Web3的存储及基于存储的计算

xiaojay@gmail.com

Web3

- Web 1: Read / 只读

Web3

- Web 1: Read / 只读
- Web 2: Read-Write / 能读能写

Web3

- Web 1: Read / 只读
- Web 2: Read-Write / 能读能写
- Web 3: Read-Write-Own / 能读能写能拥有

Web3 - What to own?

- Data / 数据
- Asset / 资产

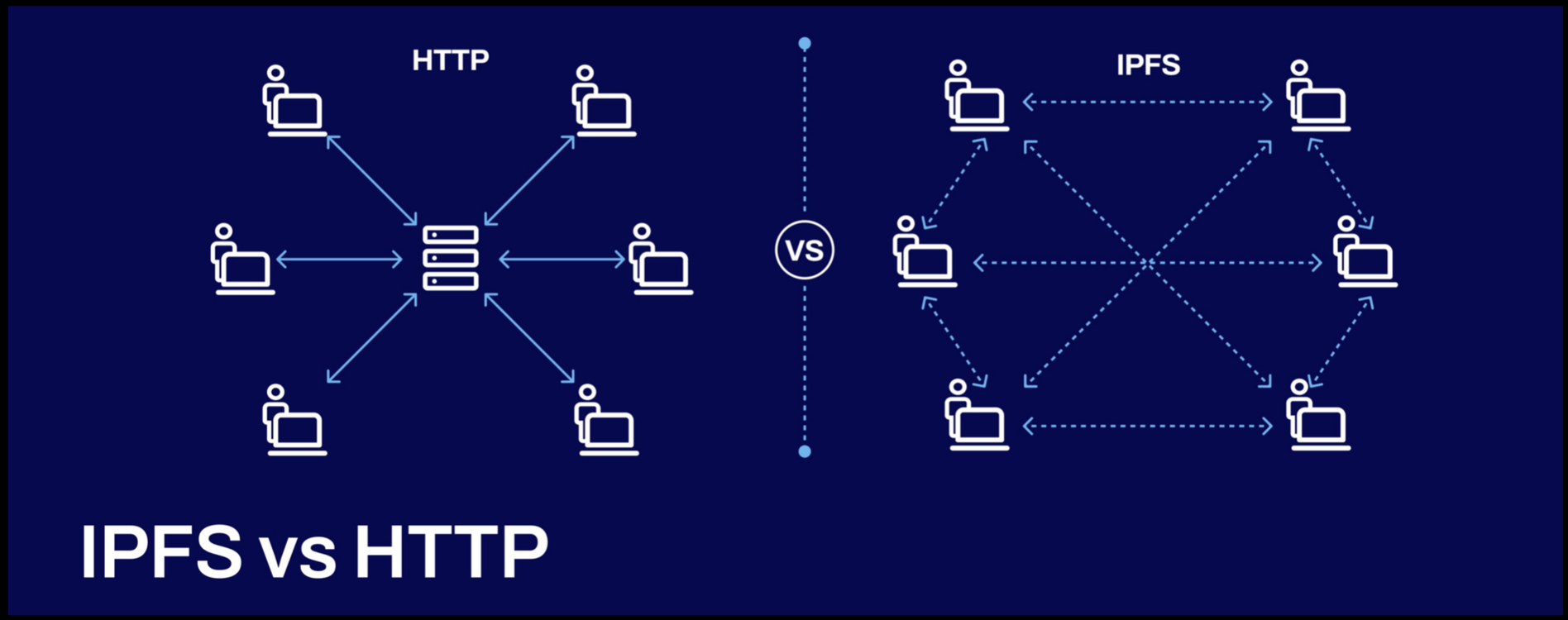
Web3 - How to own?

