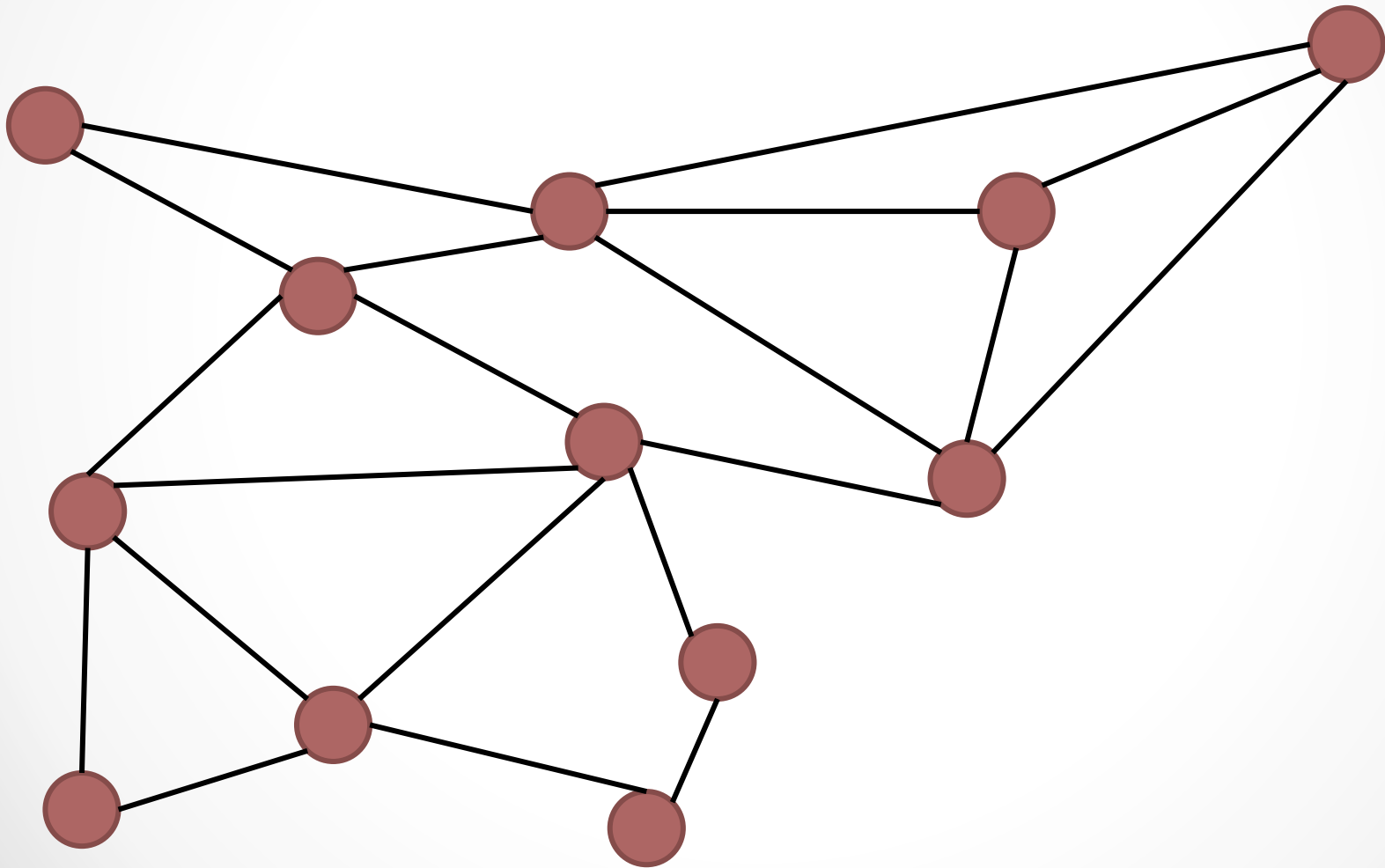
