Problems with Networks

Squeezing Cost

Core is having trouble scaling cheaply

Each time you go through a high end router, it costs you
- Port
- Backplane allocation
- Power, colocation allocation
- People Cost

Multiple router hops

Cost of Hardware
- Software organization
- Support (TAC etc)
- Power and space for internet scale routing lookups
- ASIC generational cycle ~36 months

Volume rising faster than revenue

Falling behind on the core upgrade cycle

Scaling

- Want the core to scale with the number of routers in the domain
- Want the edge to scale with the number of routes and paths in the Internet scaling Domain
- Do not want to pay the edge tax in the core
  - Can't see the point in being able to do sub10 nanosec lookups on 1 million routes - that is just insane - AND expensive
- Switch on fixed tags

Metro

- 1310 to 1310 over active electronics is too expensive
- Want to squeeze cost by a factor of 5x
- Run Passive DWDM muxes if fiber is expensive
  - Bulk Fiber if it is not
- On Active line systems, run Alien wavelenghts into XFP interfaces on routers
- IPoDWDM
- Why XFP? They have EDC circuitry, gives you 9+ dbm of gain
  - Avoid the transponder cost
- Squeeze metro costs out by 3-5x
- Talk to your vendors about implementing support for 3rd party XFPs