- DID / 去中心化身份标识：公私钥体系
- BlockChain / 区块链：无法篡改的数据库 / 账本

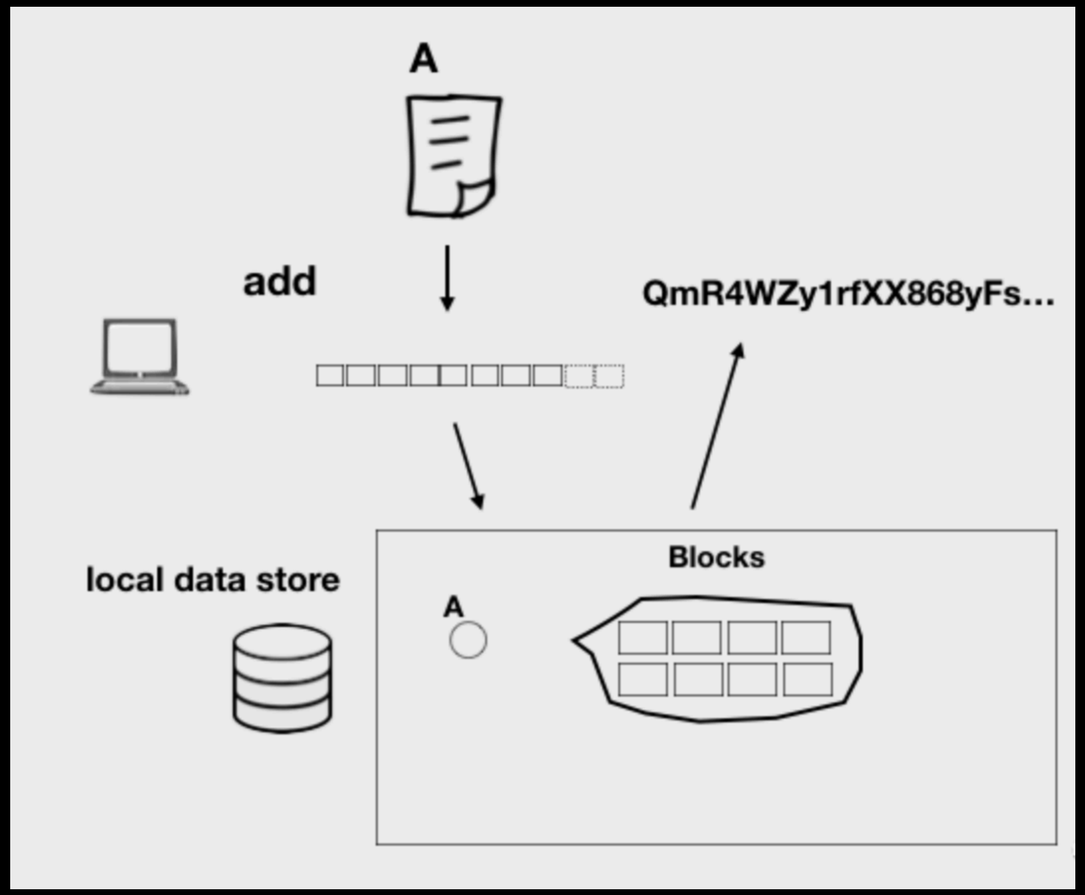
Web3 的存储

- Decentralized / 去中心化
- Permissionless / 无许可
- Trustless / 无需信任

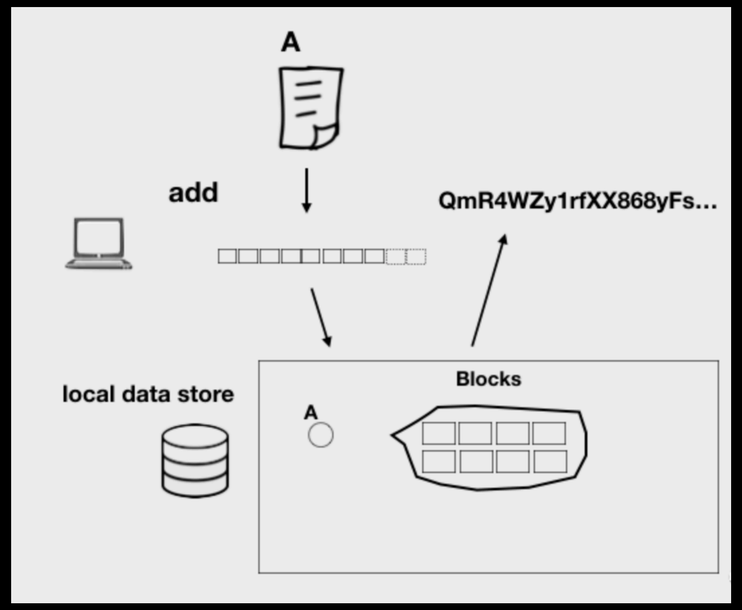
IPFS

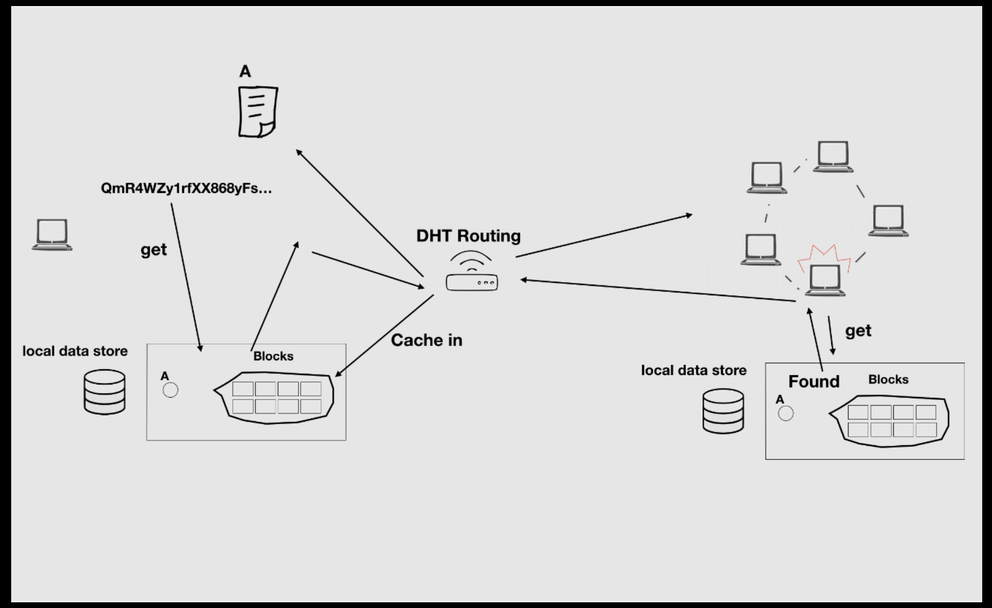