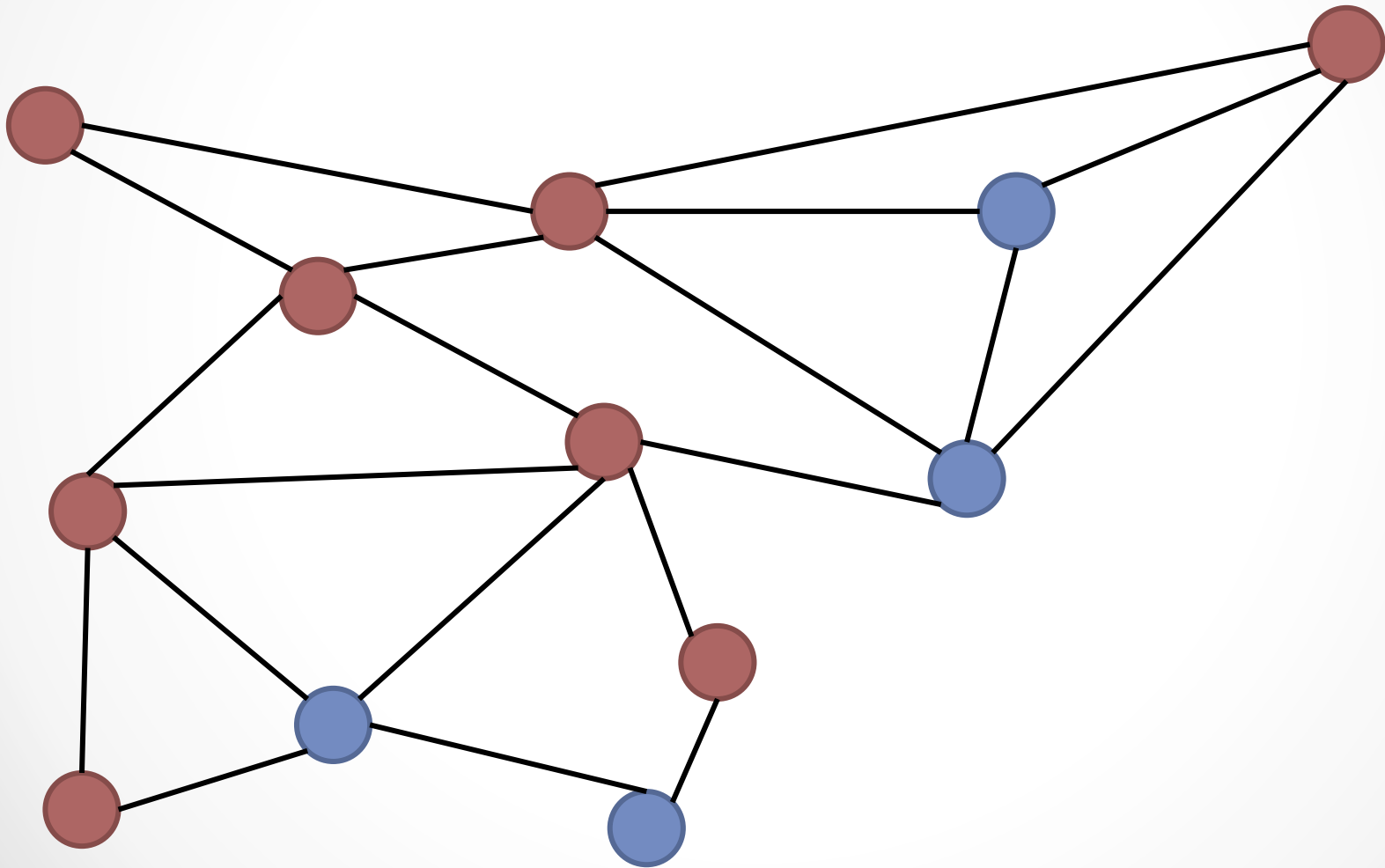


