

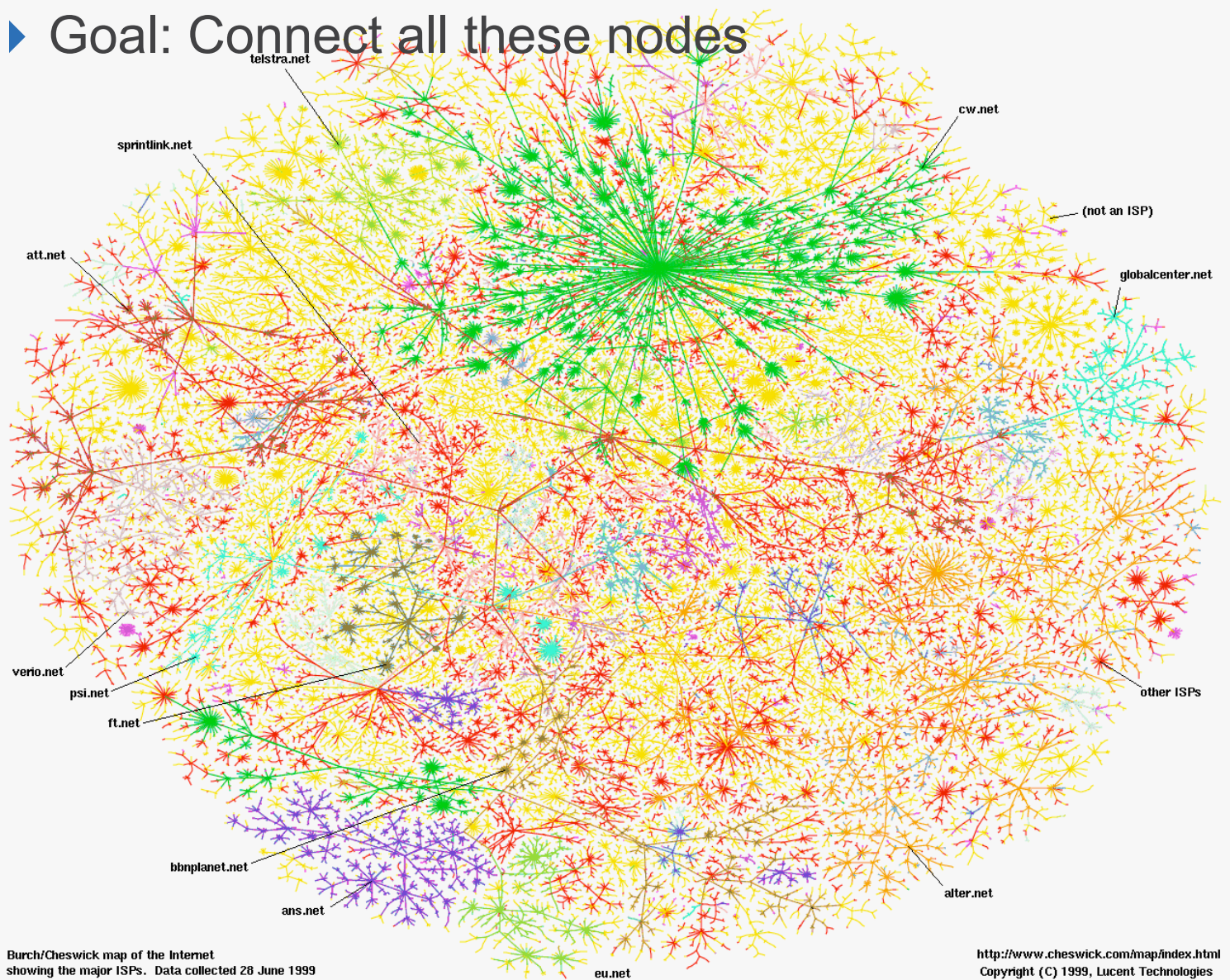
CSE 364: Computer Networks

- ▶ Instructor: Surendar Chandra (surendar@nd.edu)
Room: 356C Fitz (631-8975)
Office Hours: Tue 1:00-2:00, Thu 2:00-3:00
(other times, by email appt)
Email/iChat/AIM is the best way to reach me
- ▶ TA: William Acosta
- ▶ Course Web: cse.nd.edu/courses/cse364/www
- ▶ Mailing list: cse364-01-sp05@listserv.nd.edu



