

Althea

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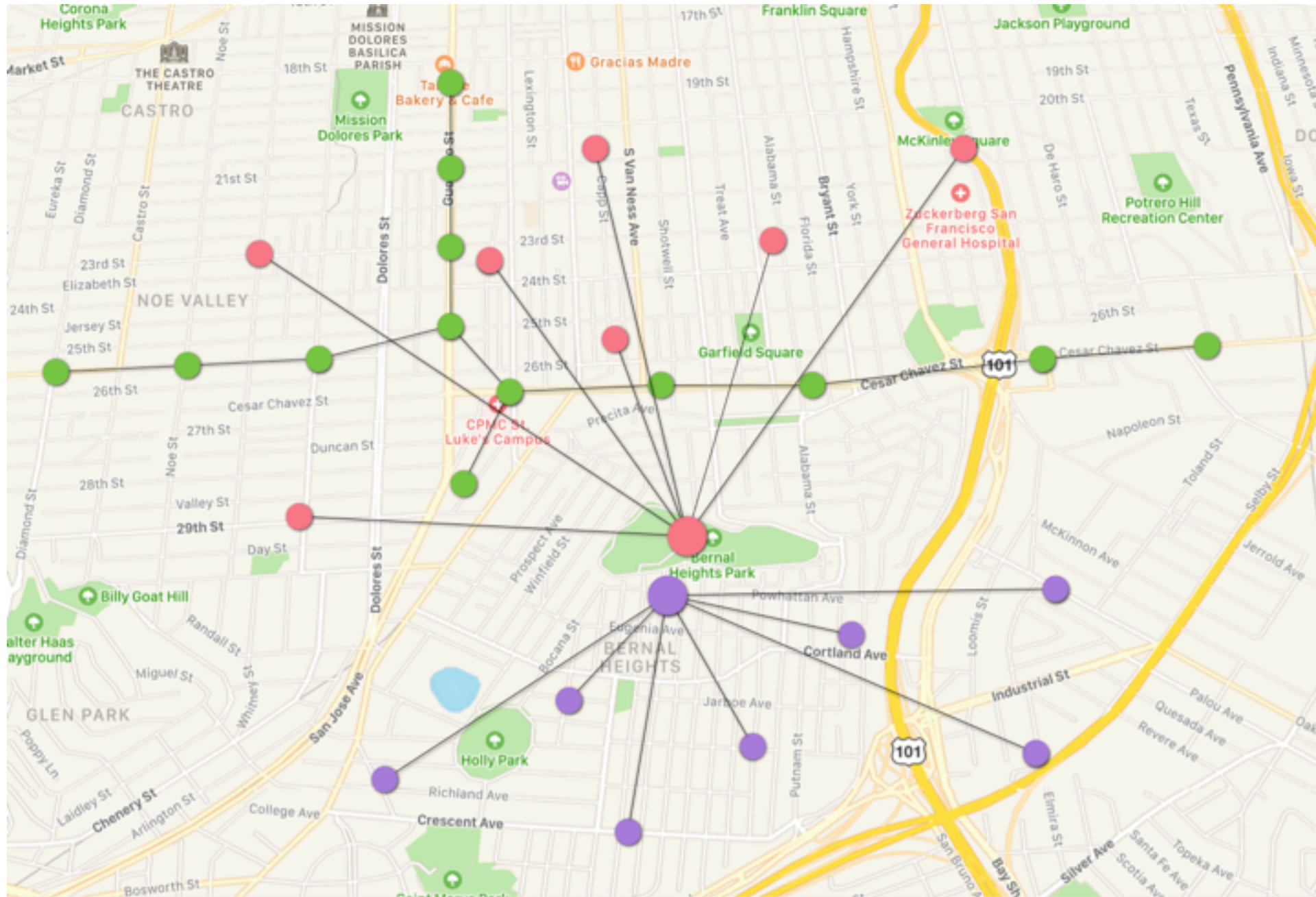
Goals

- Allow anyone who has a source of bandwidth and can distribute it to others to make a profit.
- No centralized ISP business required.
- Routers form an “incentivized mesh” network.