IPFS



IPFS


A
add
QmR4WZy1rfXX868yFs...
local data store
Blocks
A

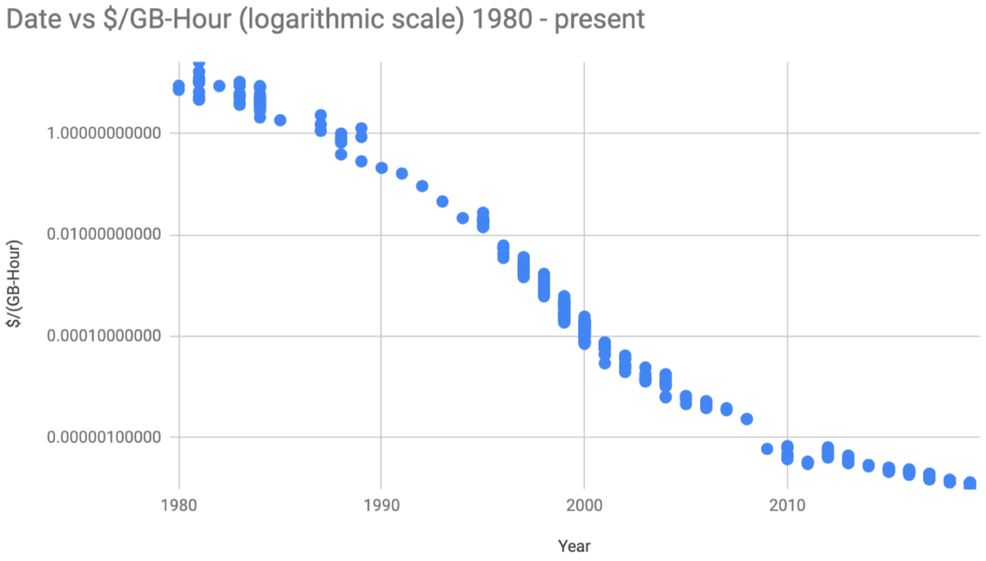

A
QmR4WZy1rfXX868yFs...
get
DHT Routing
Cache in
local data store
Blocks
A
get
local data store
Found
Blocks
A

