CPSC 641:
Performance Issues in High Speed Networks

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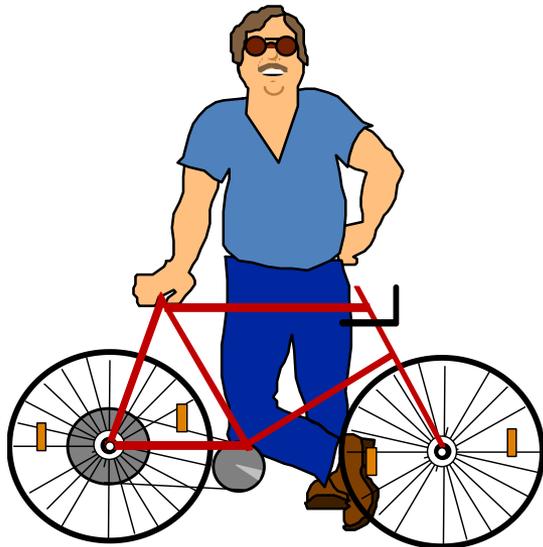
University of Calgary

- Welcome!

- Course Overview

- Administrative Details

- Expectations

- Q&A

- Today's Lecture Material:

  — Network Performance Issues

  — Networking Terminology Review

  — Examples: U of C Networking Research

- CPSC 641

  — Performance Issues in High Speed Networks

- Introductory-level graduate course on the basic methods and current topics in networking research

- Professor:

  — Carey Williamson

  — http://www.cpsc.ucalgary.ca/~carey

- Course Web site:

  — http://www.cpsc.ucalgary.ca/~carey/CPSC641

"Opening a highway does not by itself drastically change the speed of the bicycles"

- Ancient Proverb

Layer	
Application Designers	■ Web, Video, P2P, Email
OS Architects	■ Linux, Mac OS, Windows
CPU, Memory,Disk	■ PC, Intel, Grid, NAS
Protocol Architects	■ TCP, UDP, IP, IPv6
LAN Interfaces	■ LAN Adapters, NICs
Media Access	■ GigE, ATM, WiFi, MPLS
Physical Devices	■ Fiber, SONET, LTE, OFDM

- Faster media does not necessarily imply faster network applications

- New environments, platforms, applications

- Interdependence between layers

- Interactions between protocols

- Need to consider trends of all layers!

- Main focus: Internet technologies, protocols, and applications

- Secondary focus: Performance issues

- Textbook: None (notes+current literature)

- Goal: Understanding the current state of the art for high speed networking research and network performance issues

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- CPSC 641 Web site for info, slides, assignments:
  http://www.cpsc.ucalgary.ca/~carey/CPSC641