Past, Present & Future of Information Security

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Ancient Past

- Ancient Rome – Caesar's control of data
  - Secrets
  - Messaging
  - Character shift
  - Authentication
  - Retention

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Ancient Past

- Columbus' Journey
  - Vision
  - Business Case
  - Funding
  - End result
  - Risk identification

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Ancient Past

- Medieval Europe – Castles & Moats
  - Defense in Depth
  - Stronghold
  - Choke points – obstacles
  - Monitoring
  - Defined boundaries
  - Control of data
  - Oversite

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Recent Past

- World War II
  - Communications Intelligence
    - There was limited computation
    - Authentication and repudiation not necessary
  - Cyphertext
    - Navajo Code Talkers
    - Manual key management
    - German Enigma
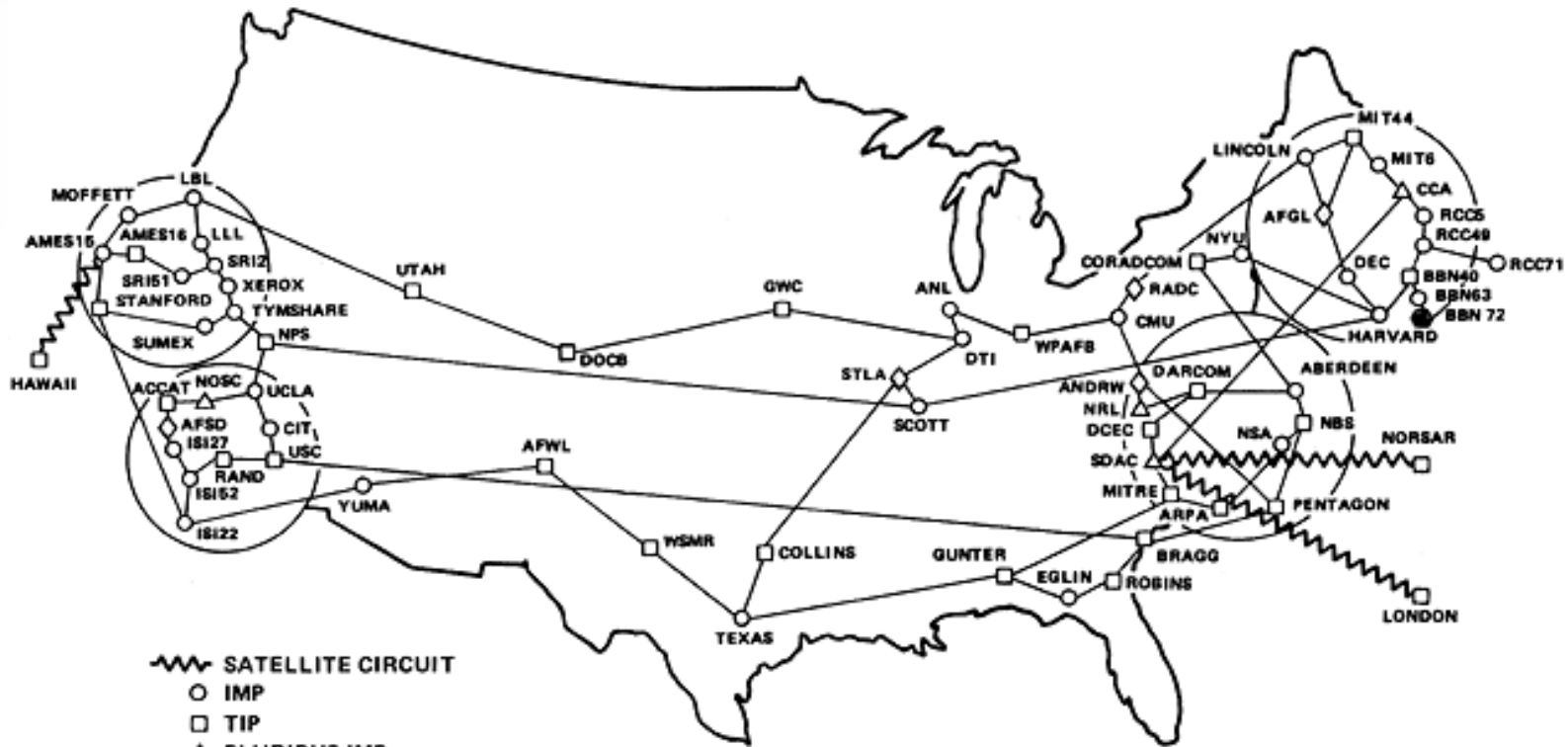 - Code breaking

