

MultiWAN: WAN Aggregation for Developing Regions

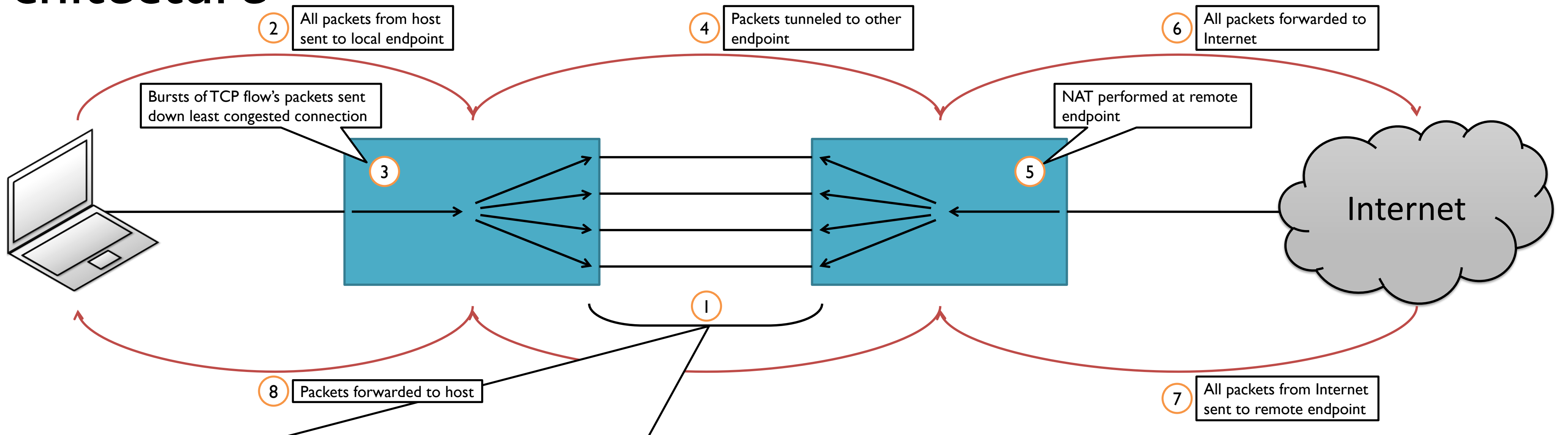
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High bandwidth Internet connections are expensive or unavailable for rural organizations. MultiWAN enables the aggregation of the multiple low bandwidth connections to emulate the network properties of a single high bandwidth connection.

Design Goals:

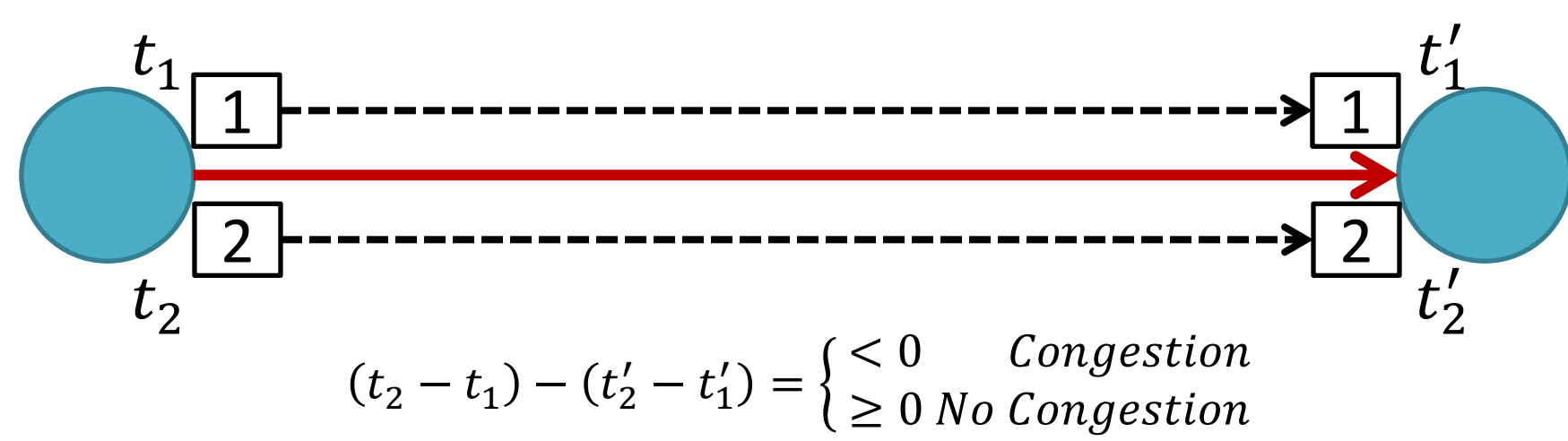
- Emulate single high bandwidth link as closely as possible
- Perform no worse than flow-based load balancer
- Intelligently route traffic across available paths

