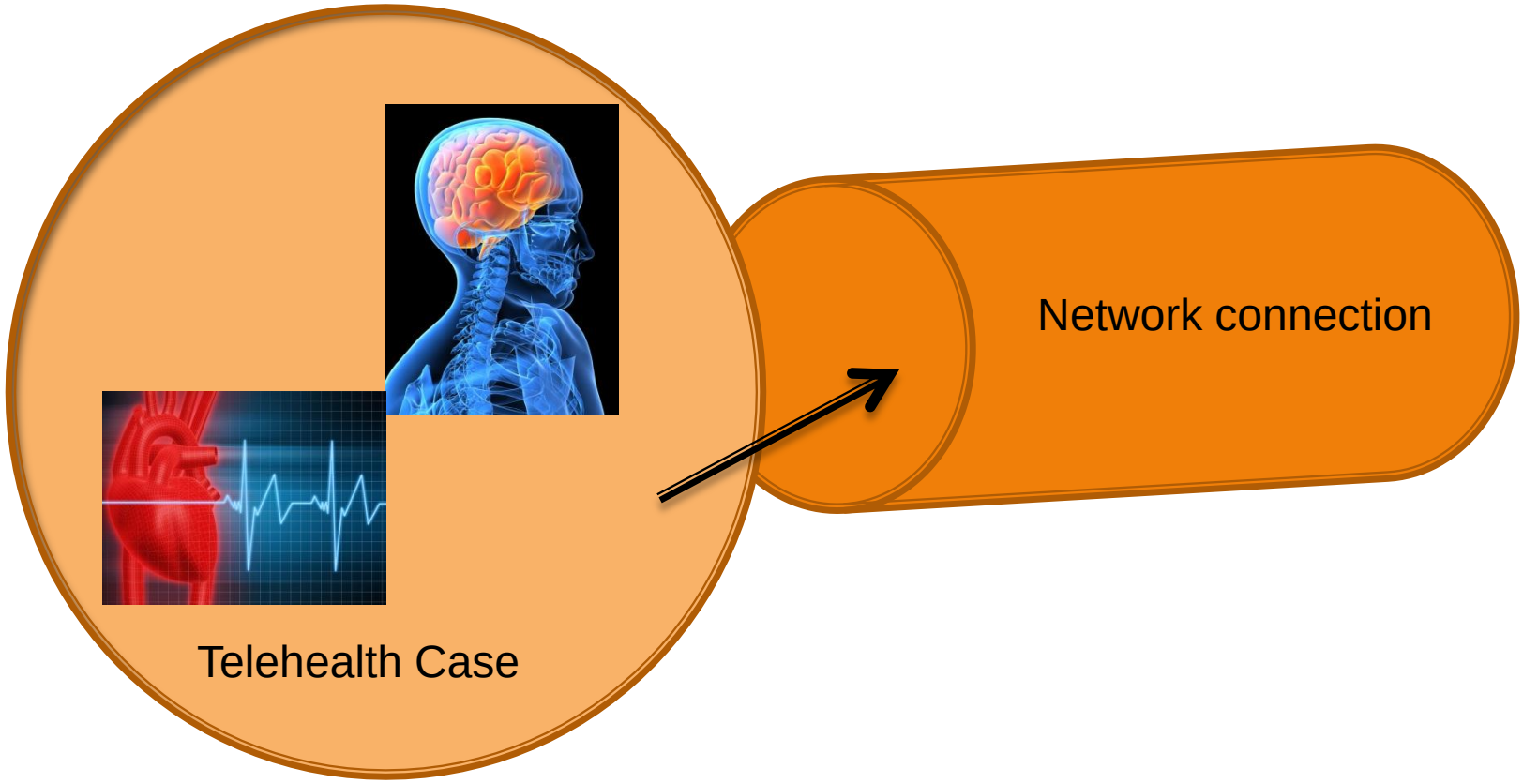
Accessing the Internet

- Dial-up
- ISDN
- DSL
- Cable Modem
- Satellite
- 4G LTE



www.technologyuk.net/telecommunications/telecom_principles/bandwidth.shtml



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Telehealth case broken into data packets

