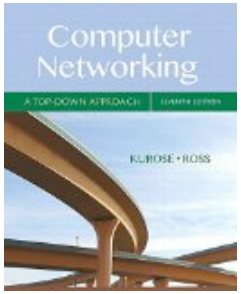
COMP 375: Lecture 13

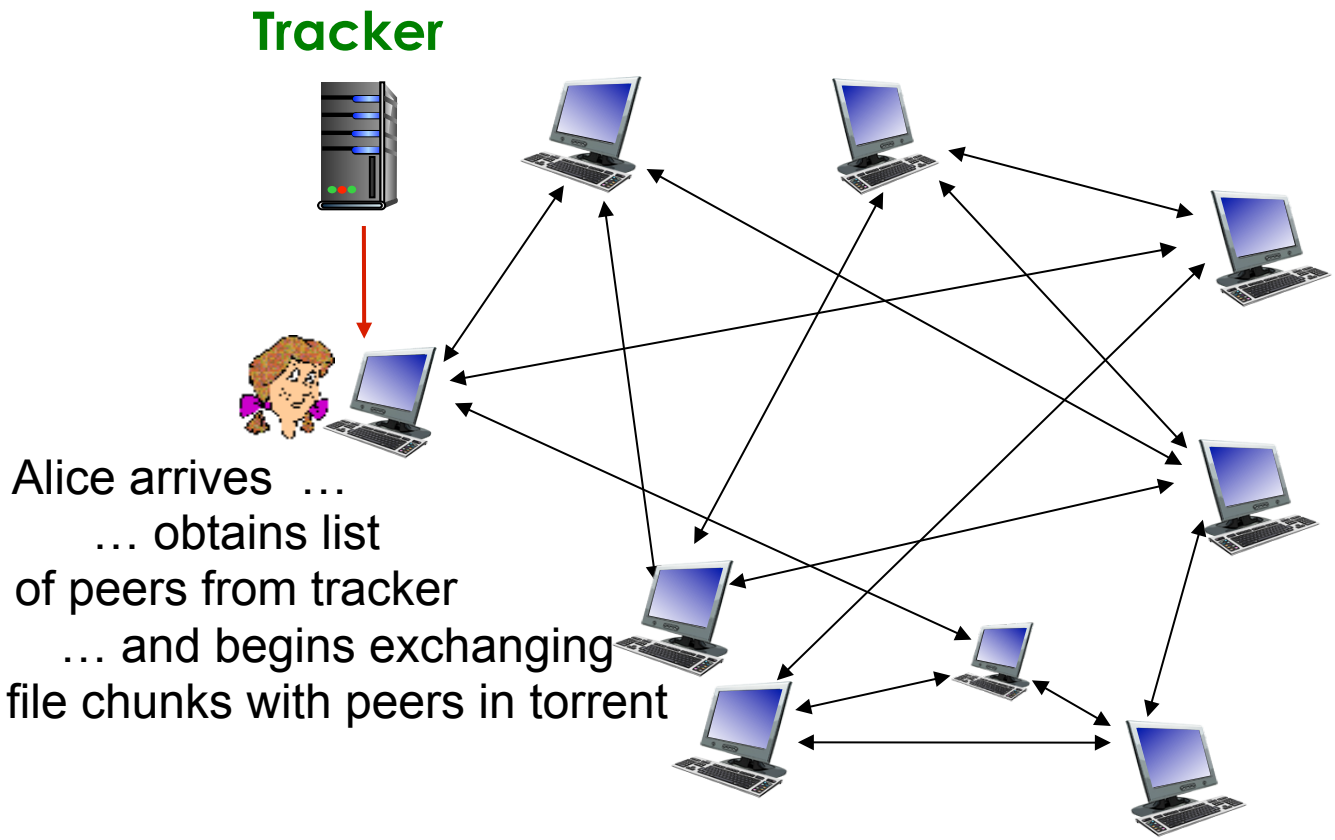


- **News & Notes:**
  - Project #2 due Wednesday
  - Quiz #3 in class Wednesday
  - Midterm #1 next Monday (March 5)
- **Reading (Wed, Feb. 28)**
  - Sections 3.4.{0-1}