Disclosure: I have (child)DAO tokens.

Forking a Network



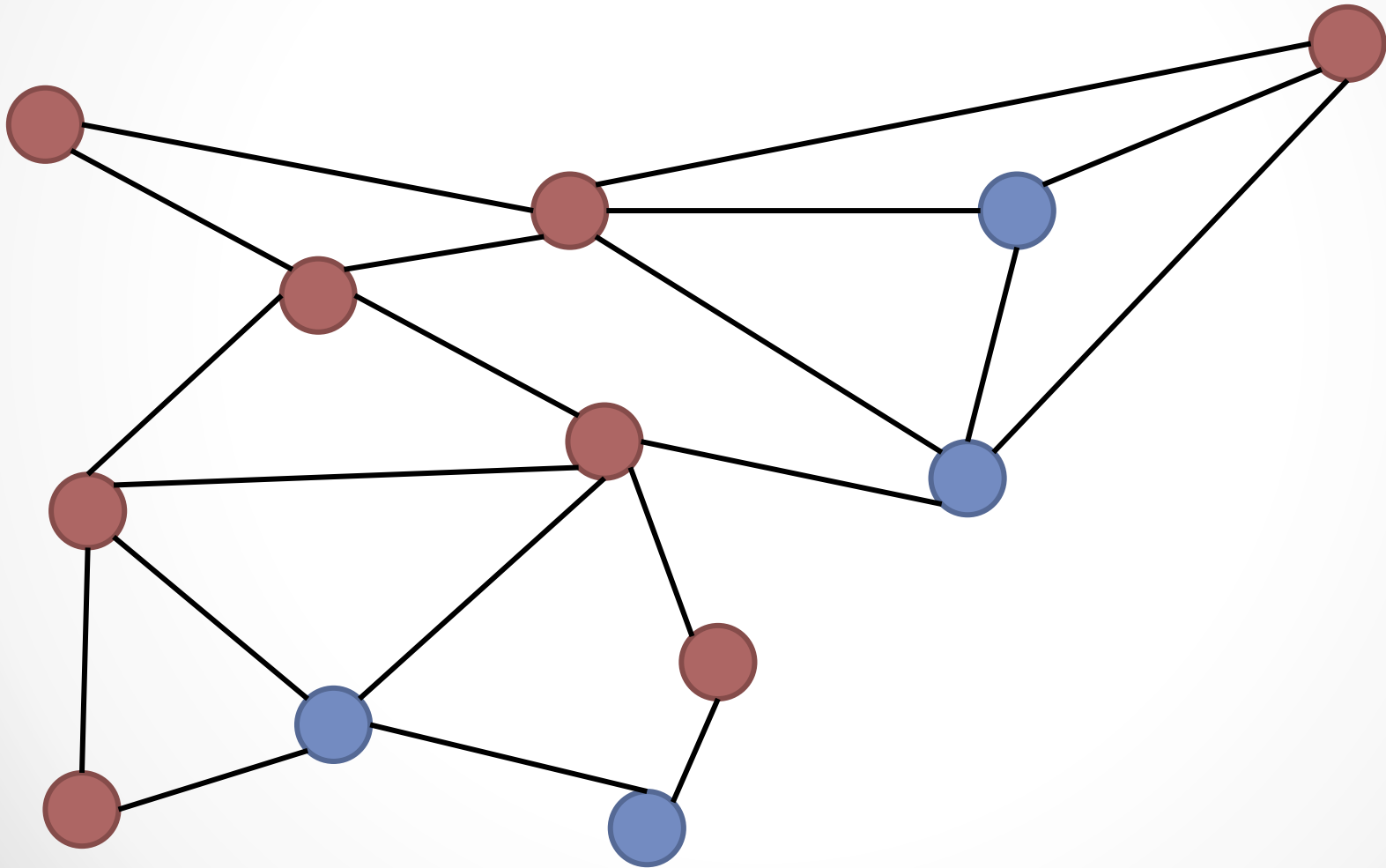
Forking a Network



“DAO Fork?”