Architecture

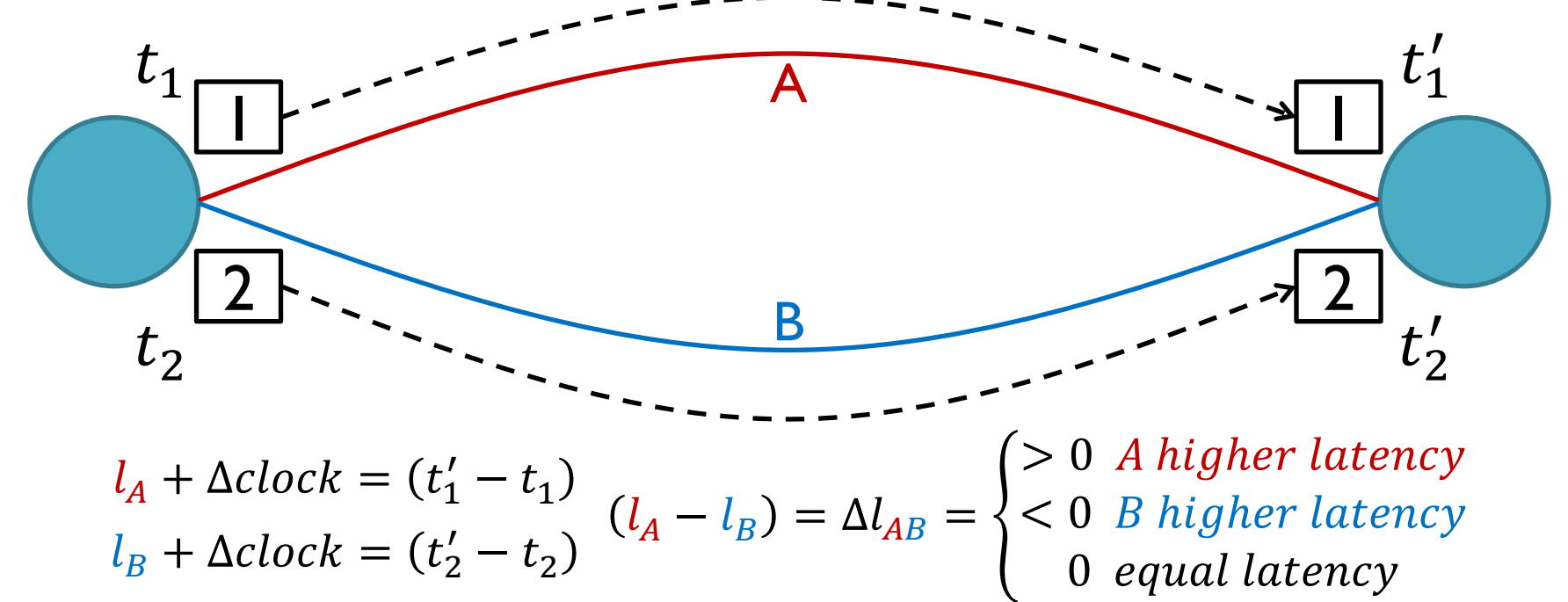


Link Property Measurements

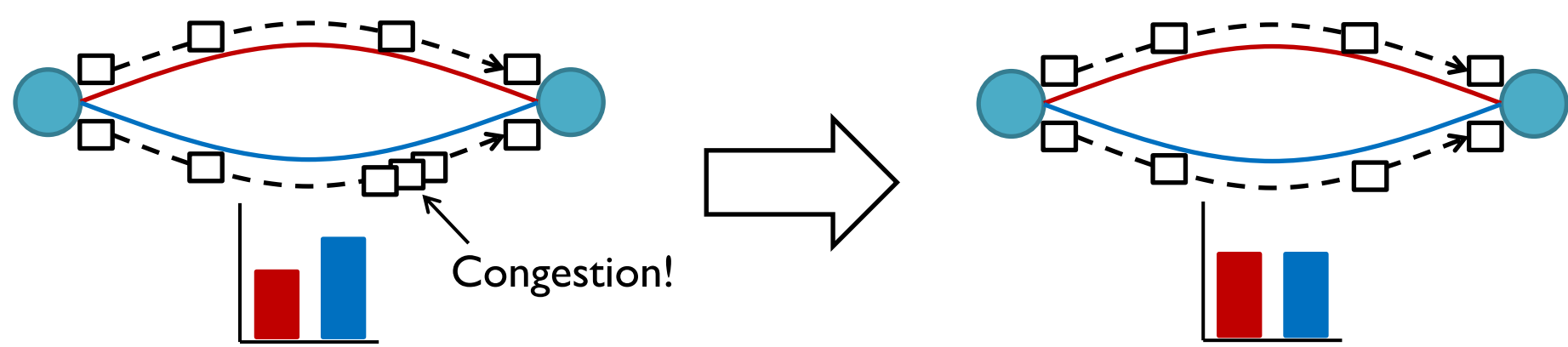
Congestion Detection