IPFS 的问题

- 节点的经济激励
- 全局 时间线 / 共识

Arweave - 永存 blockchain

存储的成本逐年下降

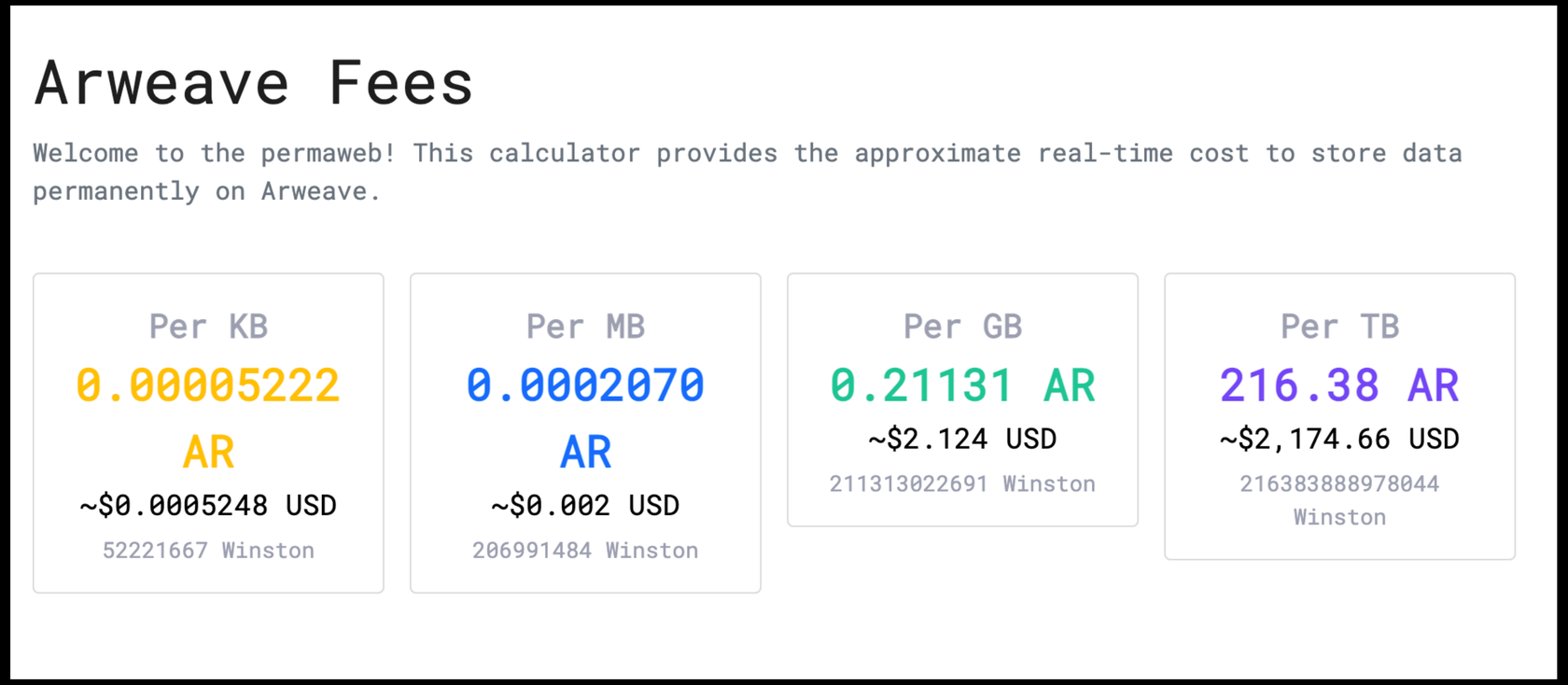


$$Pstore = \sum_{i=0}^{\infty}(Data_{size} * P_{GBH}[i])$$

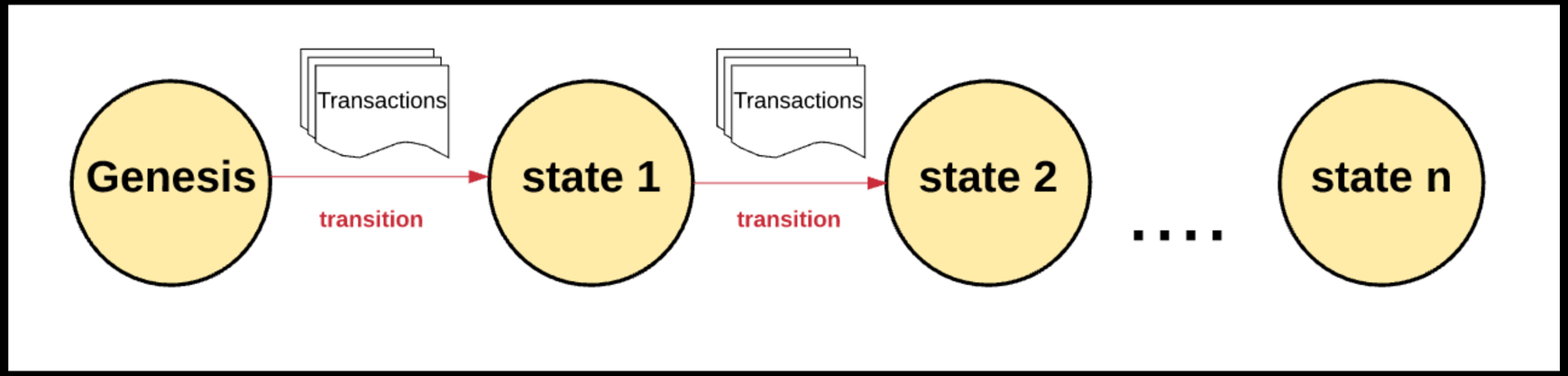
Arweave - 永存 blockchain

- 存储的成本逐年下降
- Proof of Access (PoA) -> SPoRA -> HDD ?
  - 同等算力下，Miner 出块的概率 与 保存的区块量 成正比