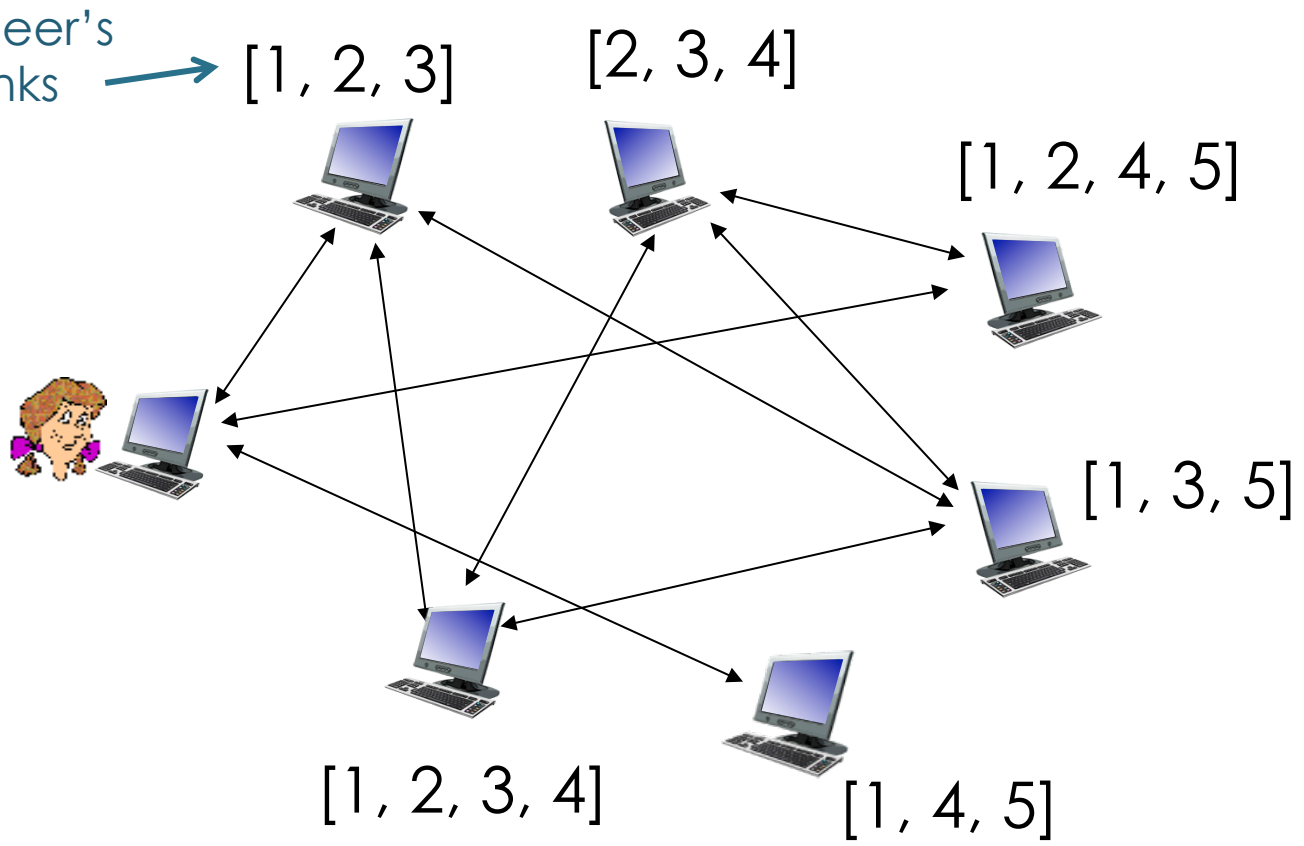
Section 2.5

PEER-TO-PEER FILE DISTRIBUTION

A **torrent** is dynamic group of peers, exchanging chunks of a file.



