The Portal Network
Lightweight protocol access for everyone

Piper Merriam
EF
What is the Portal Network?
# The Portal Network(s)

<table>
<thead>
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<th>Beacon Light Client</th>
<th>State Network</th>
<th>Transaction Gossip</th>
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Design Goals
Users
(as opposed to protocol)
Light

(Resource Constrained Devices)
What makes Ethereum clients heavy

- 250GB of Chain History
- 50GB of Canonical Indices
- 175GB of State

EVM Execution
Transaction Pool
Spreading things out
No “height” restrictions
Contribute What You Can

- Not My Problem
- My Responsibility
No Sync

(Acceptable UX)
Syncing is bad UX

- 175GB of State
- 250GB of Chain History
- 50GB of Canonical Indices

Hours of Syncing
Elimination of Syncing

Acquire Tip of Header Chain
Scalable

(Millions of participants)
Transactions Per Second
Why LES doesn't scale
Why LES doesn’t scale
Why LES doesn’t scale
Why LES doesn't scale
Scalable Lightweight Protocol Access

centralised

decentralised

distributed

Infura

LES

Portal
Kind of like...
A Practical Example
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eth_getBalance

JSON-RPC Server

Canonical Index

Header Storage

State
eth_getBalance

JSON-RPC Server

Beacon Light Protocol Network

History Network

State Network
Project Status
Three Portal Client Implementations

- Trin
- Ultralight
- Fluffy
Rough timeline

Imminent

Fully Operational History Network

Next

Beacon Light Network

And Then...

State & Transaction Gossip Networks
Questions?