Case reassembled at receiving IP address

Packet switching

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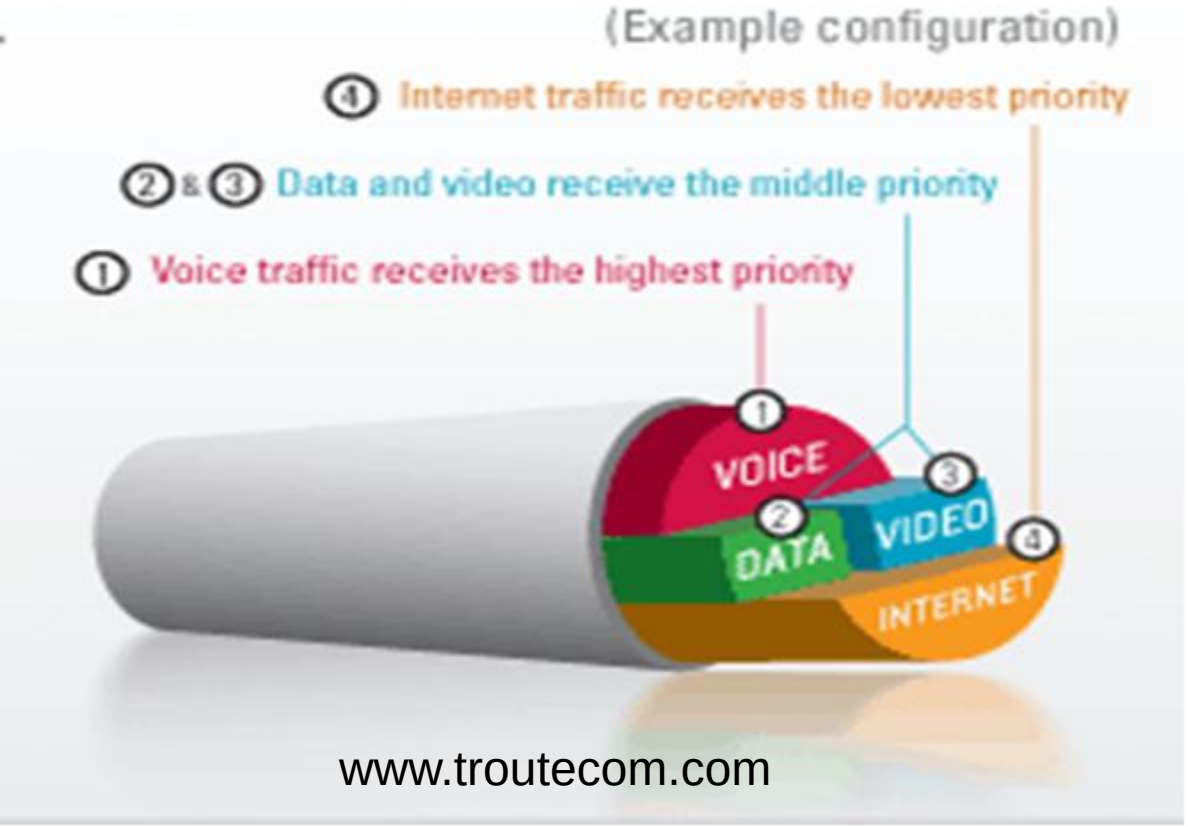
Quality of Service = Traffic Control



Network Security

Network security consists of functions and practices designed to protect your network and its data

- User Login and Password Authentication
- Firewalls
- Anti-virus Software
- Secured Data via Encryption
- Secured Network via Encryption