“ ... ”

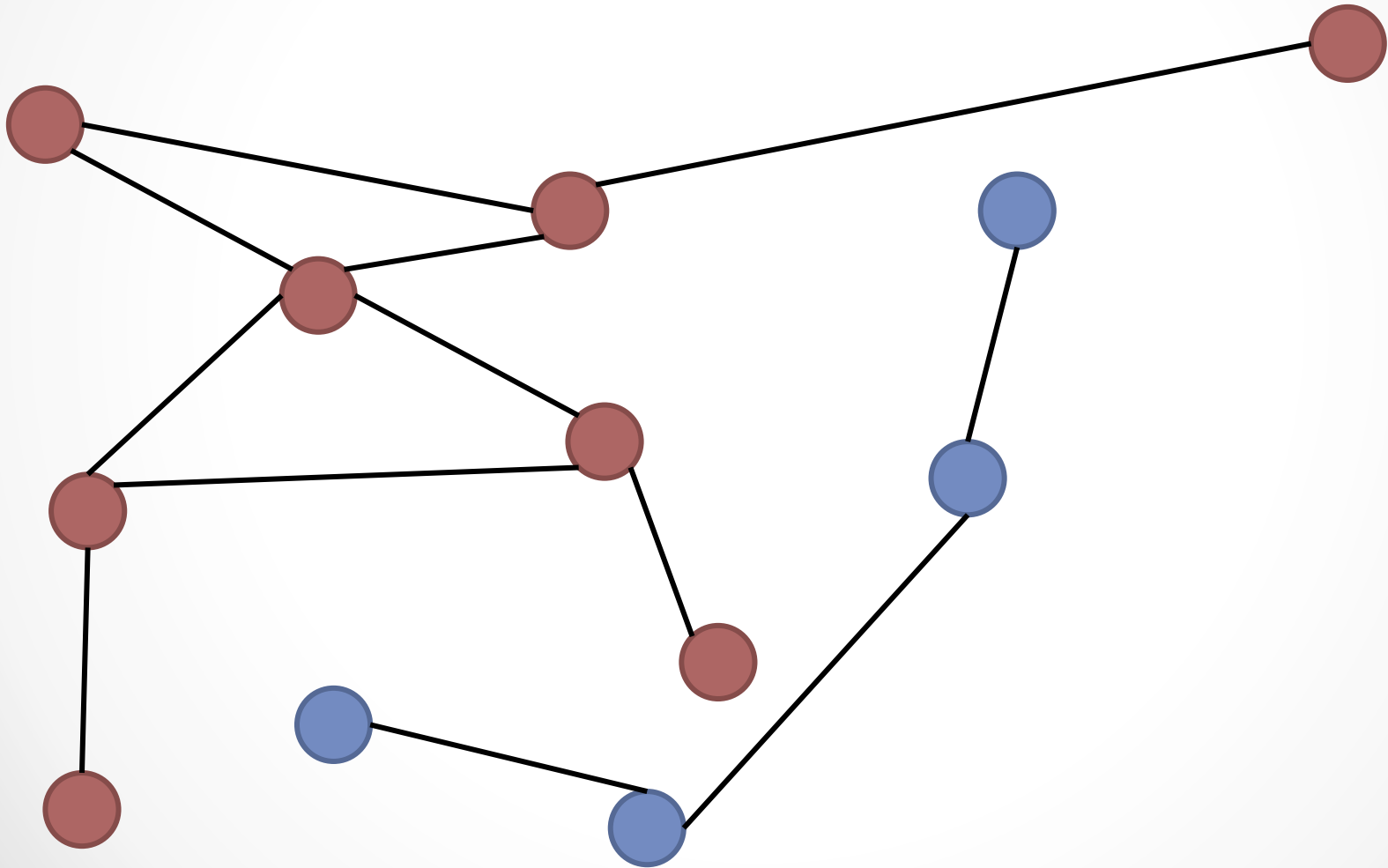
“Sorry, we can’t be friends anymore.”



