One Tax API

IETF 114

23-24 July 2022

Philadelphia, Pennsylvania

Hackathon Plan

- What drafts/RFC's were involved?
  - Hare issues
    - HKDF RFC 5869
    - AES-GCM RFC 8452?
    - EdDSA RFC 7748 and RFC 8032
- Specific Problems
  - Implement encryption protocols in Hare

What got done

- Ideas:
  - Implement Ristretto in Hare, currently in last call
  - Implement AES-GCM-SIV, RFC-8452 in Hare
- New code:
  - Start adding Ed25519 conformance tests to Hare

What we learned

- Implemented in Hare
  - HKDF
  - Ed25519
  - Curve 25519
- Several AES-GCM ciphers
  - AES-GCM implemented
  - AES-GCM-SIV not yet implemented in Hare, example implementations
    - Rust
    - C
  - Soatak summarizes that AES-GCM is faster than AES-GCM-SIV but less secure
- Issues with existing drafts/RFCs
  - Chalkias, Garillot and Nikolaenko suggest improvements to RFC 8032 to enable use in contract sigining, electronic voting and transactions
  - Henry De Valence suggests standardizing signature validity rules for Ed25519
  - Chalkias, Garillo and Nikolaenko's test vectors should be added to those specified in RFC 8032

Wrap up

Team members:

- Benson Muite

First timers @ IETF/Hackathon:

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Other links:

- noble-ed25519

Notes and contacts:

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