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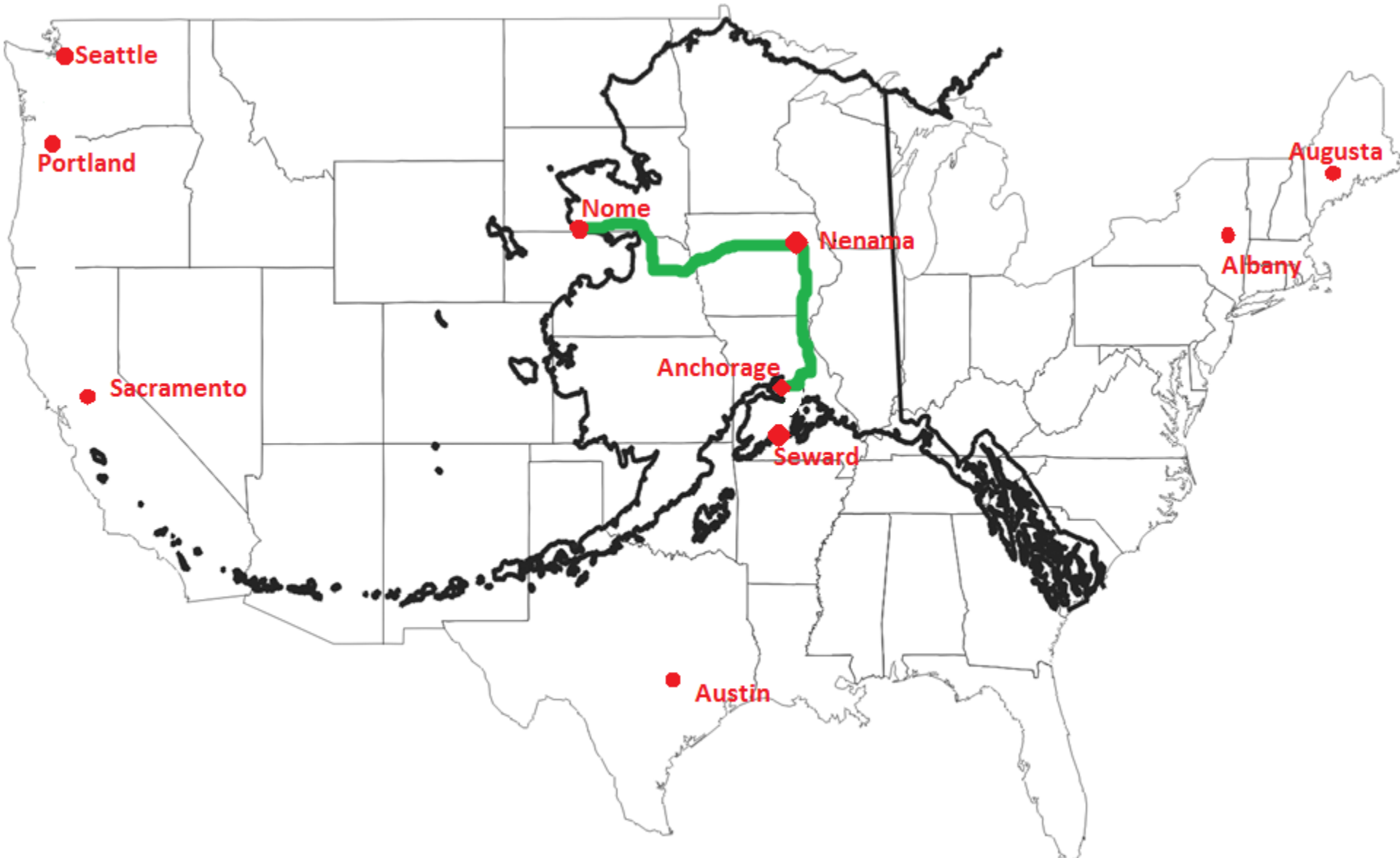