Which chunk should Alice try to download first?



A.	1
B.	2
C	3
D.	4
E.	5

Assume there are 5 total chunks (1-5).

Which of the following is true about the "Rarest First" policy?

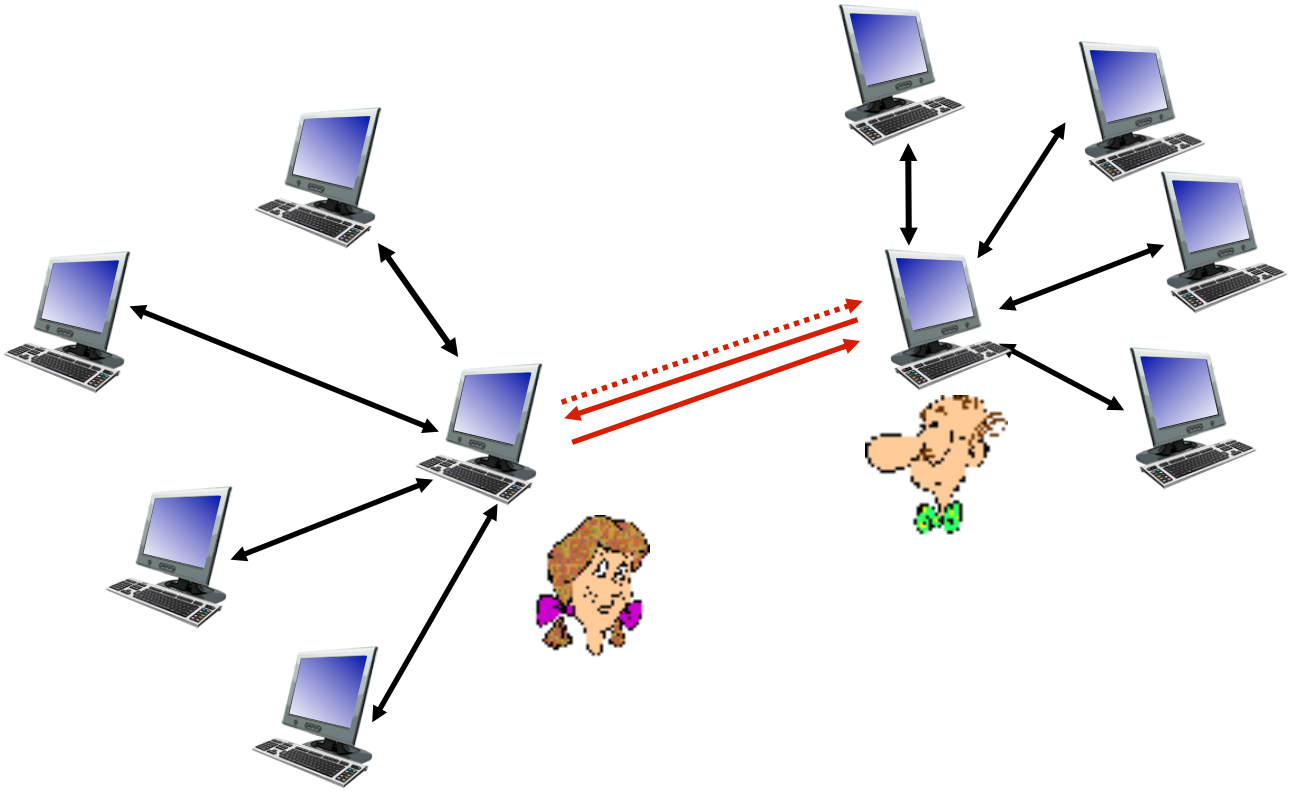
A.	Guarantees downloads will start quickly.
B.	Equalizes the distribution of chunks within the system.
C.	Means peers trade with other peers that are at approximately the same upload speed.
D.	Exactly two of the above.
E.	All of the above (i.e. A, B, and C)

BitTorrent uses a tit-for-tat strategy to find new peers to share with.