Recent Past

- DoD Report - Security Controls for Computer Systems (aka R609.1) (1970)

- Public Key Cryptography (1970s)

- Saltzer's & Schroeder's Design Principles (1975)

- Dod Trusted Computer System Evaluation Criteria (aka The Orange Book) (1985)

- Morris Worm (1988)

- Stoll's – The Cuckoo's Egg (1990)

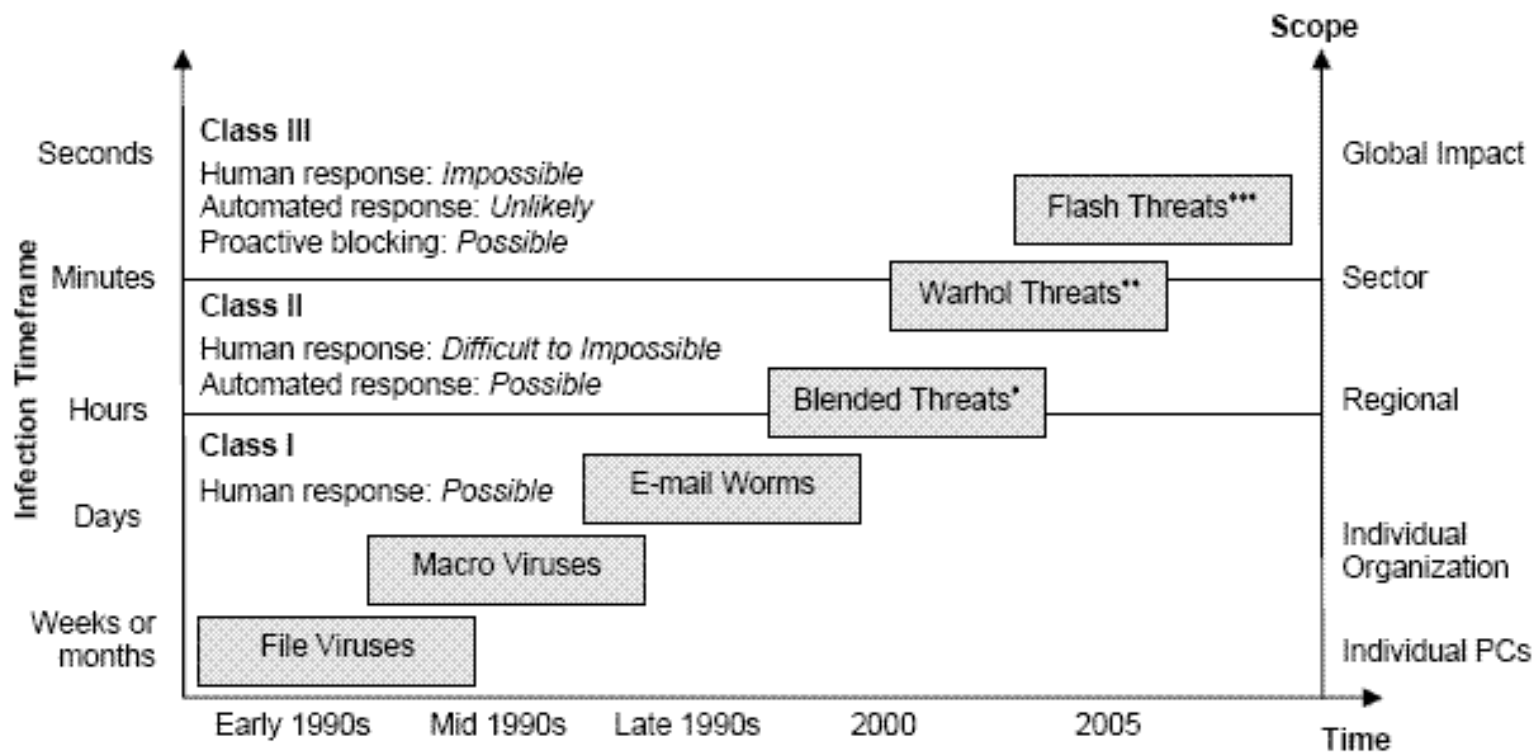# Recent Past

ARPANET GEOGRAPHIC MAP, OCTOBER 1980

Recent Past

Evolution, Scope and Impact of Security Threats
Symantec Internet Security Threat Report

