Althea

Incentivized Mesh Routing

What is it?

- Instead of ISPs collecting subscription fees and making peering deals, network hardware is paid by the network itself.

- Packets go over cheap, reliable routes. Network hardware on those routes gets paid.

- **Payment channels** allow instant, scalable payments. Modified **Babel** routing protocol takes monetary cost of fiber and radio links into account.

Why?

- ISPs (can be) evil.
- Lower barrier of entry for a more efficient market- anyone can buy hardware, set it up, and make money.
- Community mesh networks either have issues paying for bandwidth, or effectively become ISPs.
- It’s awesome!

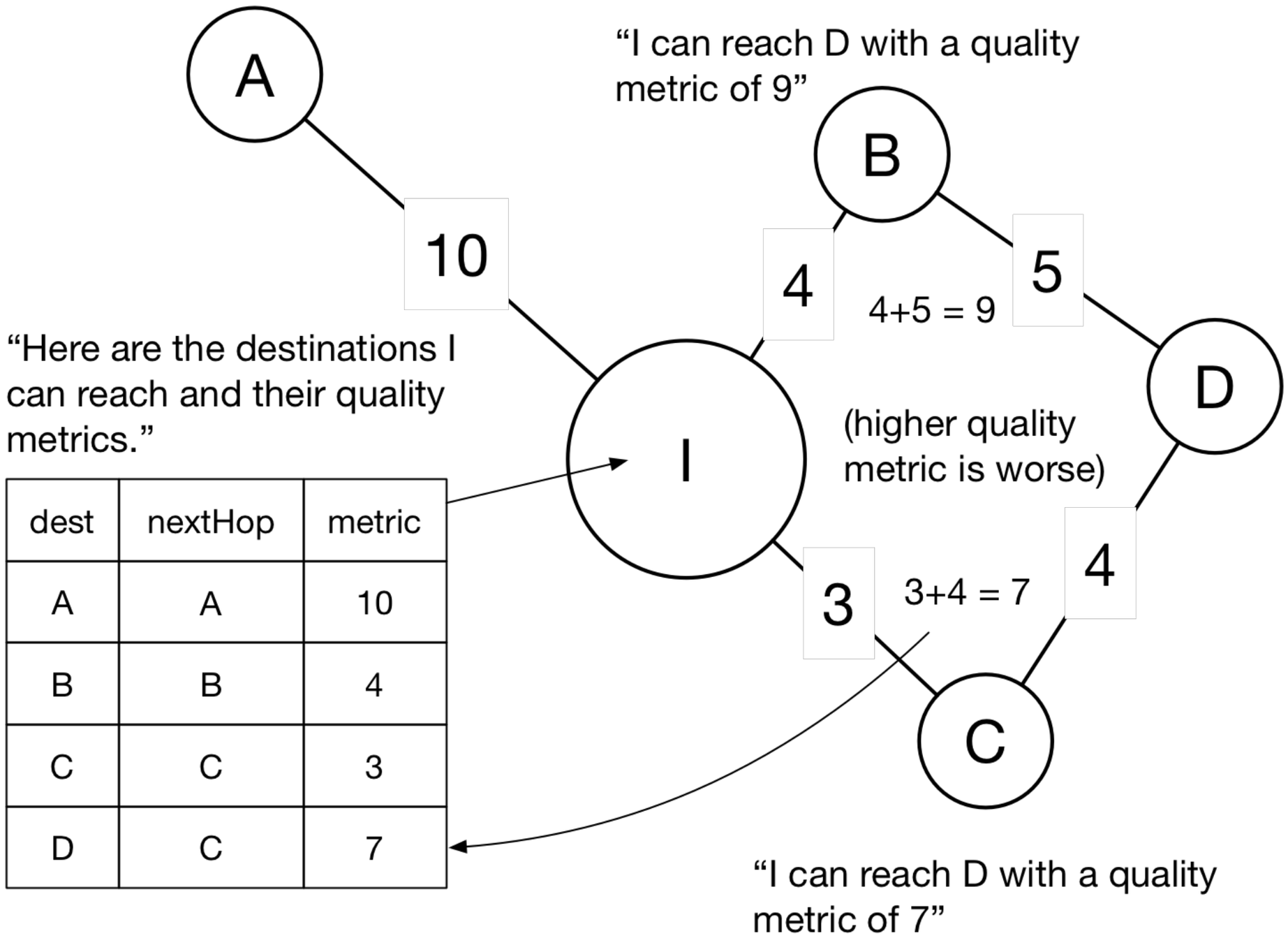
How will it work?

- Nodes pay one another to forward packets, using **payment channels**, which enable p2p payments with no overhead.

- Prices are set per-destination.