(1) Alice "optimistically unchokes" Bob

(2) Alice becomes one of Bob's top-four providers; Bob reciprocates

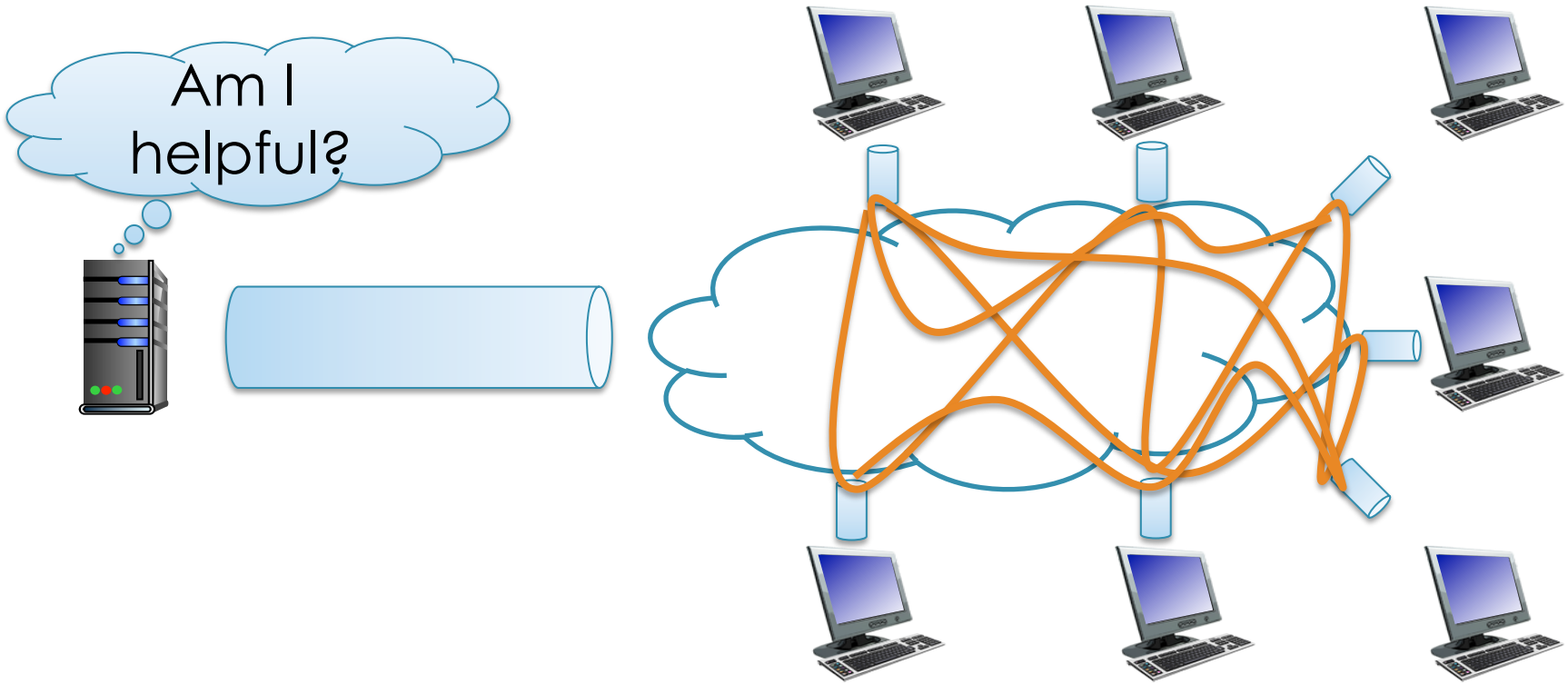
(3) Bob becomes one of Alice's top-four providers



To maximize your BitTorrent download speed, your client should…

A.	Send as few bytes as possible.
B.	Send at a **high rate** to a **few peers**.
C.	Send at a **low rate** to as **many peers** as possible.
D.	Send as many bytes to as many peers as possible, regardless of destination.