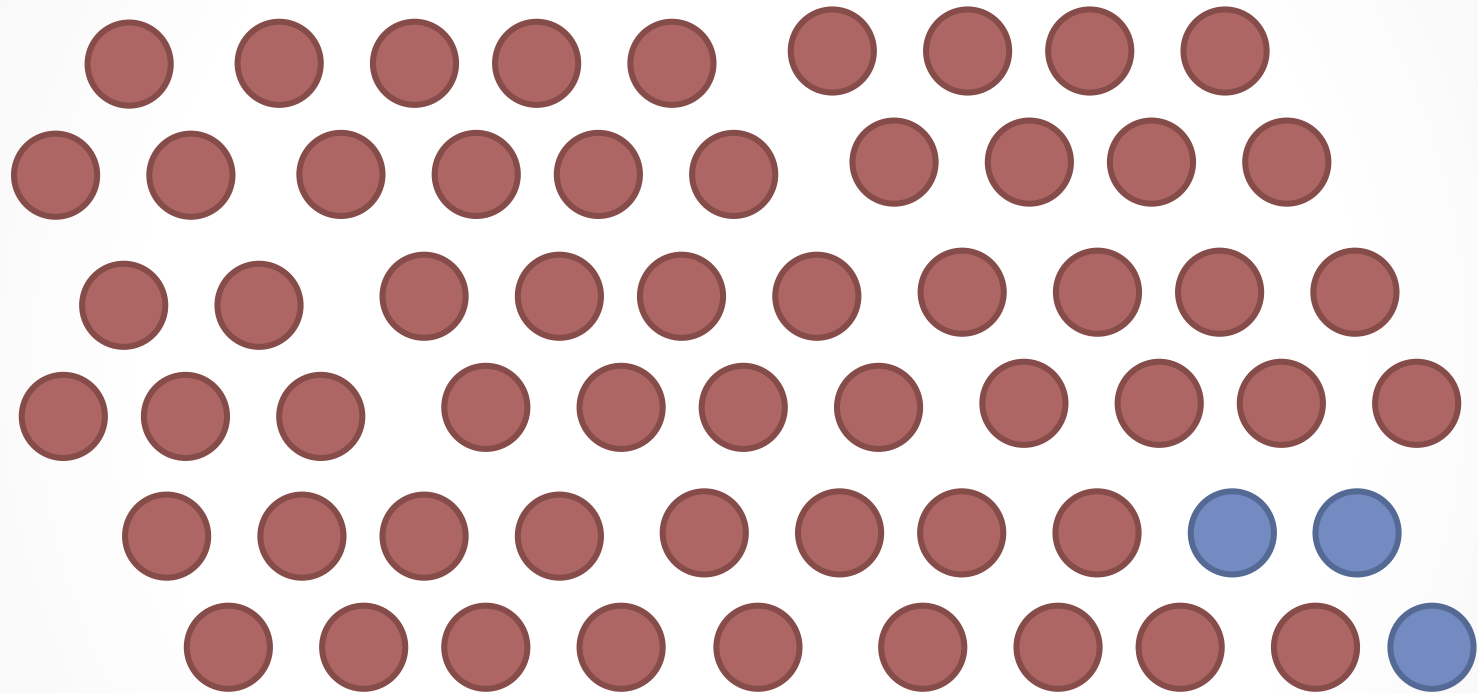
“DAOFork?”

“ ... ”

“Sorry, we can’t be friends anymore.”