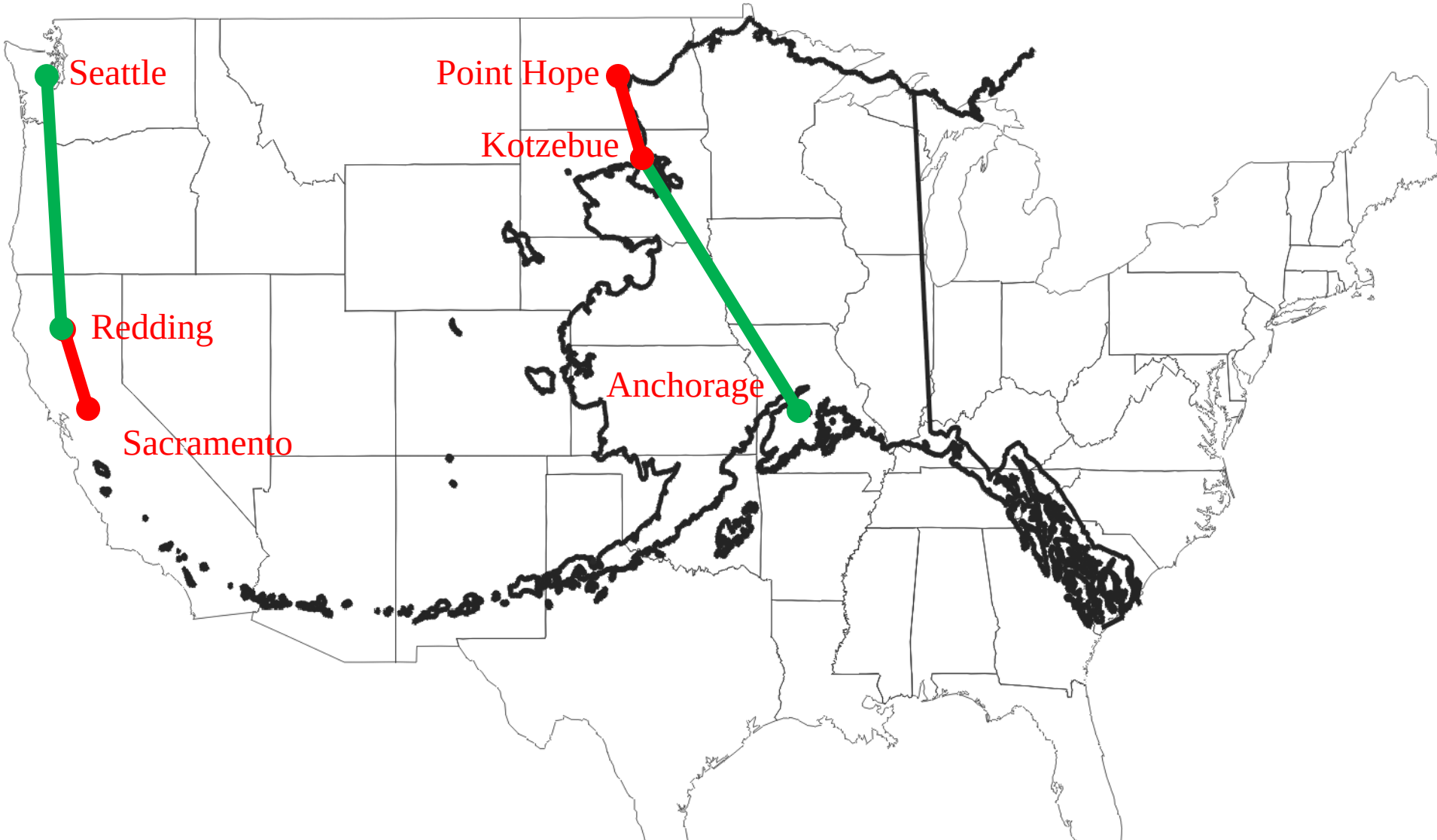
Health Care Networks

