# COSMOS

Internet of Blockchains

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## “Impossibility of Distributed Consensus with One Faulty Process”

- Fischer, Lynch, Paterson (1985) (FLP)

## “Consensus in the Presence of Partial Synchrony”

- Dwork, Lynch, Stockmeyer (1988) (DLS)

## “Practical Byzantine Fault Tolerance (PBFT)”

- Castro, Liskov (1999)

## “Bitcoin: A Peer-to-Peer Electronic Cash System”

- Satoshi Nakamoto (2008)

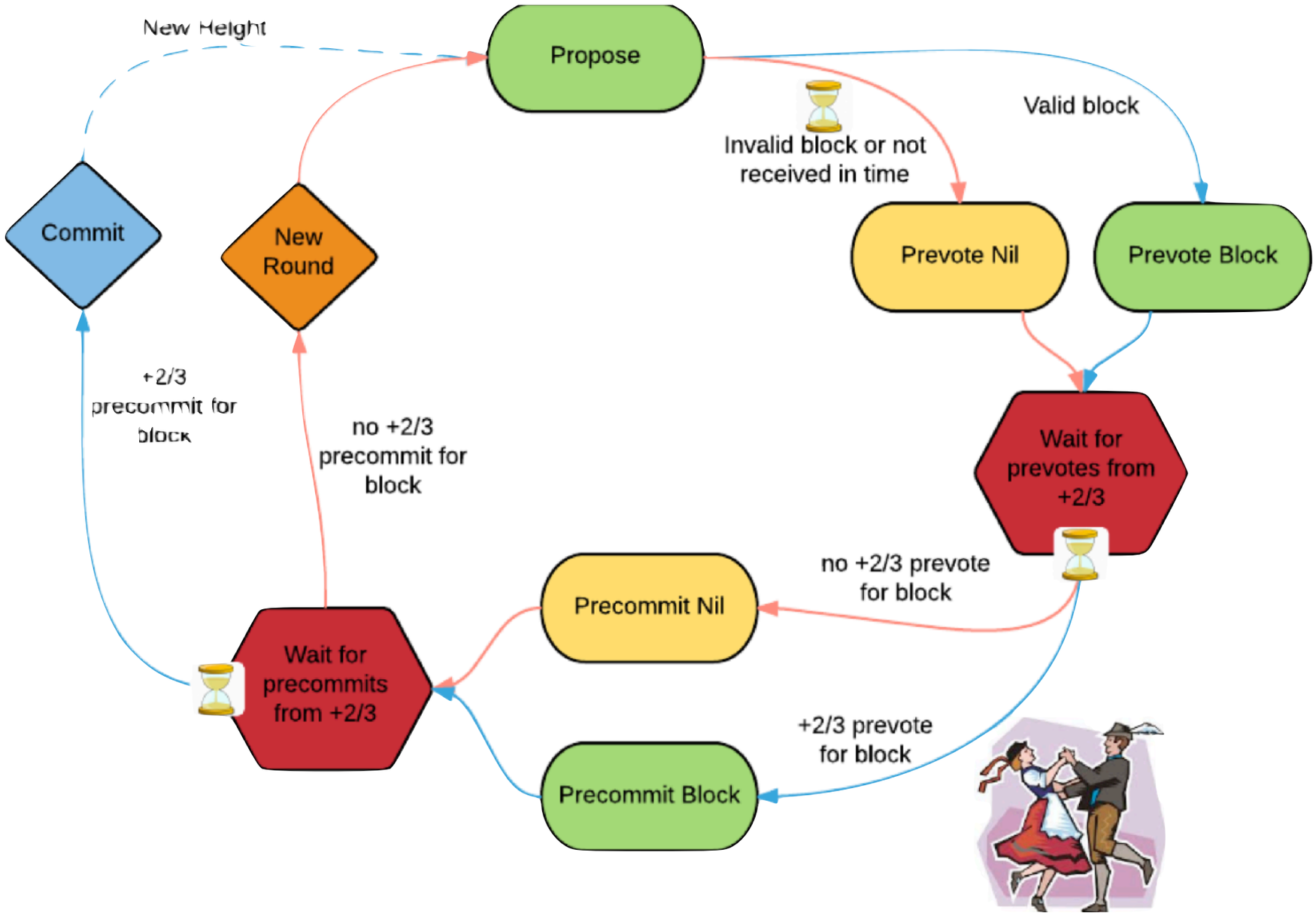
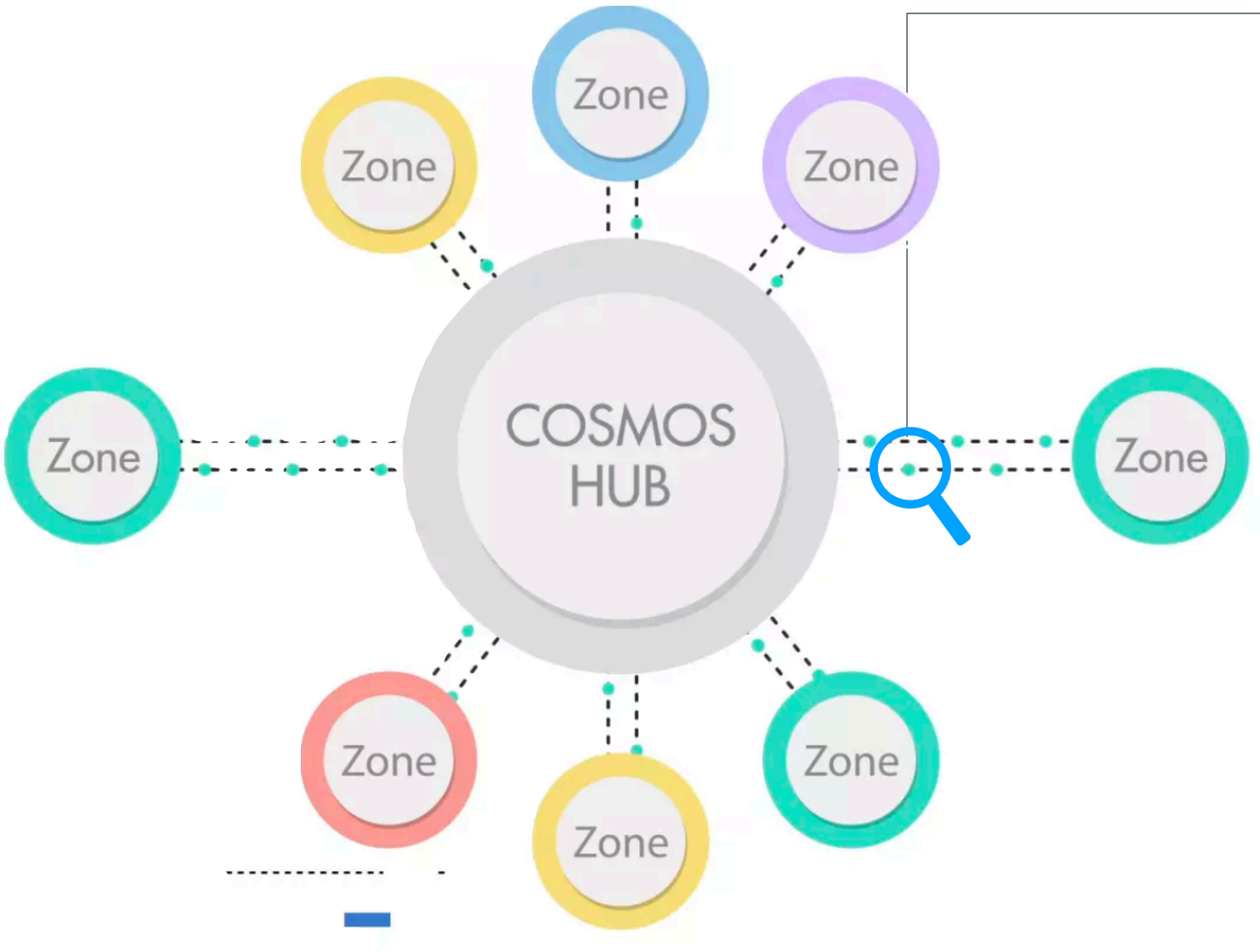