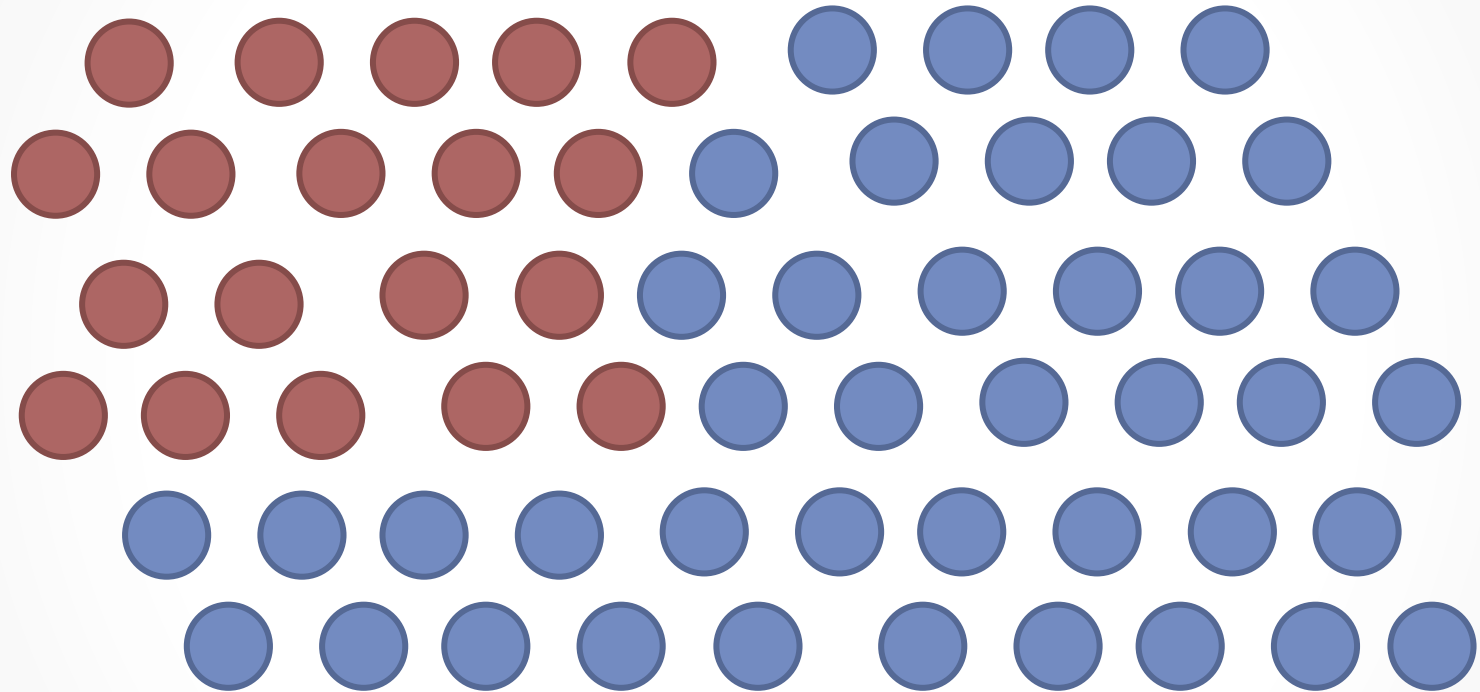


Possible Outcomes



- One chain gives up, dies

Possible Outcomes



- Stalemate

Cross-Chain Attacks

- Transactions from one chain can be replayed on the other
 - Send redETH from addrA to addrB
 - Replay on blue chain, get blueETH
- Replay interactions with pre-fork contracts
- SPAM

geth 1.4.10

- Hard-fork implementation released yesterday
- Fork trigger in 3 days

What is Consensus?

- Software consensus
 - I have to follow the rules even if I don't like them
 - Usually enforced by economic means
- Social consensus
 - The only rule is that everyone else agrees with what I am doing

Software Consensus

“The purpose of a consensus algorithm is to allow for the secure updating of a state according to some specific state transition rules.”

