CSE561 – Network Evolution

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Network Evolution

• Focus:
  – How do we introduce new services?

• Issues, mechanisms, cases

<table>
<thead>
<tr>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
</tr>
<tr>
<td>Session</td>
</tr>
<tr>
<td>Transport</td>
</tr>
<tr>
<td>Network</td>
</tr>
<tr>
<td>Data Link</td>
</tr>
<tr>
<td>Physical</td>
</tr>
</tbody>
</table>
Key Issues

• 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

- When you can’t change a network, build on top of it …
- Example: Detour routing with RON
Cases to consider

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