Illustration: A voting round depicting a circuit of partially synchronous proposals, followed by asynchronous voting. After the proposal step, validators only make progress after hearing from ⅔ or more of the other validators. The dotted arrow extends the consensus into atomic broadcast by moving to the next height.

## Tendermint BFT “Blockchain Engine”

- **Fast finality** - e.g. 100 validators, 3 second block times
- **High throughput** - the app logic is the bottleneck
- **Fault tolerance** - up to ⅓ of malicious actors
- **Fork-accountability** - can punish ⅓ of malicious actors
- **Open-source** - Apache2.0 (http://github.com/tendermint)
- **General-purpose** - network socket interface (ABCI)




INTER BLOCKCHAIN PACKET

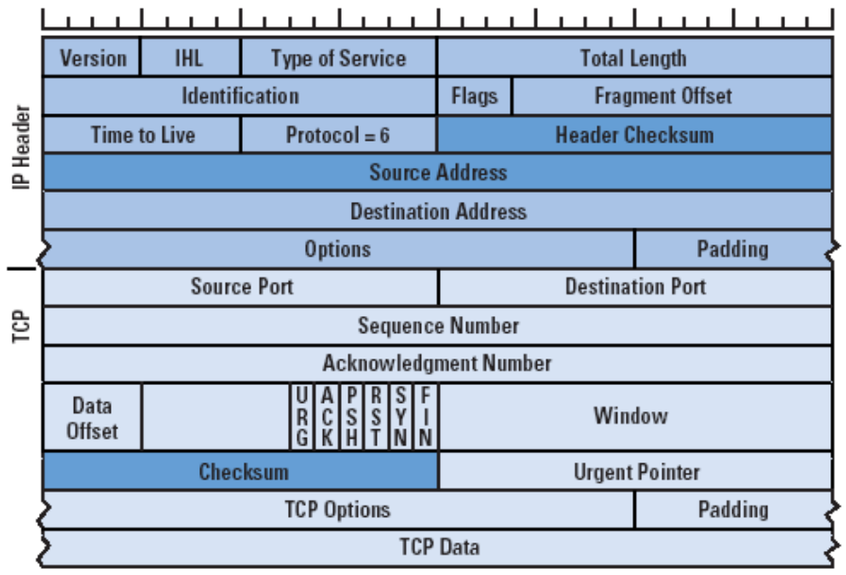
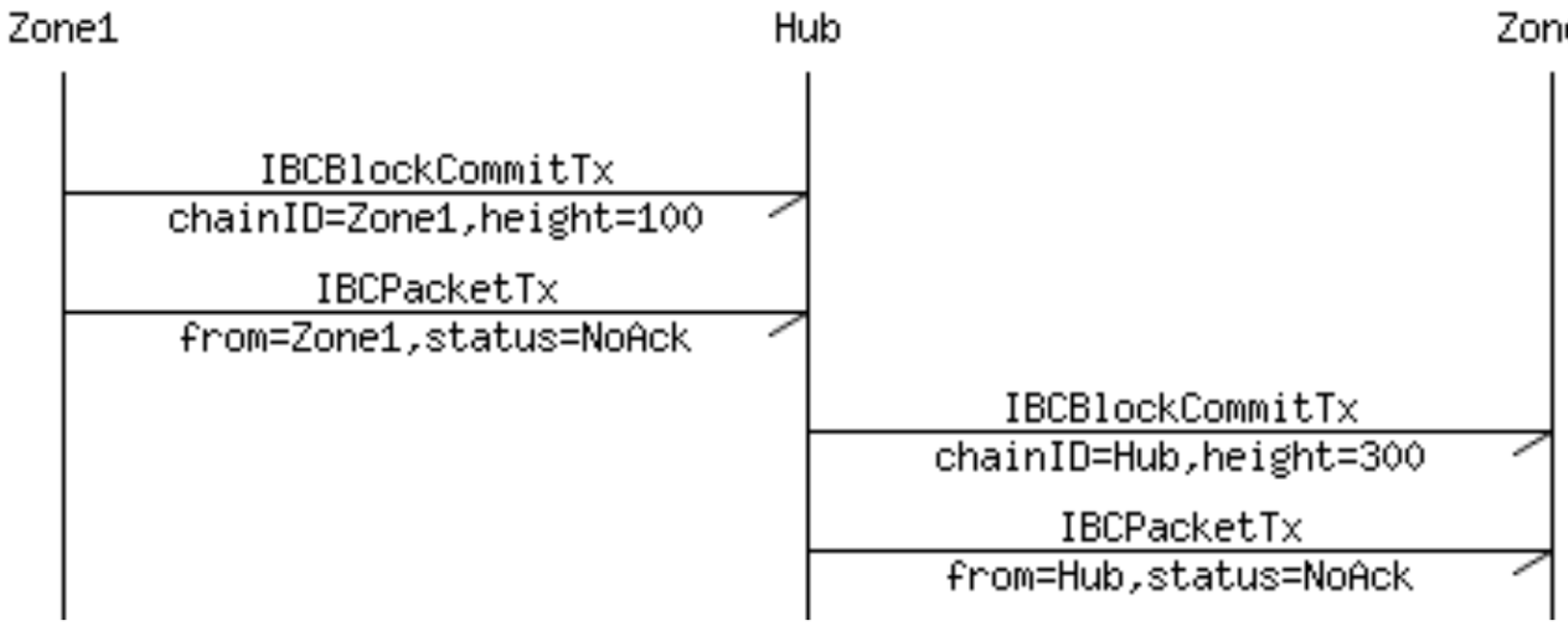