Do we need a centralized server at all? Would you use one for something?



A. **Unnecessary**, would not use one.
B. **Unnecessary**, would still use one.
C. **Necessary**, would have to use it.
D. Something else.

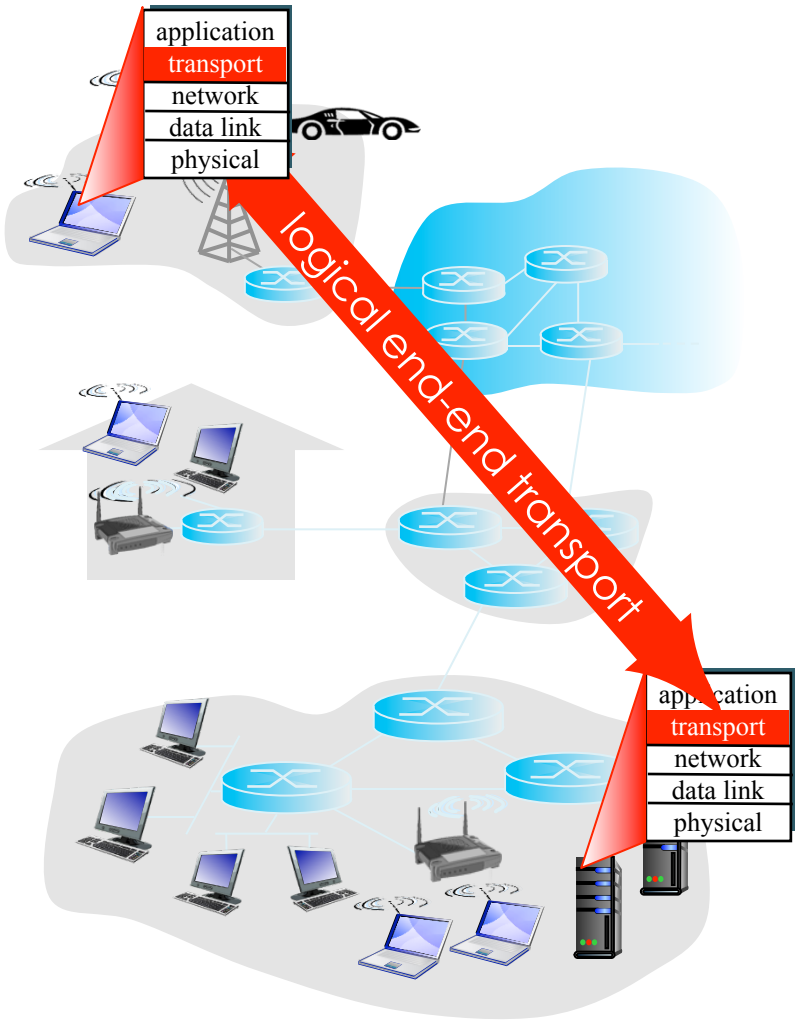
Chapter 3

TRANSPORT LAYER

The transport layer is like middle management in our layered model.

- *Who is this layer's boss?*
- *Who does it directly manage?*

The transport layer provides logical communication between processes.



Transport layer must direct the "best effort" delivery of the network layer.

- Simplified Network Layer API:

```
sendtohost(data, host)
```

How many of these services **might** we provide at the transport layer? Which?

1. Reliable transfers
2. Error detection
3. Error correction
4. Bandwidth guarantees
5. Latency guarantees
6. Encryption
7. Message ordering
8. Link sharing fairness

A.	≤ 4
B.	5
C.	6
D.	7
E.	8

Be prepared to discuss which ones might be provided!