What is mesh

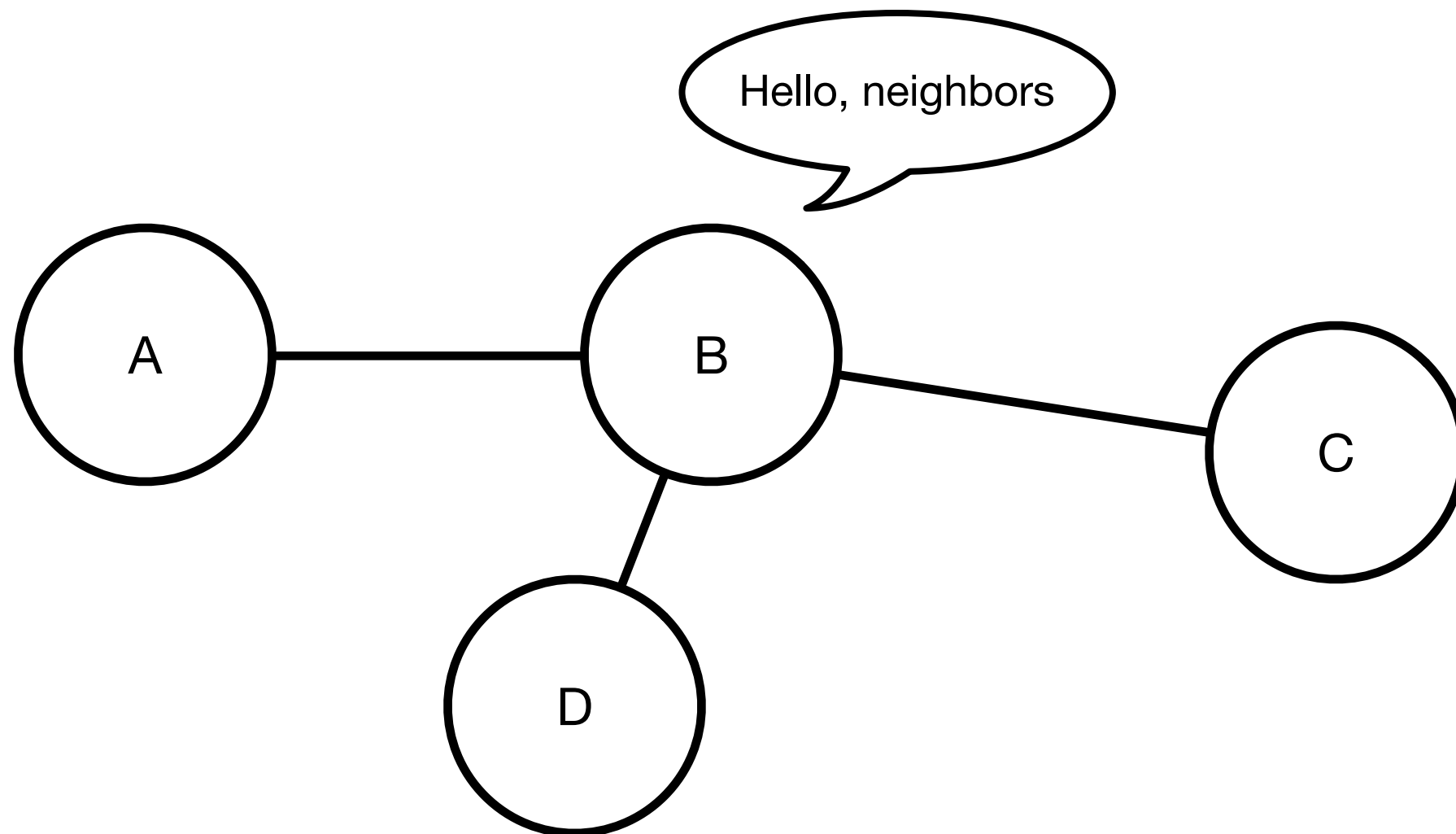
- A network which automatically routes packets along the best path. In Althea, price is taken into consideration as well.
- Not only for radio.
- Not only house-to-house.
- Efficient networks are small world networks.