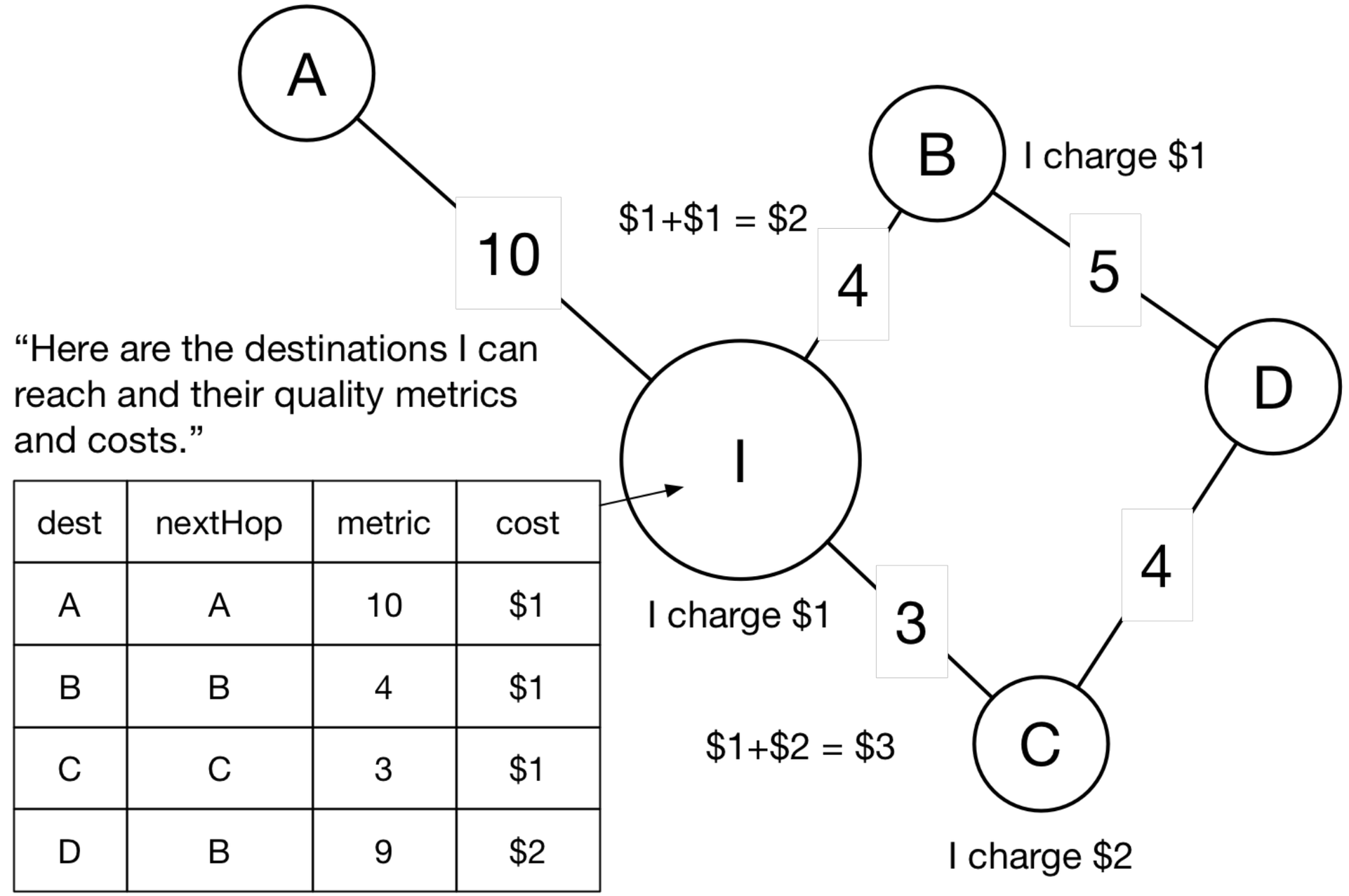
- Link pricing data is propagated through the network by **Babel** using the same method as link quality-of-service data, and routing decisions are made according to both.

Distance vector



dest	nextHop	metric
A	A	10
B	B	4
C	C	3
D	C	7

Distance vector plus cost



“Here are the destinations I can reach and their quality metrics and costs.”

dest	nextHop	metric	cost
A	A	10	$1
B	B	4	$1
C	C	3	$1
D	B	9	$2

Next Steps

- Currently working on payment channels (**Universal Payment Channels** protocol).

- Follow steps in **A delay-based routing metric** and **RFC 7557** to add additional monetary link cost metrics to **Babel**.

- Write software to monitor traffic, charge and pay neighbors.

Other Projects

- **Open Libernet**- Draft white paper, based on **Netsukuku** routing protocol. In theory, can scale globally with automatic subnets. No implementation, have seen no activity in the past year.

- **Hocnet**- Intends to use CJDNS for routing, OpenTransactions for payments. No white paper. No real activity in the past 2-3 years.

- **Bitmesh**- Bitcoin payments for wi-fi hotspots. No mesh routing component. Similar to regular paid wi-fi hotspots like the ones at some coffee shops, but with bitcoin.