Interoperability in the Ethereum Ecosystem

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Interoperability in Ethereum

The following key areas will be the topics for discussion.

1. **MainNet**

2. **Enterprise Ethereum**

3. **Enterprise Ethereum Alliance (EEA)**

4. **Cross Chain**

MainNet

Why MainNet?

- Trust from the large pool of validators
- True, strong decentralization
- Exceedingly strong tamper resistance
- More cost-effective over time

Scale

- current public:
  - ~15 TPS
- current private
  - 100s TPS
- Other techniques give >1k

eth2 scale

- 10k → millions
- How
    - Sharding
    - Rollups and layer 2 scaling techniques

MainNet ERC-20

ERC-20

- Standard way of representing token
- enables ecosystem of tools
- people build and deploy tokens easily
- interop between tokens
- Other standards
    - ERC-721 Non-fungible token standard
    - ERC-777 iteration on top of ERC-20
    - ERC-1155 Multi Token Standard
- Enables DeFi

MainNet DeFi

What is DeFi and why does it matter?

- Decentralized finance
- financial institutions running on blockchains with codified rules
- options of getting governance tokens.
- Most running on Ethereum
- early technology driving the future
- making ethereum mainnet more mainstream

MainNet Baseline

Baseline

- Helping organisations provide a common frame of reference across systems
- Keep data in current enterprise systems or consortium chains
- "baseline" state machine based information to the ethereum mainnet

Enterprise Ethereum

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Two forms of Enterprise Ethereum

Two forms of Enterprise Ethereum

- MainNet
- Private/Consortiums

Private/Consortiums

- non-POA for Consensus
- Permissioned access to the network
- privacy features

Enterprise Ethereum Alliance (EEA)

Enterprise Ethereum Alliance

- use cases and working groups
- client specification
  - helps enterprise ethereum client interop
  - also private/consortium interop
- cross chain

Cross Chain

What interop today?

- ethereum to ethereum
- ethereum to other chain

Cross Chain

- atomic cross chain
- Bridges across Ethereum Networks
  - Leveraging ERC standards
- Cross Chain Frameworks
  - Clearmatics Ion framework
- Projects like Hyperledger Cactus

Ethereum based interop