“SDN-hard” Problems

• Technology
  • Control Plane Scalability and Resilience
    – Logical Centralization
  – Flow Setup Scalability and Performance
  – Abstractions
    • Simple Switch/Programming Model
  – Reasoning Systems
    • header space analysis, NPLs, network compilers, …
  – Operational Models
    • And how to you build/operate/debug these networks?

• Sociology
  – OF/SDN approach challenges much of our central dogma
  – Not the least of which are
    • Circuits vs. hop-by-hop forwarding
    • Centralized vs. Distributed Control Planes
  – Physical vs. Virtual (edge?)
  – Shift in influence bases from NetOps → DevOps

• Economics
  – Well…