

EthOnline 2020

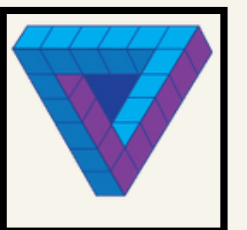
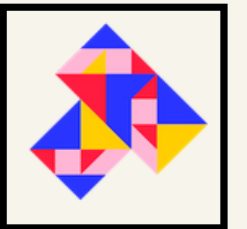
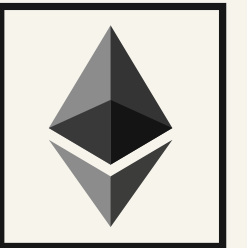
PowerLoom

Audit Protocol

A VERIFIABLE AUDIT VOUCHING SOLUTION POWERED BY ETHEREUM AND FILECOIN

HACKED TOGETHER BY

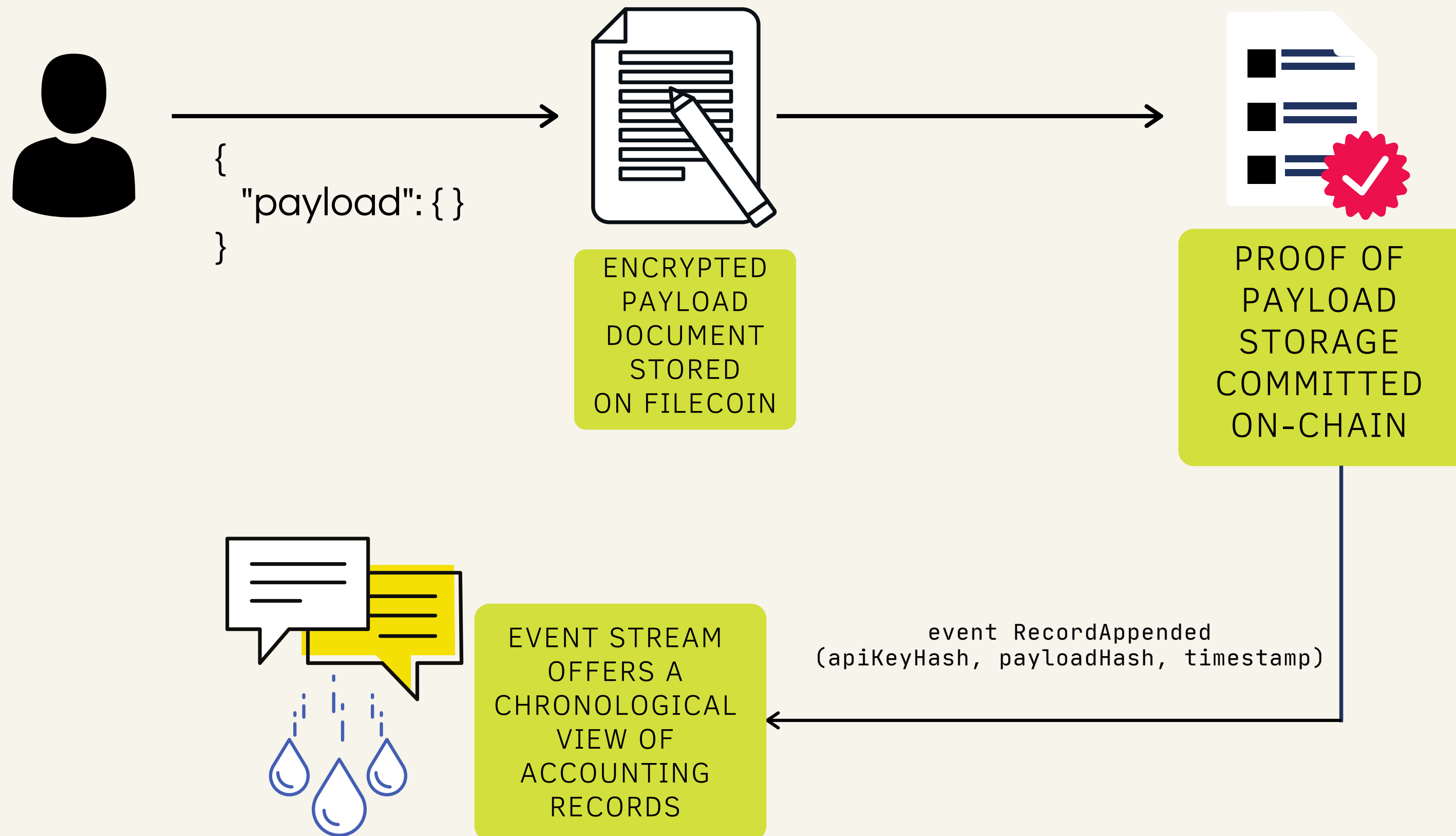
SWAROOP HEGDE
ANOMIT GHOSH



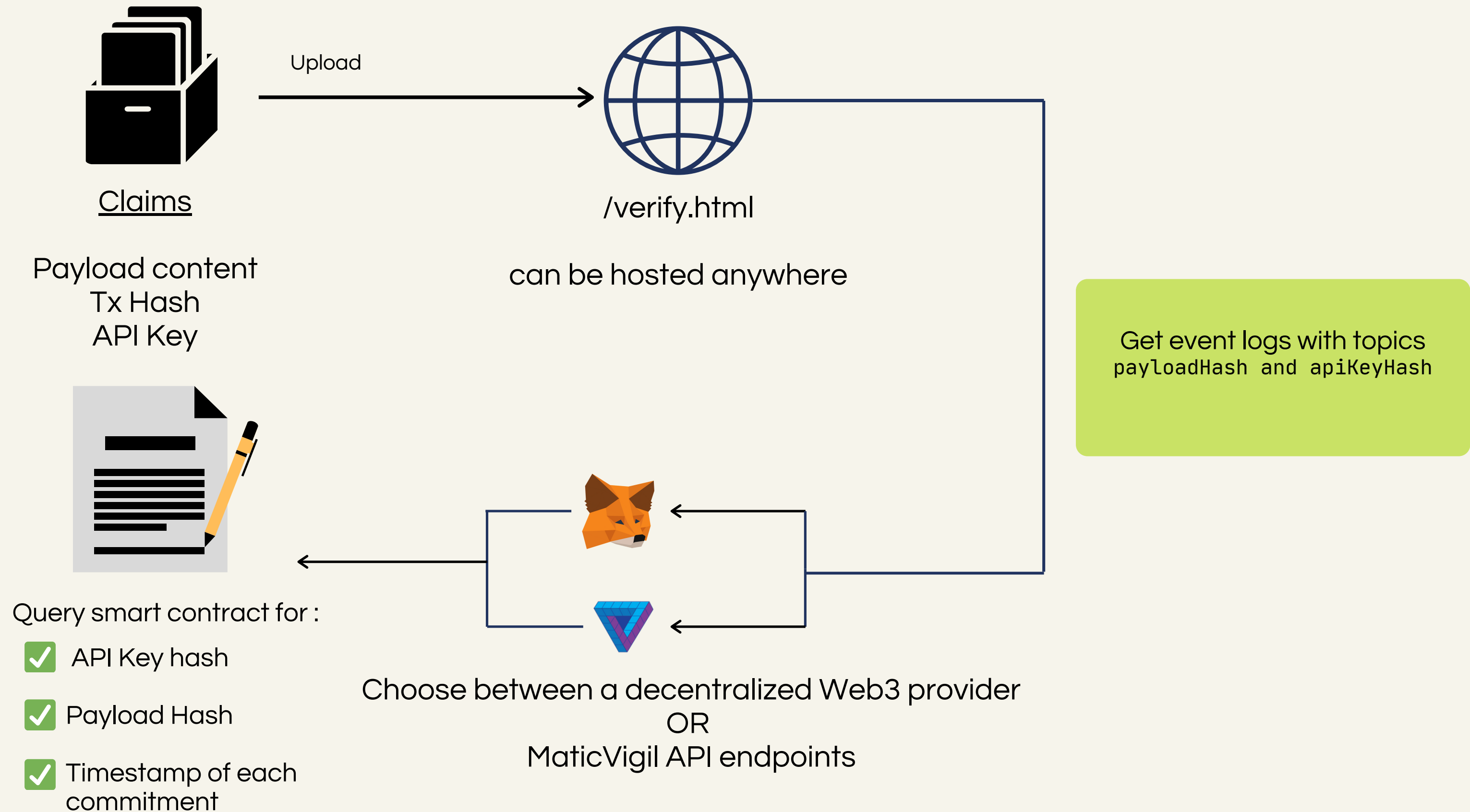
Under the hood

- Python backend
 - FastAPI server
 - Watcher Microservices
- HTML5 frontend
- BlockVigil API gateway on Matic Mainnet (Layer2 Chain)
 - Tie together the payload accounting and audit lifecycle with transactions, reads and event integrations
 - Storage commitment proofs persisted on Ethereum mainnet via Checkpoint Proofs committed by Matic
- Textile Powergate for managing multi-tiered storage and retrieval of payloads on Filecoin+IPFS

Accounting workflow



Vouching workflow



Future improvements

- Python backend
 - Replace blocking, synchronous code with async equivalents
 - Queue tiny payloads that won't be accepted until payload size matches minimum bound for piece size
 - Support verification of large chunk of payloads at once
- Finer control on IPFS pinning in conjunction with Textile Powergate to beef up 'hot storage' layer
- Expose Content Identifiers from underlying storage that can be verified independently as well on Filecoin/IPFS