Present

- Technology is smaller, yet bigger
- Technology is faster
- Users are everyone and everywhere
- Users are getting smarter (slowly)
- Human element still the weakest link

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Present

- Social Engineering
- Wireless
- Spyware
- Viruses
- E-Crime

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Present

- Has anything really changed?
- Complaint: Can't keep up with technologies.
- Response: Computers have not fundamentally changed in 40 years.
- "Garbage-in; Garbage-out"

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Present → Future

- I think there is a world market for maybe five computers. *~ IBM Chairman Thomas Watson, 1943*

- Any sufficiently advanced technology is indistinguishable from magic. *~ Arthur C. Clarke , 1961*

- It has become appallingly obvious that our technology has exceeded our humanity. *~ Albert Einstein*

- There are no significant bugs in our released software that any significant number of users want fixed. *~ Bill Gates, October 1995*

- You have zero privacy anyway, get over it. *~ Scott McNealy, 1999*

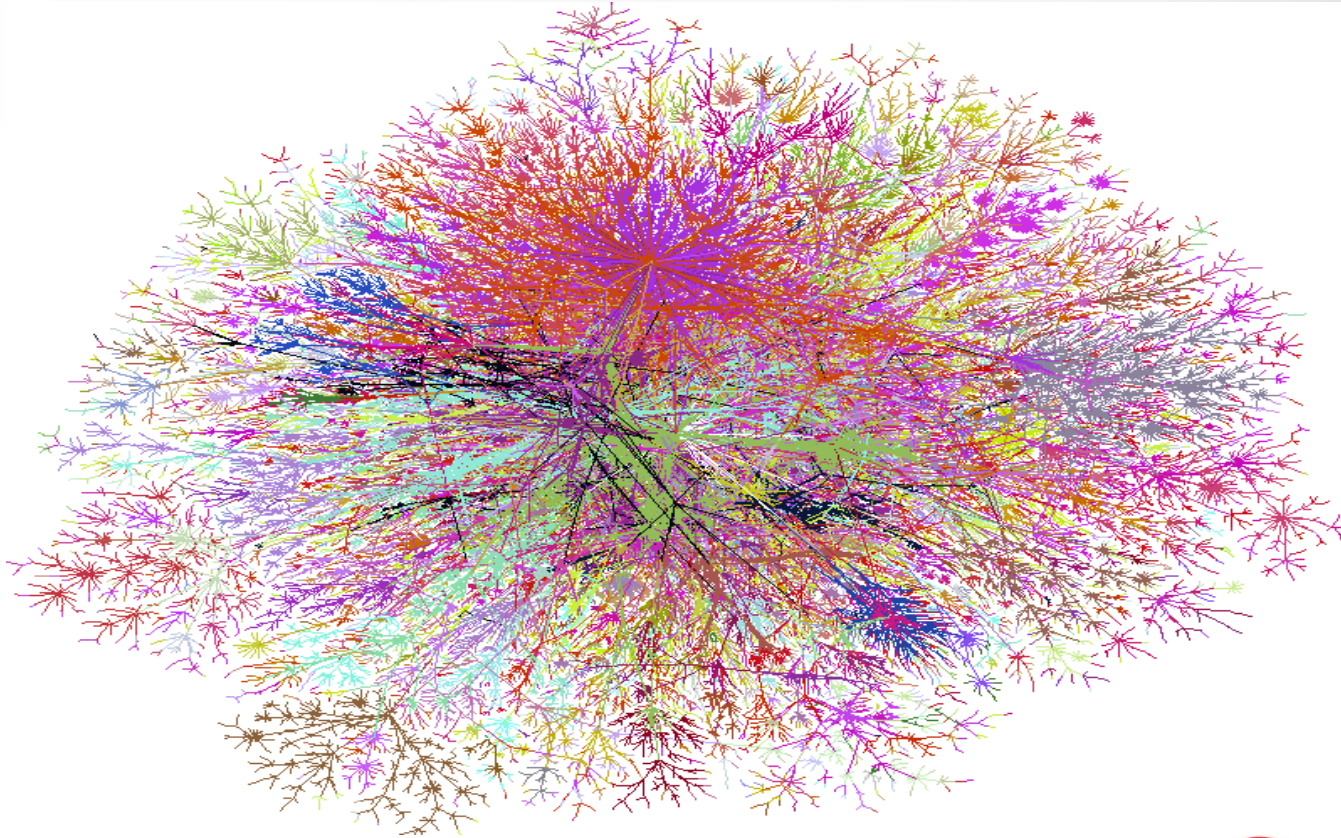ConAgra Foods®

Future

- E-Crime prevalent

- Mobile device viruses

- Application-level attacks

- Blended threats

- Social Engineering top threat

- Privacy

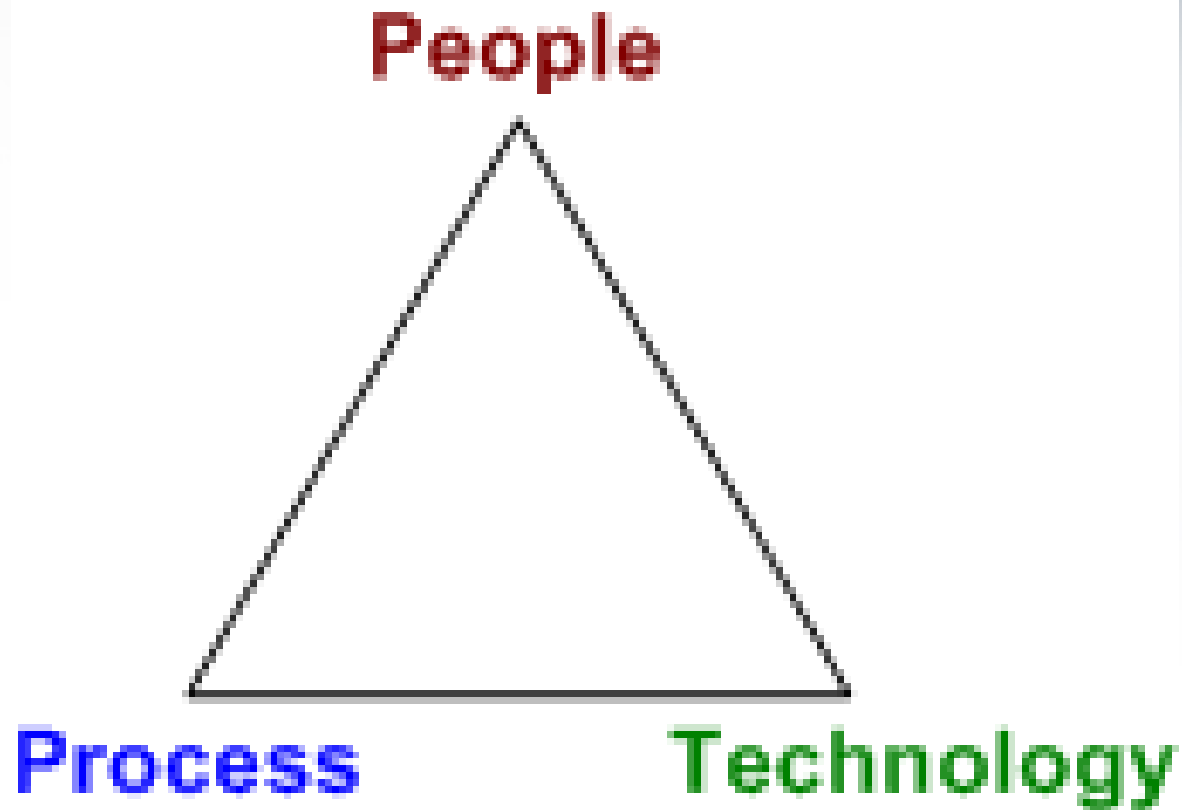# Future

- Private networks disappear

Future

- Information Security disappears. Becomes:
    - Information Risk Management
    - Corporate Security

- Greater focus on business

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Future

- There is hope …
  - Better defenses
  - Better educated user-base

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Future

People

Process   Technology

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Questions?

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