Plan

- Recap on ROW
- The Evaluation Section
- Debate: Zoom should use ROW to improve the quality of our video chats.

Logistics

- DP Prep report due 2/20
- Mid-semester feedback form
- For Tuesday: DCTCP
Recap: Goal of RON

1. Route quickly around outages / link failures

2. Applications can determine routing policy

3. Expressive routing policy

- Zoom audio call
  - + latency

- Streaming anime
  - + throughput
In science, what is the goal of an experiment?

* Test a hypothesis
  - Is Earth flat?
    - Accept/reject

* Collect data — measure
  - Speed of light
  - Gravitational force due to gravity

* [In engineering] Compare costs/performance
  - Engine efficiency

Is the system good?

How good is latency/throughput?

Better than nothing?
A debate

Resolved: Zoom should implement RON to improve video experience for out - 20 person Zoom calls?

Even room: In favor
Odd room: Against
For

+ lower latency
+ remove load from central servers
+ centralized routing → scale
+ help during dropped calls

Against

- Scalability
- Routing flexibility not useful
- Latency can be worse during outages
- Security
Plan
- Recap on Ron
- The Evaluation Section
- Debate: "Zoom should use Ron to improve the quality of our video chats."

Logistics
- DP Pyrex report due 2/20
- Mid-semester feedback form
- For Tuesday: DCTCP
Recap: Goal of RON

1) Failure recovery → routing around not failures quickly.

2) Path selection - application choose route more precisely.

3) Framework for implant expressive routing policy.

Video streaming:
- low latency
- high bandwidth
- low packet loss

Audio chat:
- low latency
- high bandwidth
- low packet loss
In science, what is the goal of an experiment?

* Test a hypothesis
  - Does X work how we expect?
* See how well your solution works (quantitative variant)
* [Engineering] Compare A vs. B
  - How much better are we than Internet?
A Debate

Resolved: Zoom should implement RON to improve video experience for 20-person Zoom calls.

Even room: In Favor
Odd room: Against
For

+ Could potentially reduce latency
+ Scales large enough for 20 person Zoom call
+ Packet loss is important
+ Useful when latency is high
+ Use only in small rooms
+ Sending audio on a different path

Against

- Wouldn't scale
- Tries to handle packet errors
- Latency could increase
- Best for routing other people's data
- Benefits not worth cost
  - Often, single person's Wi-Fi network
- NAT
- Security
NAT
Network address translation

10.1.2.3

17.3.2.5

Internet