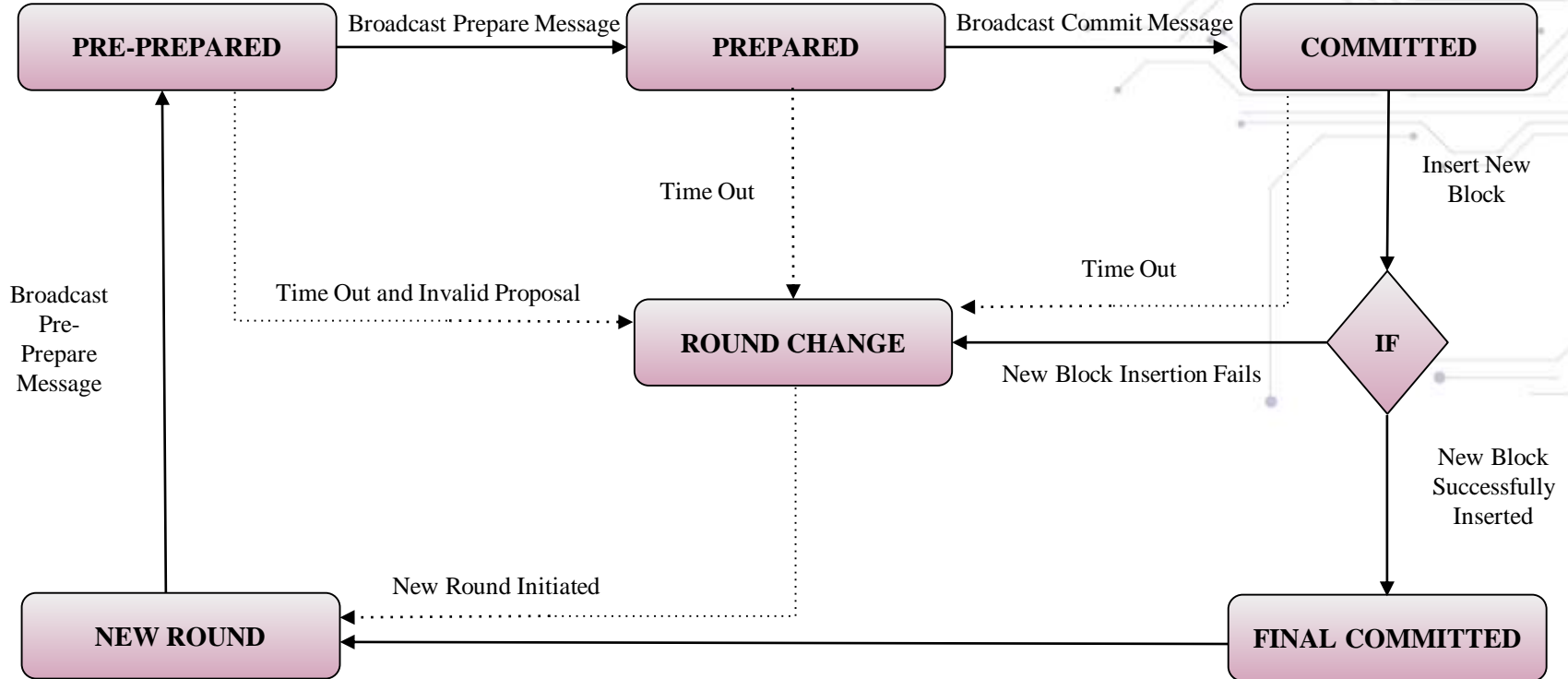# Istanbul-BFT Consensus

Istanbul BFT Consensus

- Istanbul BFT is a PBFT-inspired consensus algorithm that provides transaction finality.

- Maintains the order of the transaction.

- It uses similar validator voting mechanism as Clique POA mechanism.

- Uses a 3-phase consensus mechanism:

  - **PRE-PREPARE:** A new block proposal message.

  - **PREPARE:** Checks whether all validators are working on the same sequence and round.

  - **COMMIT:** Proposed block is accepted and is going to be inserted to the blockchain.

Istanbul BFT Consensus States

- **NEW ROUND**: Proposer sends a new block proposal.

- **PRE-PREPARED**: Validator receives the PRE-PREPARE message and broadcasts PREPARE message.

- **PREPARED**: Validator receives PREPARE messages and broadcasts COMMIT messages.

- **COMMITTED**: Validator receives COMMIT messages and inserts the proposed block into the blockchain.

- **FINAL COMMITTED**: The block is successfully inserted into the blockchain and the validator is free for the next round.

- **ROUND CHANGE**: Validator is waiting for ROUND CHANGE messages.

Istanbul BFT Consensus States

THANK YOU!

Any questions?
You can mail us at
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