Computer networks (10 minute course overview)

► Goal: Connect all these nodes



Burch/Cheswick map of the Internet
showing the major ISPs. Data collected 28 June 1999

<http://www.cheswick.com/map/index.html>
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Network application view

- ▶ Applications require different things out of networks
 - Reliable and “fast” delivery: e.g. email (SMTP, IMAP, POP), web (HTTP), peer-to-peer (kazaa)
 - Realtime streaming: e.g. stored movies (<http://www.apple.com/trailers/fox/robots/large.html>)
 - Low latency (delay) requirement applications: e.g. audio/video chat, voice-over-IP (VOIP), live streaming



Network view

- ▶ Different network technologies
 - E.g. Ethernet (10/100/1000/10000 Mbps), 802.11 a/b/g wireless, bluetooth, irDA, cellular (1G, 2G, 2.5G, 3G), WiMAX, ADSL, Cable, Canopy, Fiber, ATM, Myrinet, Token ring, dialup,
- ▶ Different administrative domains
 - Department, Campus, ISP/country
 - Different cost structure, different trust model, different service model
- ▶ Course goal: Fundamental understanding of the network architecture and how to provide application requirements

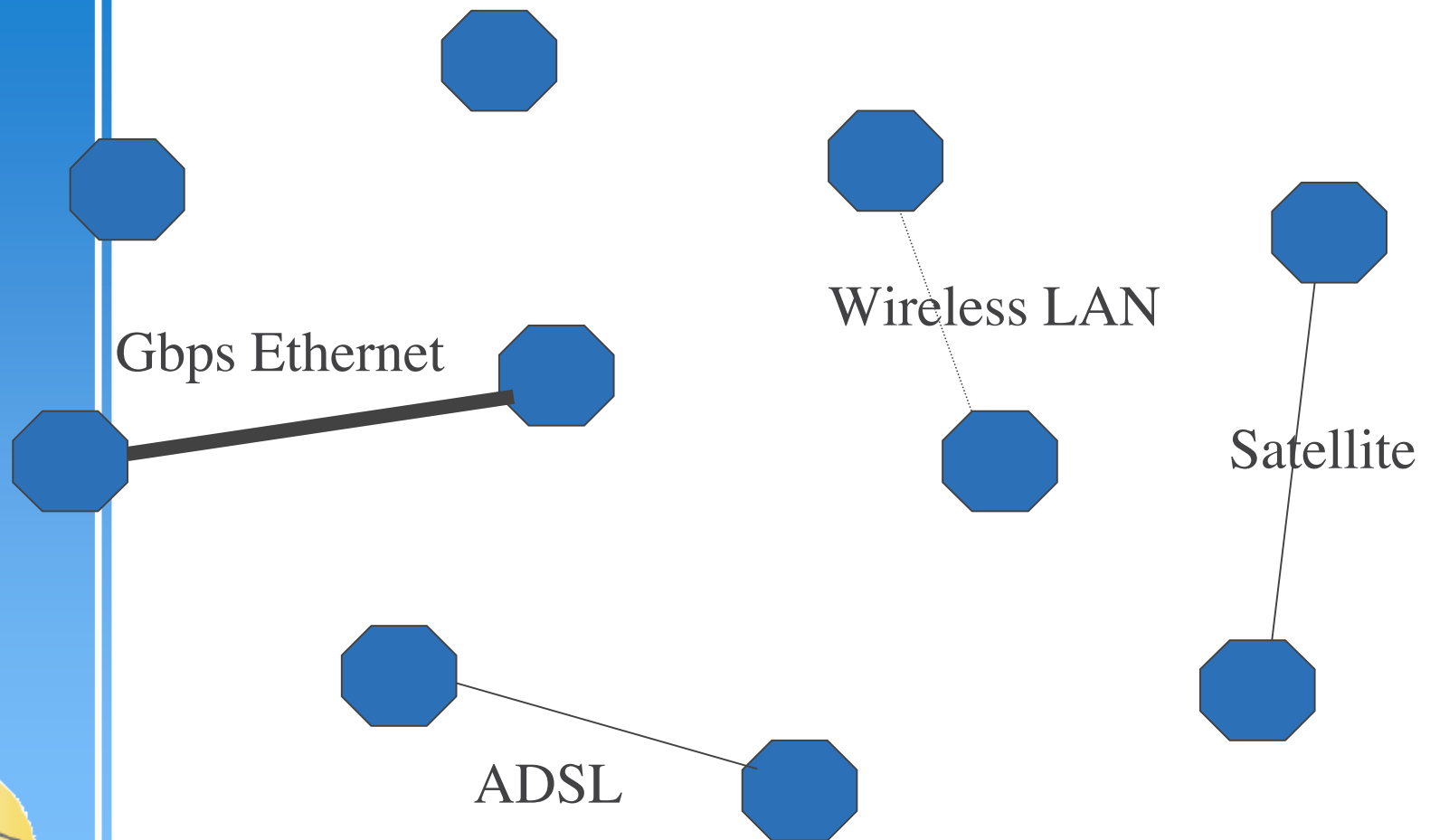


Topic 1: Example applications

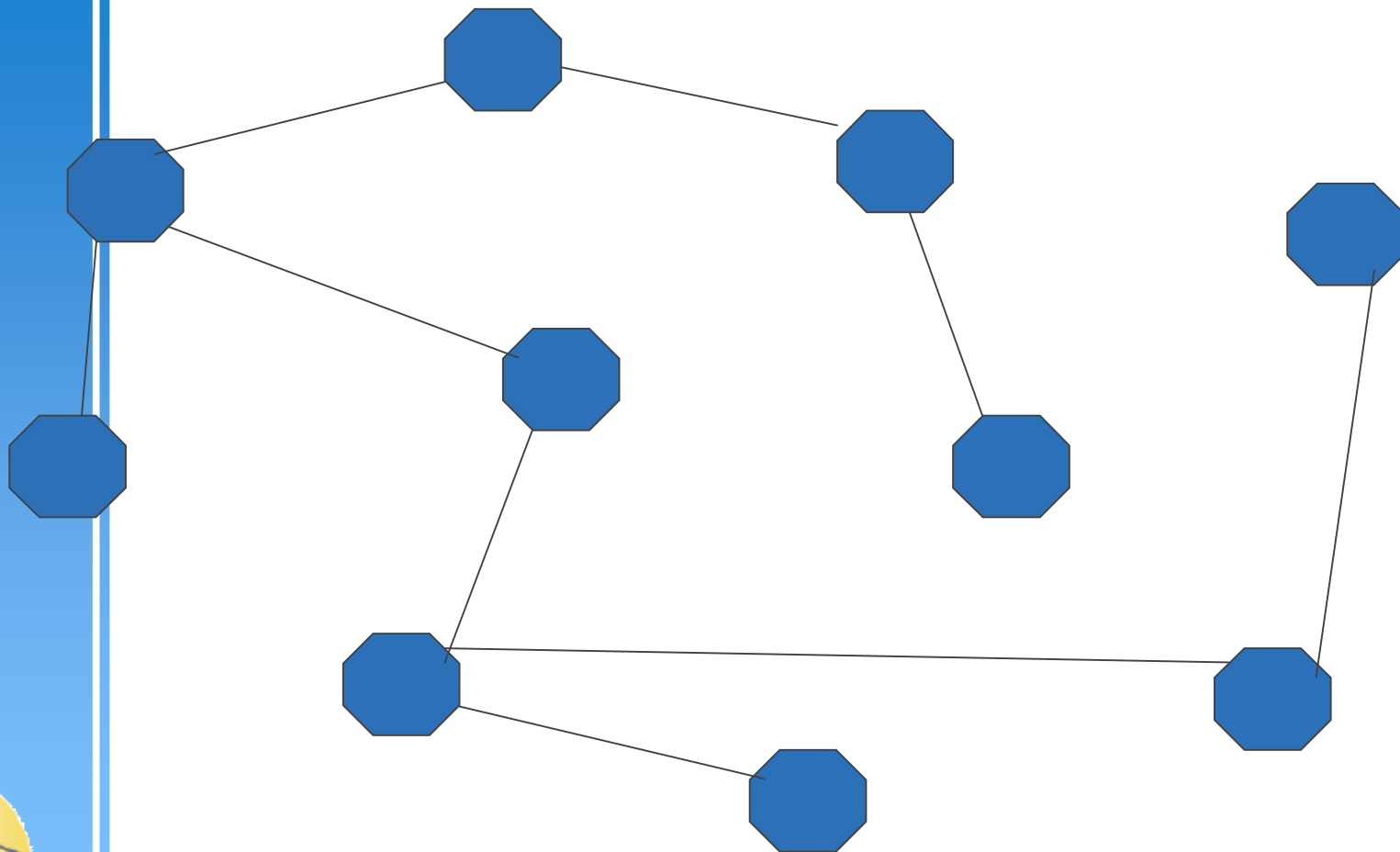
- ▶ First we will look at some representative network applications
- ▶ We will look at a sample network program