Arweave - fee

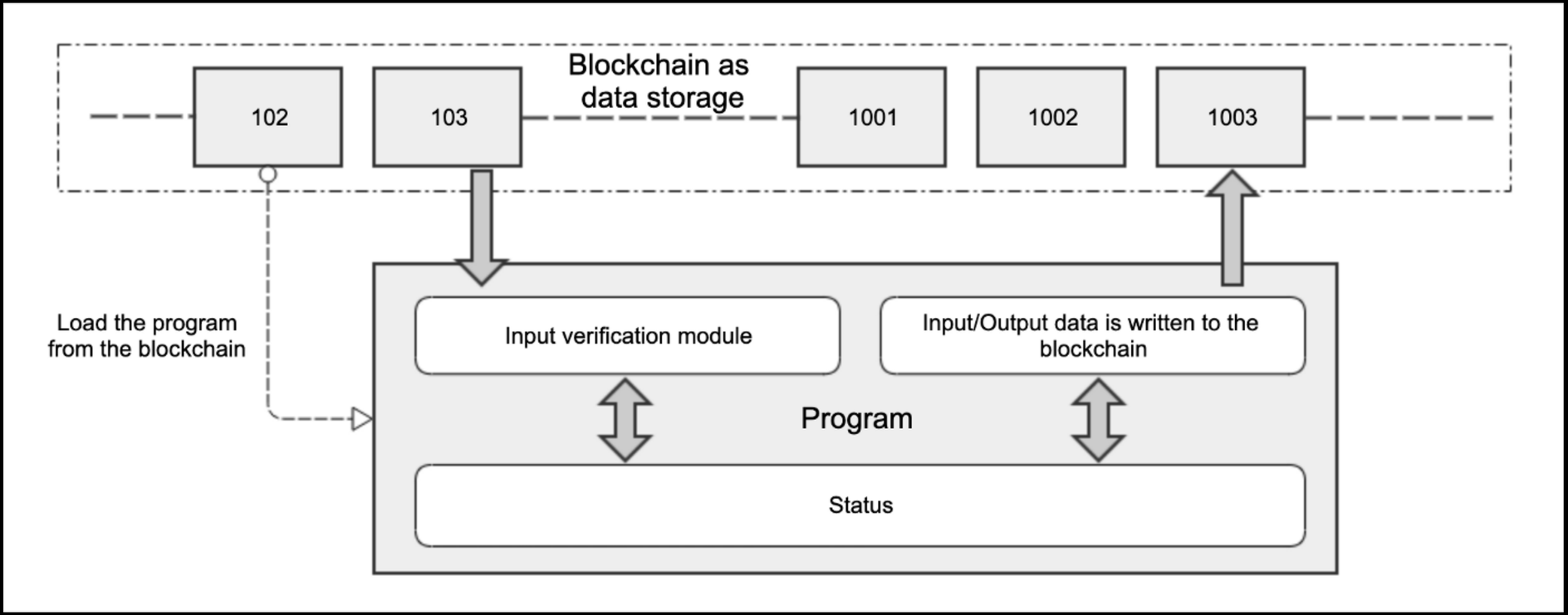

Arweave Fees
Welcome to the permaweb! This calculator provides the approximate real-time cost to store data permanently on Arweave.
Per KB
0.00005222 AR
~$0.0005248 USD
52221667 Winston
Per MB
0.0002070 AR
~$0.002 USD
206991484 Winston
Per GB
0.21131 AR
~$2.124 USD
211313022691 Winston
Per TB
216.38 AR
~$2,174.66 USD
216383888978044 Winston