One-way-latency Delta

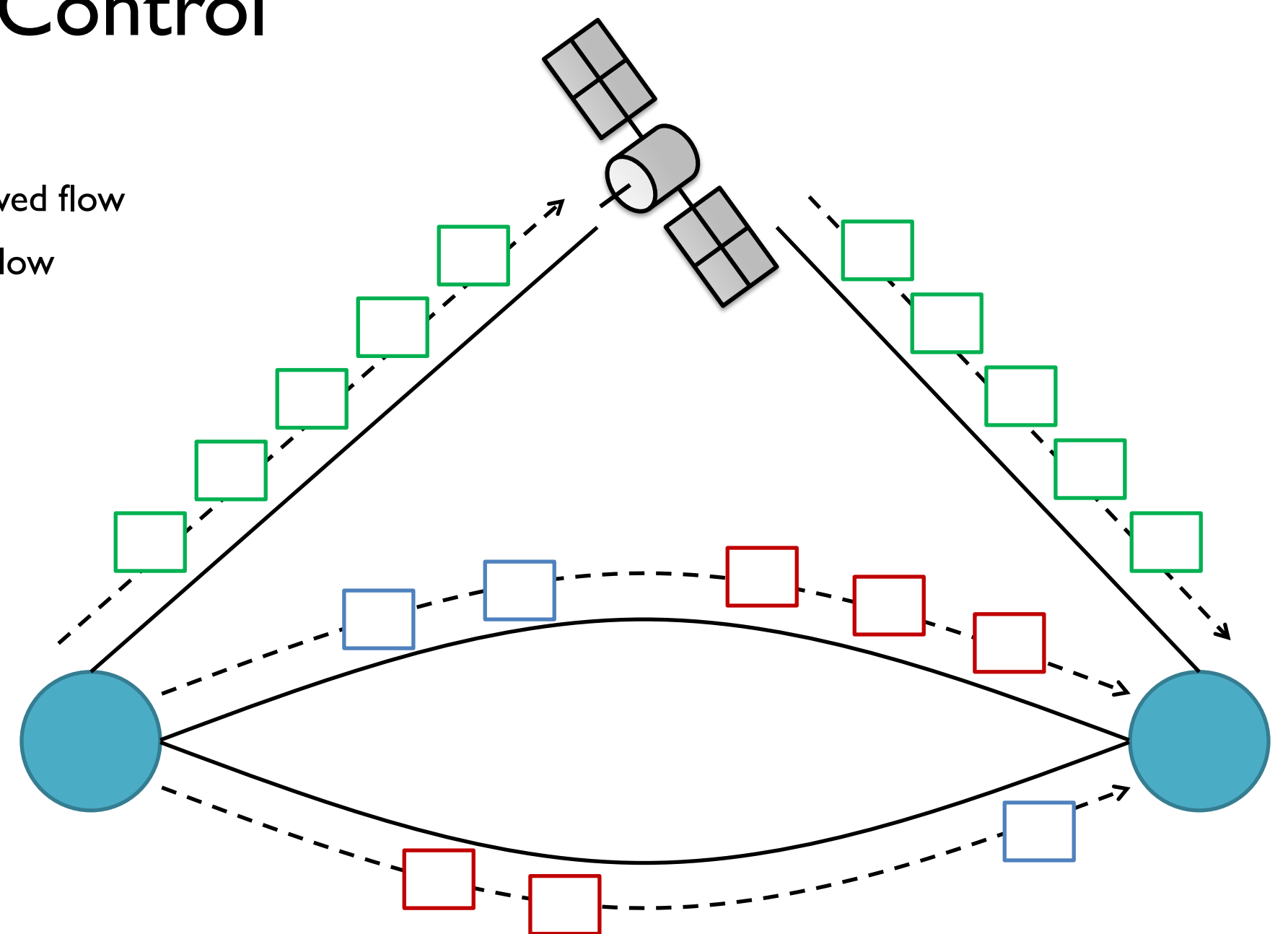


Traffic Allocation

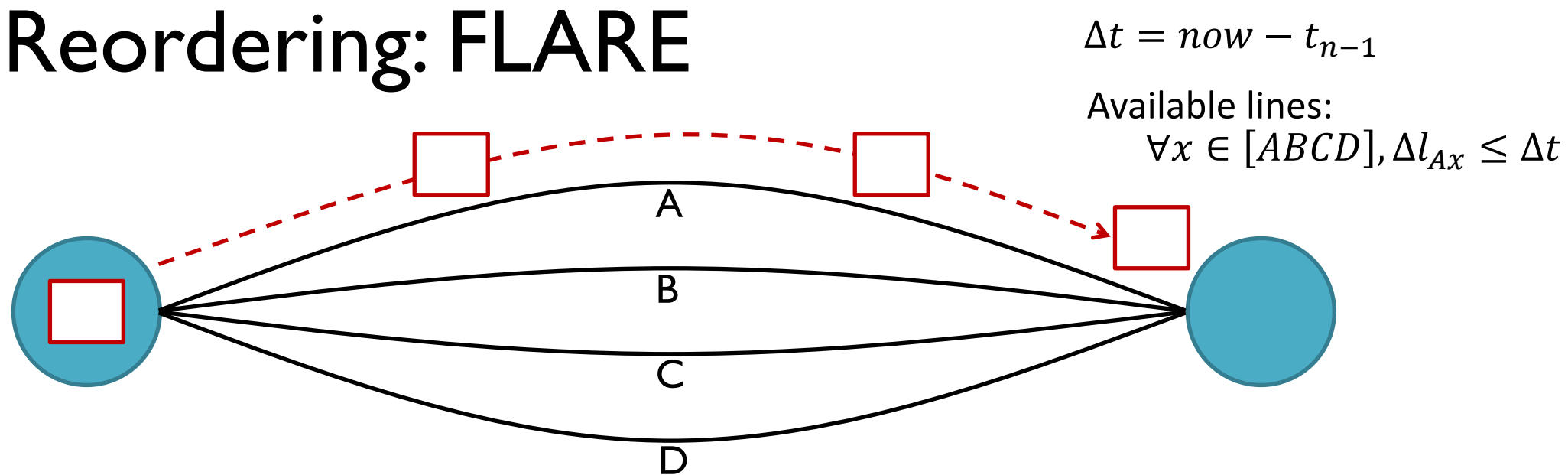


Latency Control

- Long lived flow
- Short flow



Reordering: FLARE



Simulation Results

Diagrams

from

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