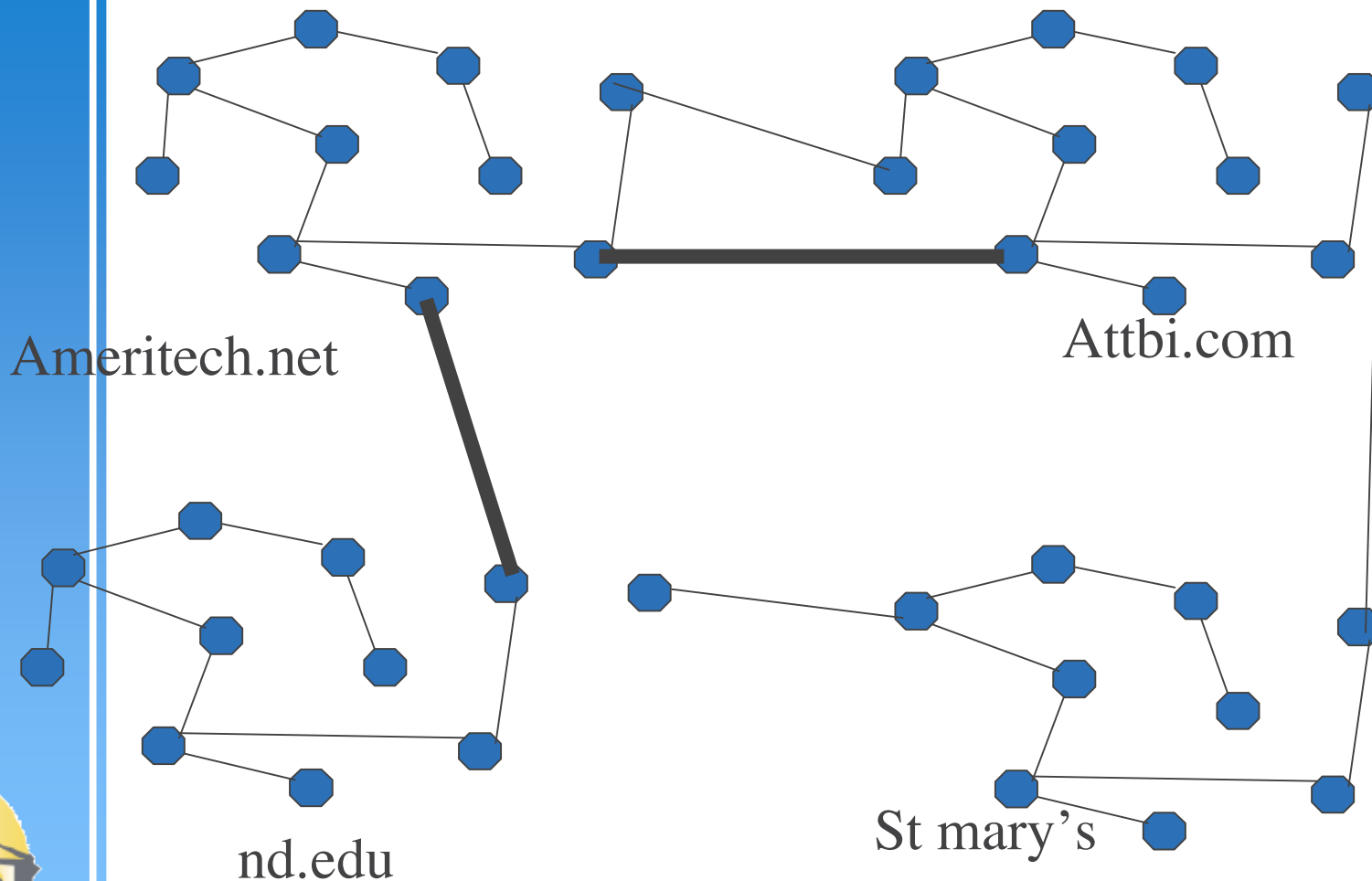
Topic 2: Direct link networks - physically connecting networks