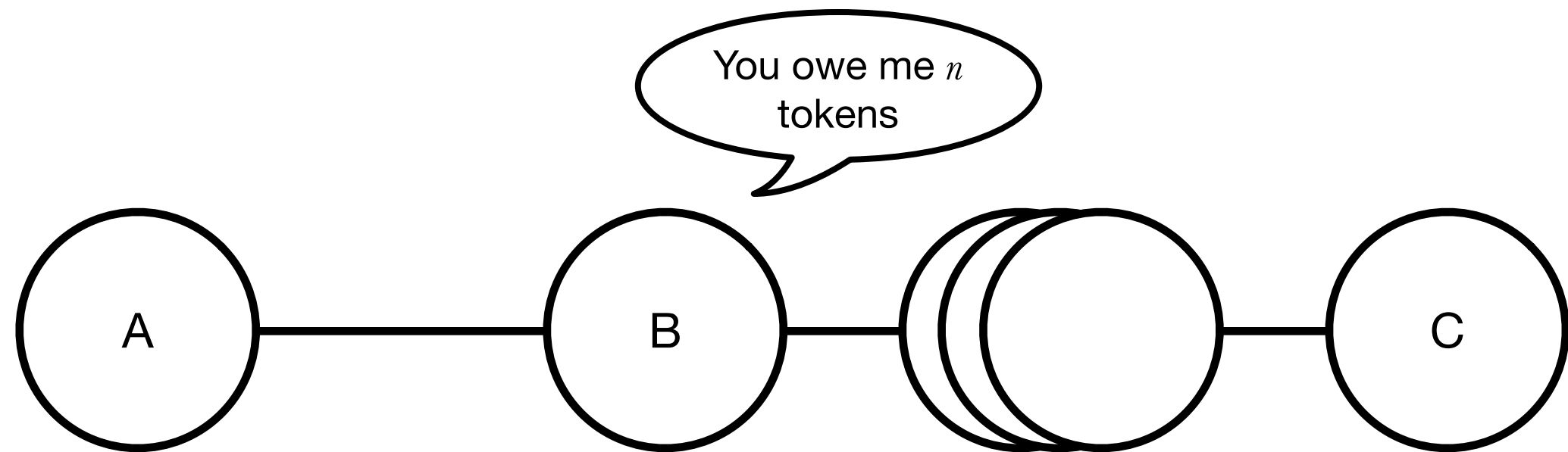
Small world network



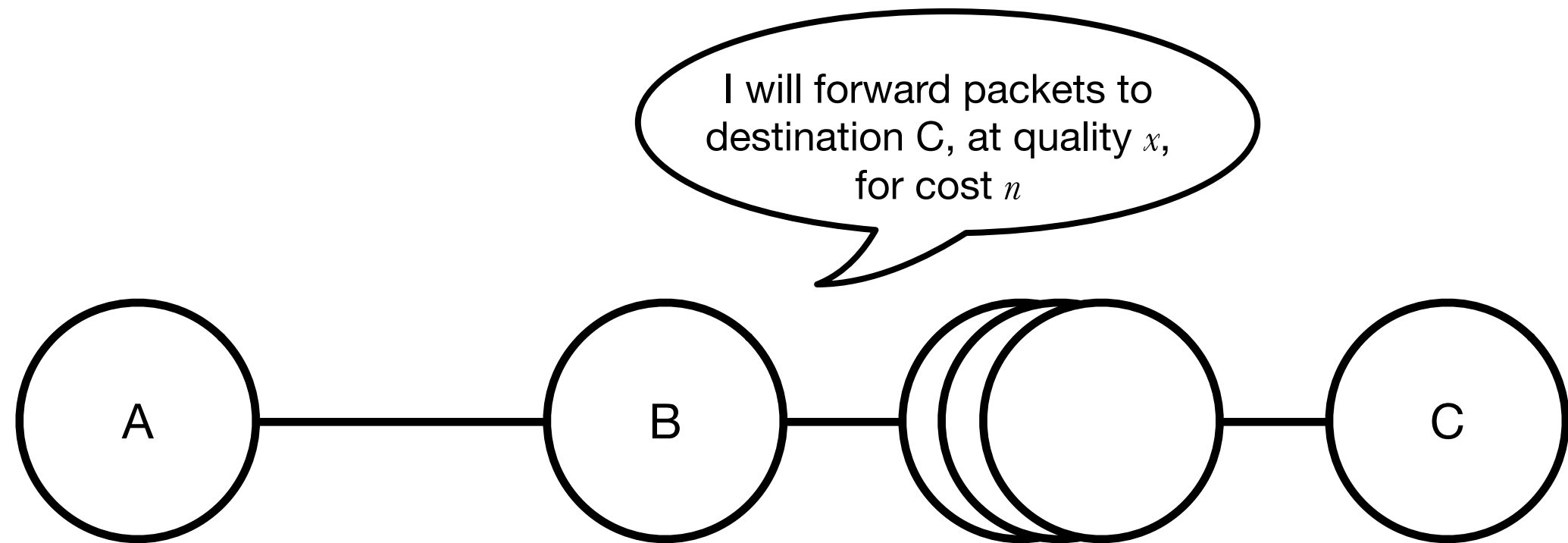
Varied physical connections





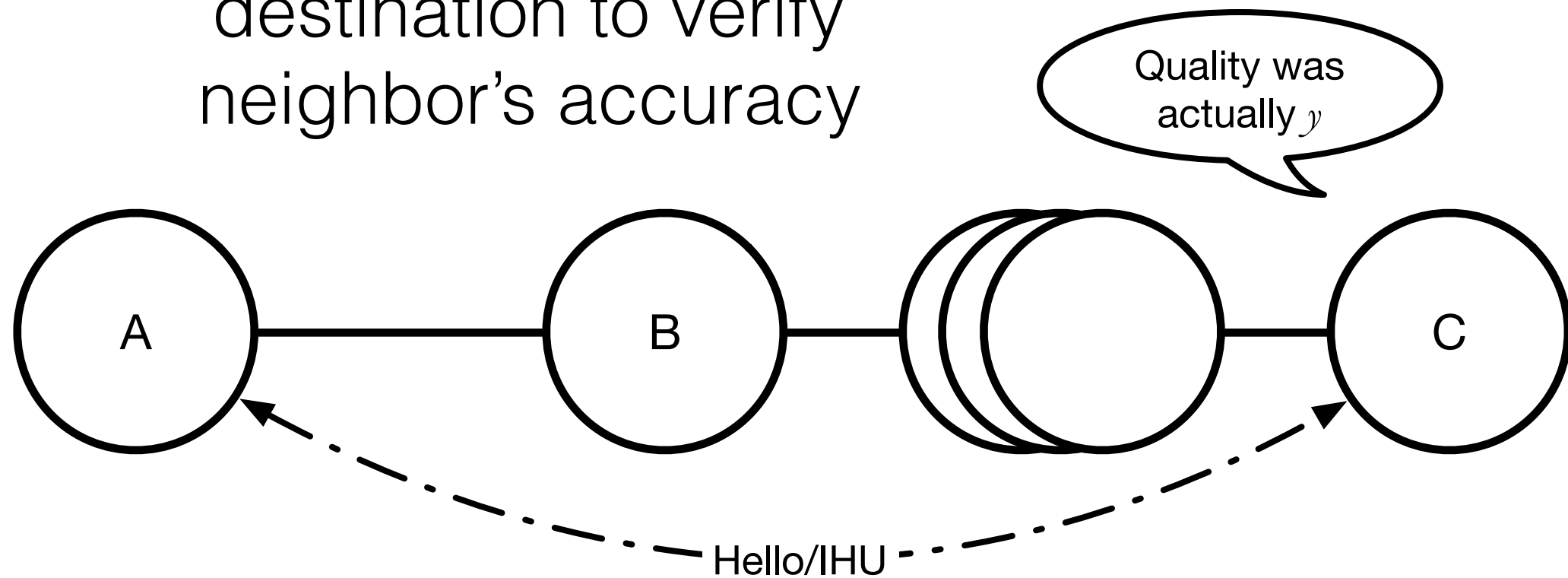


Nodes charge each other for forwarding

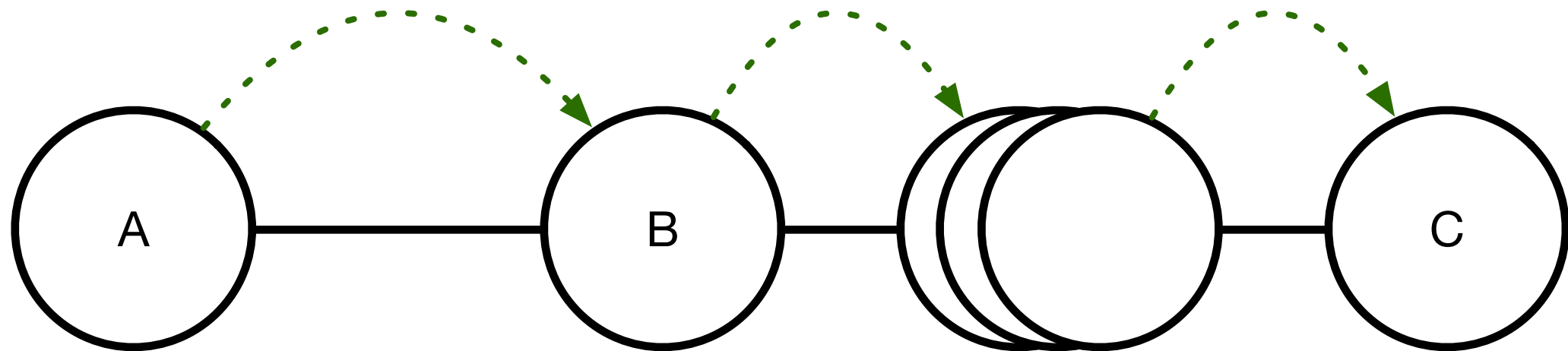


Distance-vector with additional price field

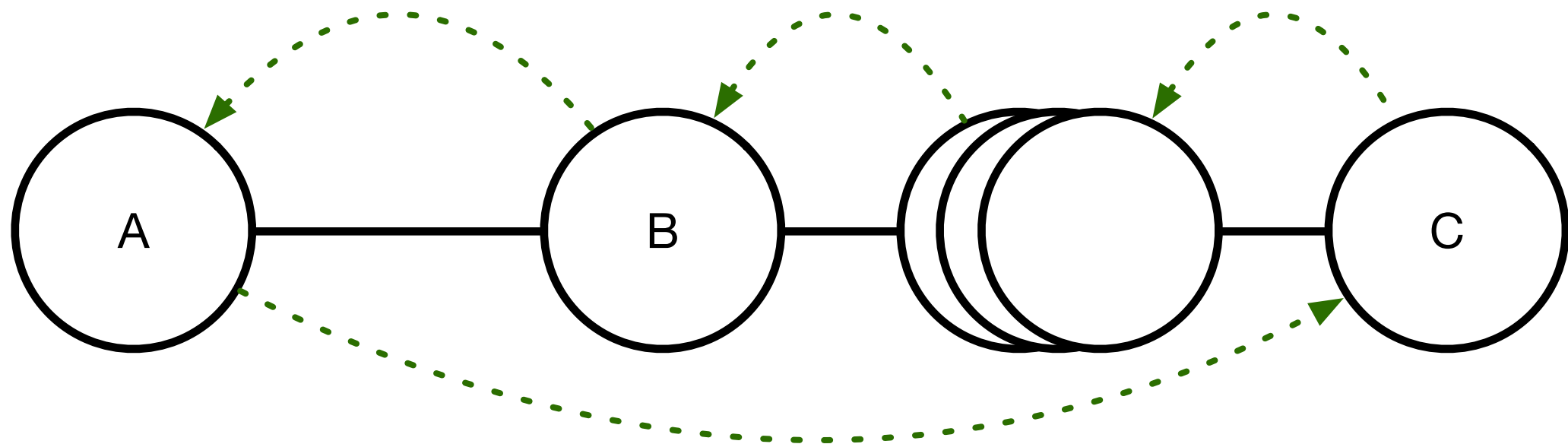
Quality estimation with
destination to verify
neighbor's accuracy



User node pays upstream



Exit node pays downstream on behalf of user node



Wireless ISPs

- Subscribers usually have line of sight to tower.
- Subscriber's neighbors may not, but require ISP to support hardware on someone else's property.
- Althea allows ISP's service to be resold without having to invest in or support links between houses.
- Althea allows multiple ISPs to mesh together to fight the big guys.

Apartment buildings

- Can often access commercial-grade fiber.
- Lots of profit margin with 100+ tenants.
- Althea can function here as a sort of “ISP in a box”, allowing the building owner to make profit that otherwise would have gone to an ISP.

Community mesh

- Hobbyist groups trying to set up networks in their community.
- Not as widespread or successful as wireless ISPs.
- Bring a much-needed community element to help support an incentivized mesh network.

We need contributors

- Babel extensions (C networking protocol code)
- Offchain payment channel code (Rust)
- Daemon code (Rust)
- Performance benchmarking of Wireguard and Babel
- Future: Micro-ICOs, On-chain support markets

We need test deployments

- We already have deployments planned in Buffalo, NY, and Clatskanie, OR.
- For a test deployment we need:
- Someone who wants to sell internet to their neighbors, and a source of bandwidth.
- Bonus: A community who would like to learn and be active in running their own infrastructure.

www.altheamesh.com
www.github.com/althea-mesh