IS 300 — Lecture 6

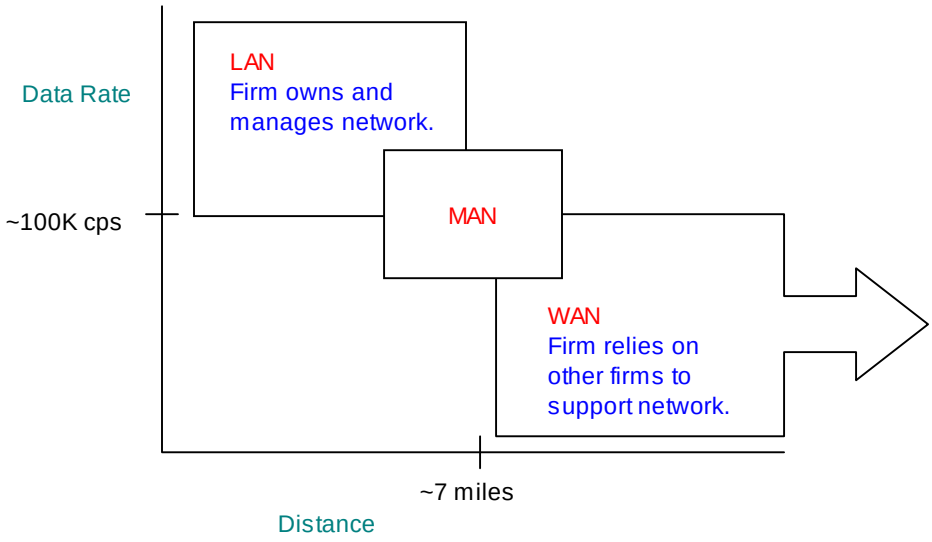
- What is a telecommunications network?
- How can a business justify an investment in a telecommunications network?
- What telecommunication architecture options exist for a business?

What is a telecommunications network?

Minimum Components

- Terminals (dumb or intelligent)
- Telecommunication processors (modems, front-end processors)
- Channels and media (copper wire, fiber optics, …)
- Computers
- Telecommunication software

WAN's versus LAN's



WAN – Modem vs DSL vs Cable

How can a business justify an investment in a telecommunications network?

Value/Impact Matrix (Hammer and Mangurian)

		Value		
		Efficiency	Effectiveness	Innovation
Impact	Time	I	II	III
	Geography	IV	V	VI
	Relationships	VII	VIII	IX

Time: time compression
Geography: no need for physical presence
Relationships: partners and customers

Examples:

Retail POS systems (II)
(get sales data quickly to know what to buy)

Link regional warehouses to know inventory levels (IV)

Airborne service:

- Order entry in New Hampshire
- Warehouse in Ohio at Airborne's hub

What telecommunication architecture options exist for a business?

Centralized

Computer/data in one central location

Network connects user's (dumb or intelligent) terminals to computer/data

Decentralized

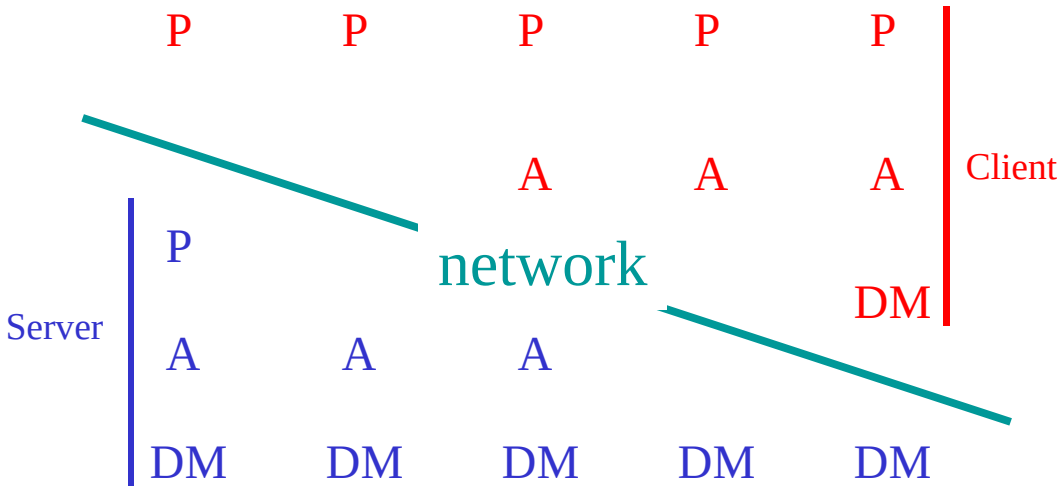
Departmental/unit computers

Generally no network connecting machines

Client/Server

Processing and other tasks are split between different computers connected via a network

Various tasks are assigned to machine(s) best suited for the task



P: Presentation
A: Application
DM: Data Management

Examples

- WEB Browsers – see examples
  - HTML
  - Gif files
  - Java Calculator Examples

- UW Mail System
  - IMAP – Internet Message Access Protocol
  - Mail server (UW system)
  - Client (Outlook Express or other IMAP application)