Topic 3: Organization level - Not all machines are directly connected

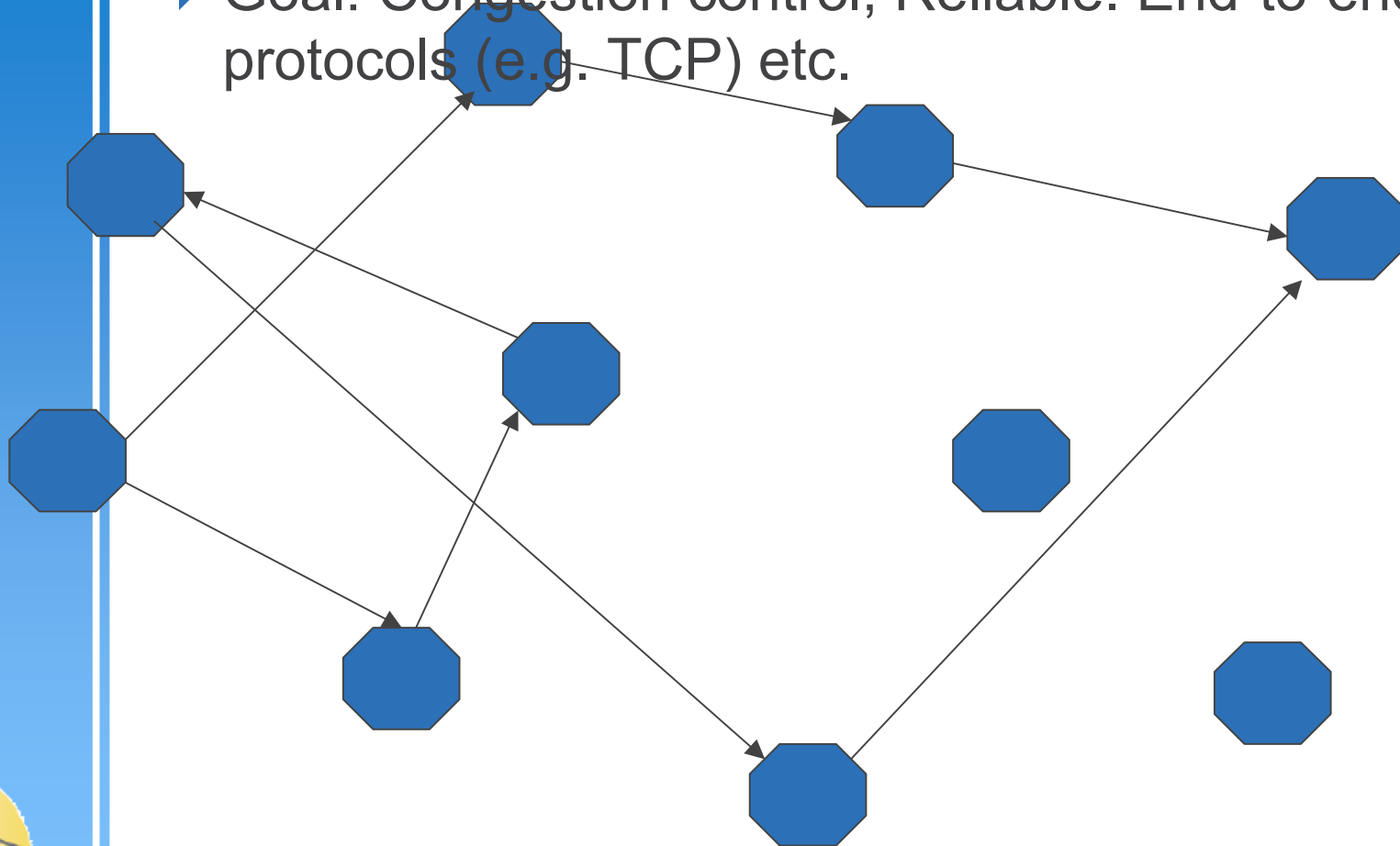


Topic 4: Internetwork (more than one network)



Topic 5: Providing useful services for applications

- ▶ Goal: Congestion control, Reliable. End-to-end protocols (e.g. TCP) etc.



Course Goals

- ▶ Cover core as well as newer networking technologies
- ▶ Goal is to cover as much breadth rather than depth
- ▶ As much hands on experience as possible
- ▶ Home work projects should help



Outline for today

- ▶ Course policies:
 - Course organization and expectation
 - Grading policy, late policy, reevaluation policy
 - Academic honesty



Course Organization

We will follow the course text for the most part.

I will augment the discussions with topical research topics

I encourage open discussion about the technologies



Grade distribution

- ▶ Midterm – 10%
- ▶ Final – 10%
- ▶ Homework projects – 40% (4 x 10%)
- ▶ Take home assignments – 40% (4 x 10%)



Midterm and Final

- ▶ One open book, open notes, in class exam



Homework projects

- ▶ **Projects are group (ideally two) efforts.**
- ▶ Each project should be electronically turned in with a succinct report on your implementation strategy and what you learned.
- ▶ Projects should compile without any modifications. C is the preferred language. Use the Linux cluster in Cushing 208 for the projects. If you need a specific OS, you should make arrangements beforehand
- ▶ I will randomly select submissions for an one-on-one oral interview



Reevaluation policy

- ▶ Arithmetic errors, missed grading will be reevaluated.
- ▶ I encourage you to discuss concerns with your solution with me
