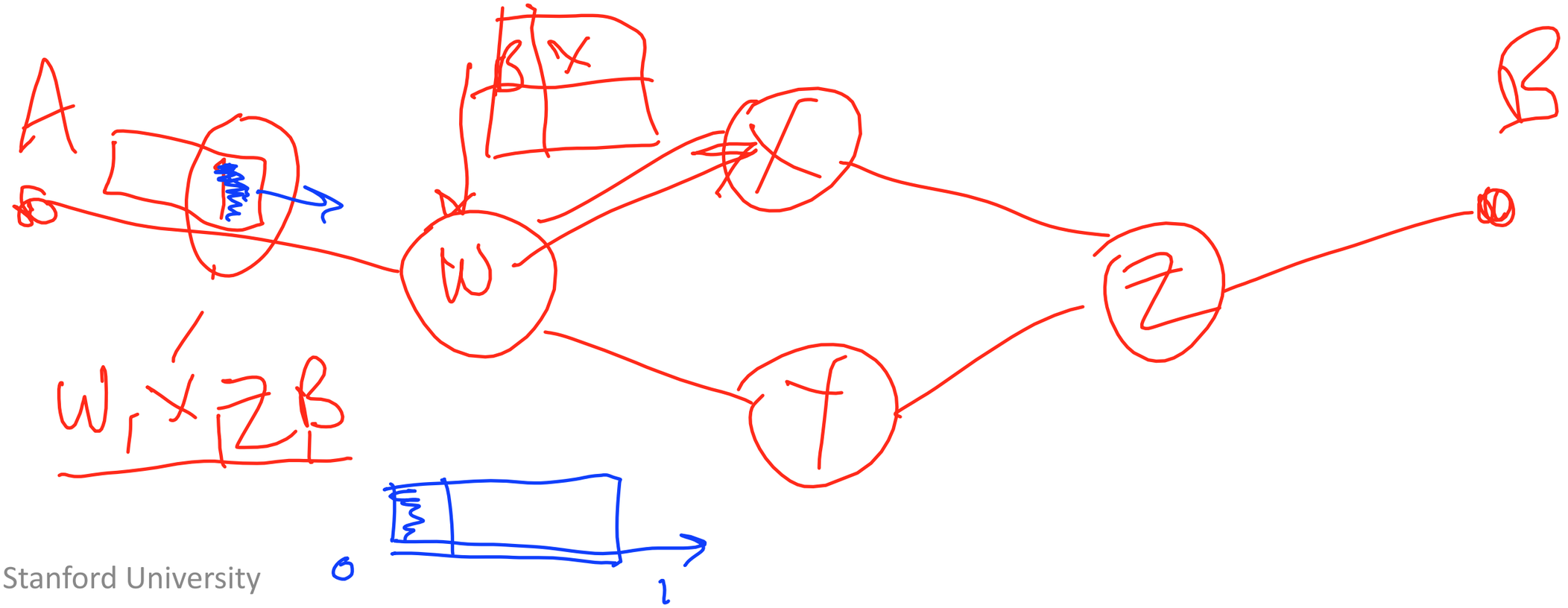
An Introduction to Computer Networks

Principle: Packet Switching

What is packet switching?

Packet: A self-contained unit of data that carries information necessary for it to reach its destination.



Two consequences

- 1. No per-flow state required.
- 2. Efficient sharing of links.

No per-flow state required

Packet switches don't need state for each flow – each packet is self-contained.

No per-flow state to be added/removed.

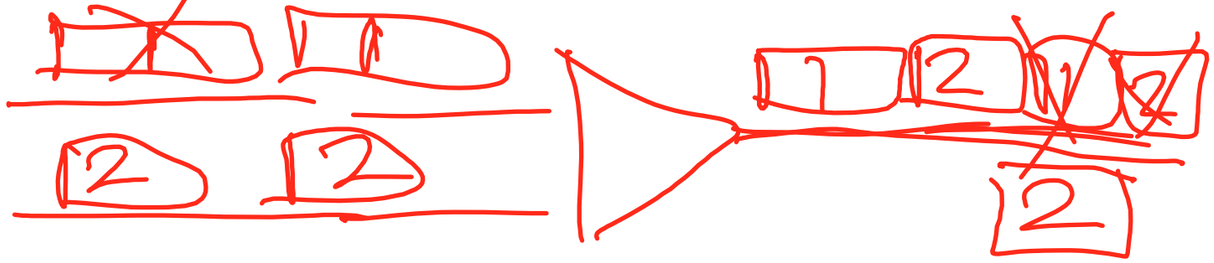
No per-flow state to be stored.

No per-flow state to be changed upon failure.

Efficient sharing of links

Data traffic is bursty

- If we reserved a fraction of the links for each flow, the links would be used inefficiently.
- Packet switching allows flows to use all available link capacity.



This is called *Statistical Multiplexing*.