

# CSE561 – Network Evolution

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# Network Evolution

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- Focus:
  - How do we introduce new services?
- Issues, mechanisms, cases

Application
Presentation
Session
Transport
Network
Data Link
Physical

# Key Issues

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- 1. Backwards-compatibility
  - What parts of the network need to change?
  - Application software, host OS, routers ...
- 2. Incentives
  - Who benefits? User, ISP, Internet as a whole?
  - Often tied up with payment
  - Change not likely by party without benefit ...

# Overlays

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- When you can't change a network, build on top of it ...
- Example: Detour routing with RON

# Cases to consider

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- Web
  - CDNs
- Multicast
  - In or out of the network
- QOS
  - DiffServ and IntServ
- Addresses
  - IPv6 and NAT
- Security
  - E2E (IPSEC) and firewalls