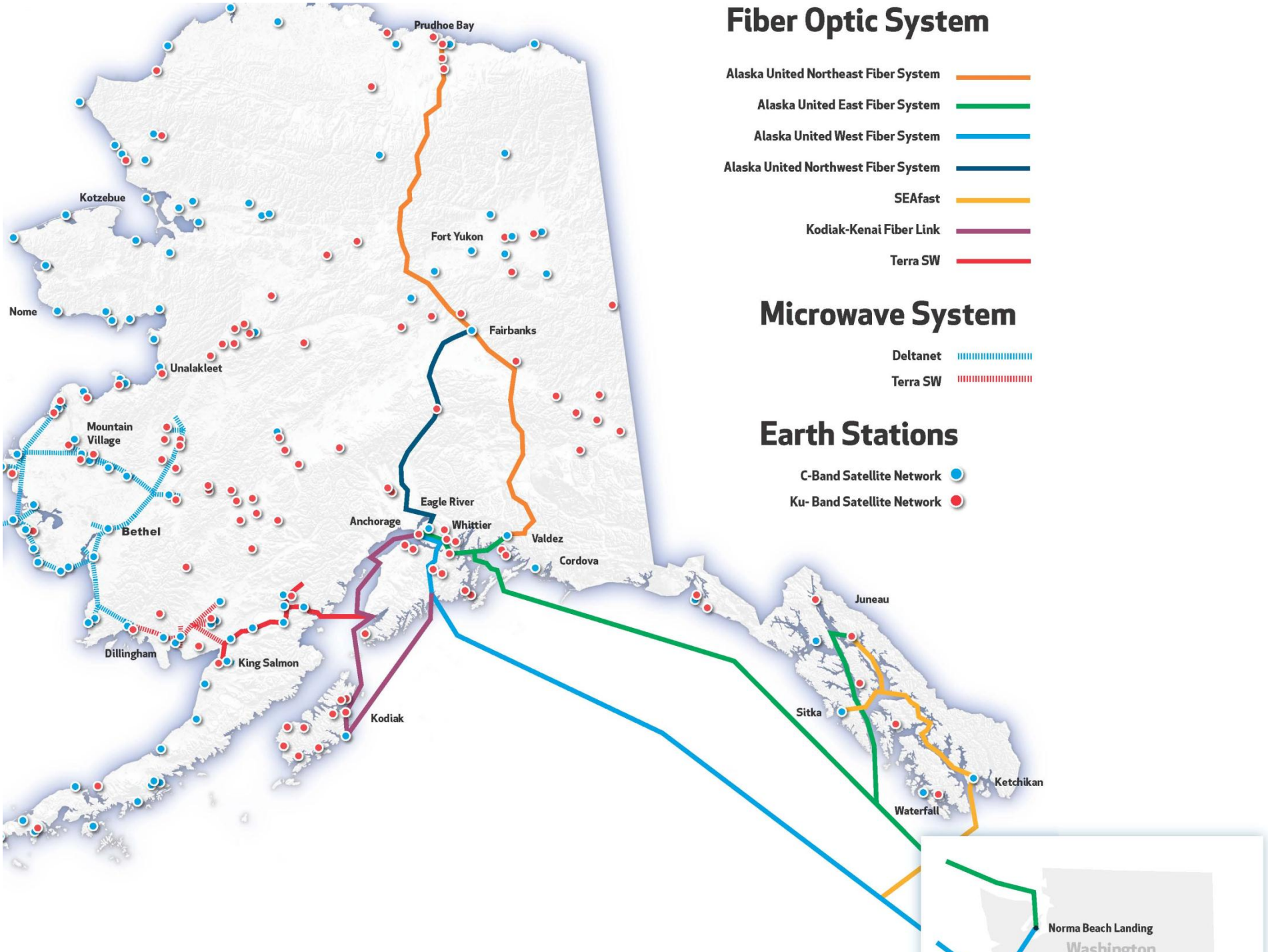
An Alaskan Story

1925 Diphtheria Serum Route (in green)



Rural residents travel an average of **147 miles one way** for access to next level of care in Alaska




Fiber Optic System
Alaska United Northeast Fiber System
Alaska United East Fiber System
Alaska United West Fiber System
Alaska United Northwest Fiber System
SEAfast
Kodiak-Kenai Fiber Link
Terra SW
Microwave System
Deltanet
Terra SW
Earth Stations
C-Band Satellite Network
Ku- Band Satellite Network
Prudhoe Bay
Kotzebue
Fort Yukon
Nome
Fairbanks
Unalakleet
Mountain Village
Bethel
Eagle River
Anchorage
Whittier
Valdez
Cordova
Juneau
Dillingham
King Salmon
Kodiak
Sitka
Ketchikan
Waterfall
Norma Beach Landing
Washington

The National Telehealth Technology Assessment Resource Center aims to create better-informed consumers of telehealth technology. By offering a variety of services in the area of technology assessment, the TTAC (pronounced “tea-tac”) aims to become the place for answers to questions about selecting appropriate technologies for your telehealth program.

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