Illustration: Cosmos hub & spoke architecture, where each zone can represent a different independent blockchain, or several of the same blockchains replicated for horizontal scalability

# Inter-blockchain Communication




SEE: INTERBLOCKCHAIN (IBC) PROTOCOL SPECIFICATION, JAE KWON

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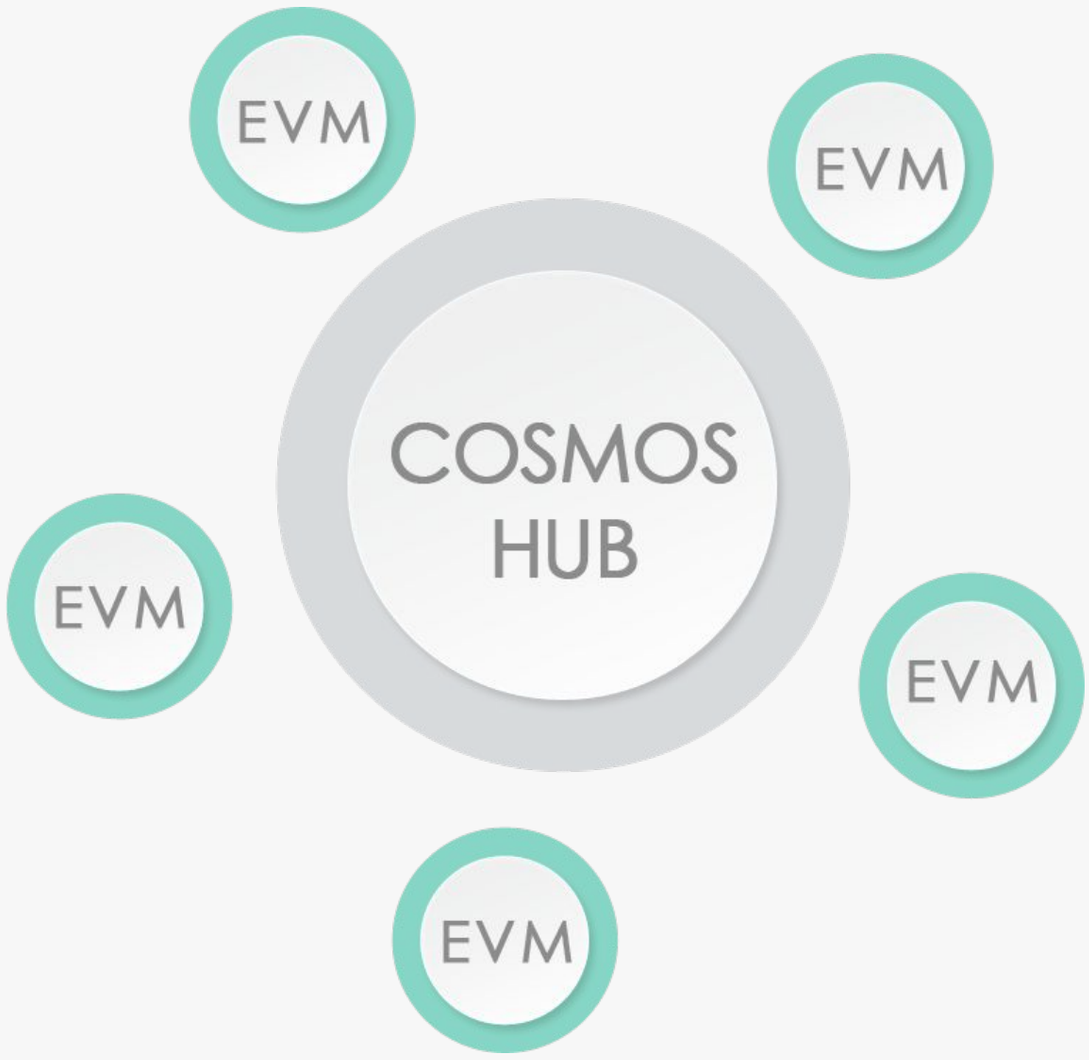

COSMOS

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## Cosmos Dex (distributed exchange):

- Distributed custody
- Centralized order matching

→ Best of both worlds


# Internet of Blockchains

## Fundraiser ~~coming soon~~ was a massive success

http://cosmos.network

http://tendermint.com

**(& we're hiring)**