– Vitalik Buterin

Types of Hard Fork

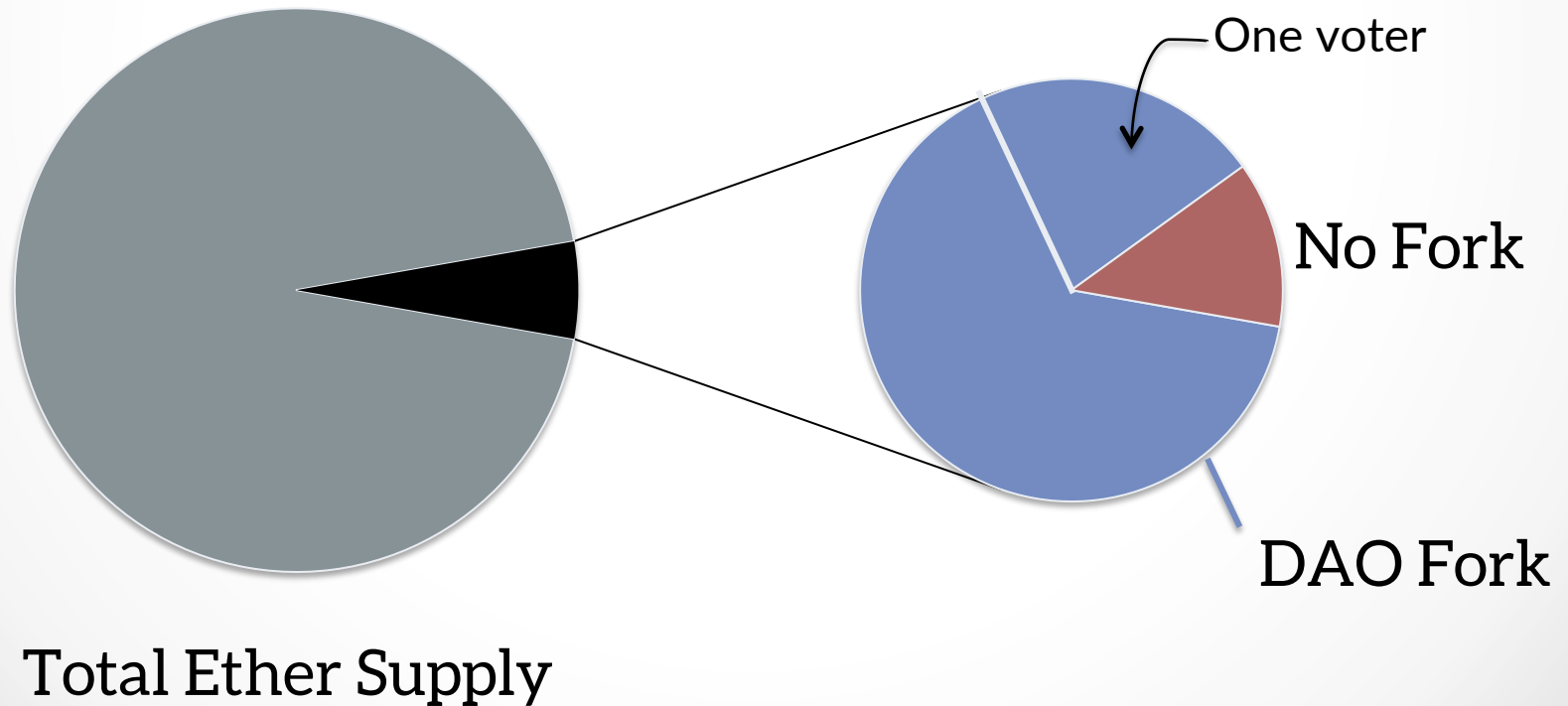
- “Let’s collectively agree to change the rules that allow for securely updating future states.”
 - Software Update
- “Let’s collectively agree to break the rules, just this once.”
 - 51% Attack

Social Consensus

If 99% of participants collectively agree to change the state of the system, shouldn't that be allowed?

aka: "Politics"

“Ethereum Reaches Unanimous Agreement to Hardfork” - *Idiot Asshat*



Knight Capital

- August 2012
- 17.3% market share on NYSE
- 16.9% on NASDAQ



“Software Malfunction”

- Bug exploited
- Lost \$460M in 30 minutes.



Knight CEO: "Our software malfunctioned and we lost \$460M. Can we have our trades reversed?"

NYSE: "Sorry, that's illegal."

NASDAQ: "Go fork yourself."