- ▶ I discourage re-evaluation of partial credits:

- Football penalty policy:

If you think you deserve a better partial grade, write down the reason why you think that you deserve a better grade and how many extra points you think you deserve. If I agree, you could get up to this many extra points. If I disagree, you will lose this much points.



Late policy

- ▶ None – Projects/homework/critiques are due at 9:30 am (right before the beginning of class). **I do not accept late submissions** (not even a second)
- ▶ Please contact me regarding unforeseen emergencies



Academic Honesty

- ▶ Freedom of information rule:
 - Collaboration is acceptable
 - To assure that all collaboration is on the level, **you must always write the name(s) of your collaborators on your assignment.** Failure to adequately acknowledge your contributors is at best a lapse of professional etiquette, and at worst it is plagiarism. Plagiarism is a form of cheating.



Academic Honesty – Gilligans Island Rule

- ▶ This rule says that you are free to meet with fellow students(s) and discuss assignments with them. Writing on a board or shared piece of paper is acceptable during the meeting; however, you may **not take any written (electronic or otherwise) record away from the meeting.** This applies when the assignment is supposed to be an individual effort. After the meeting, engage in half hour of mind-numbing activity (like watching an episode of Gilligan's Island), before starting to work on the assignment. This will assure that you are able to reconstruct what you learned from the meeting, by yourself, using your own brain.