Smartweave - 基于存储的计算



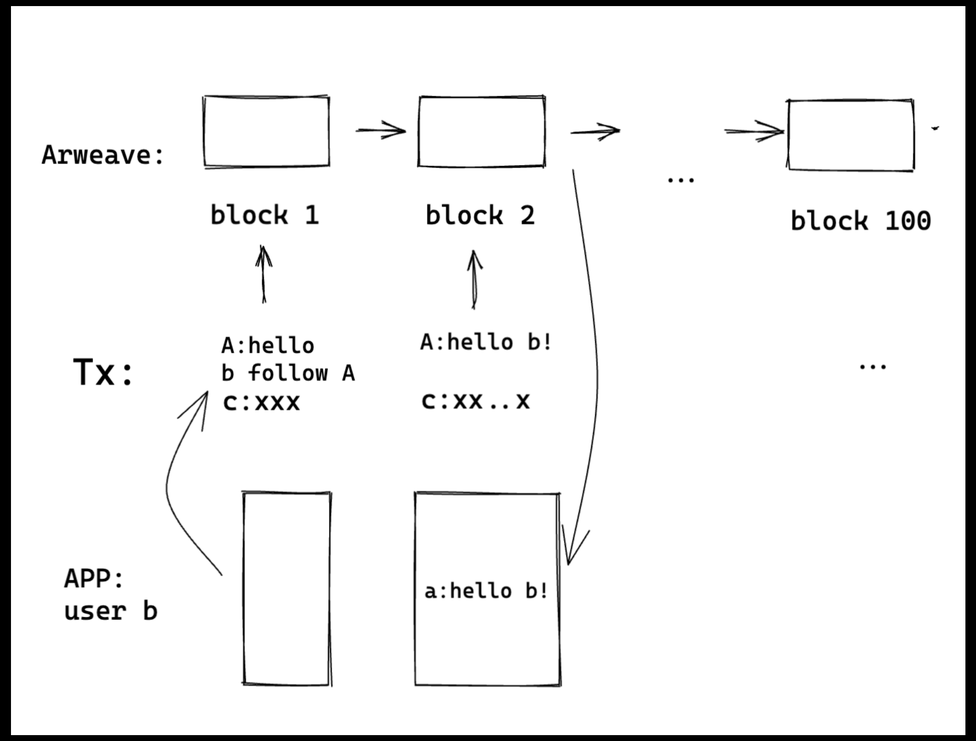
- ETH/BTC 链上计算 vs Smartweave 链下计算

SCP - Storage-based Consensus Paradigm



Web3 Twitter

- Publish / 发表
- Follow / 关注



everPay

everPay 是如何运行的?

everPay 协议通过 DAO 进行运作，完全透明和 100% 可验证。DAO 的数据共享和计算都采用了存储计算范式。DAO 中共有三类成员角色，分别是：协调者，检查者和守望者。

协调者

负责交易验证和上链

检测者

自动下载和校验链上数据，生成全局状态和余额

守望者

多签治理成员，生成提案和签署提案，提案只有获得了大多数（>51%）守望者的签署后才能执行