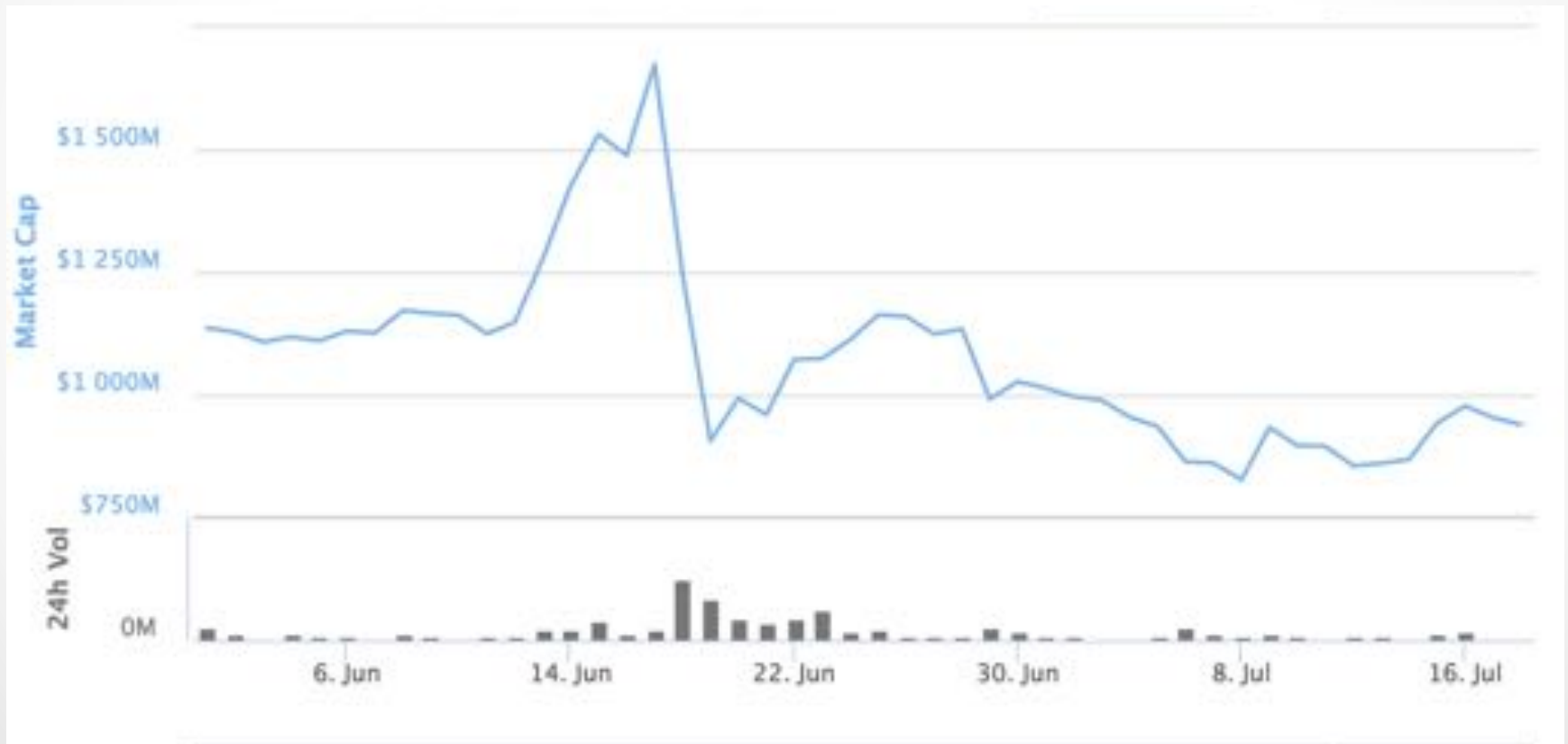


Knight CEO: “Innocent people lost money, please help us reverse these trades ☹️”

SEC: “That’s why we have laws about risk management. Here's a \$12M fine for causing a flash crash, assholes.”



Innocent People Lost Money



ETH Market Cap (USD)