SATP
Problem Space & Goal

IETF115 – SATP BOF

10 November, 2022

Thomas Hardjono (MIT), Martin Hargreaves (Quant) and Venkatraman Ramakrishna (IBM)

Digital Asset Networks on the Internet

- Growing number digital asset networks
  - Operates on TCP/IP Internet (e.g. propagation)
  - Relies on many IETF standards
- Introduces new security & privacy challenges
- Requiring new public standards

SATP Problem Statement

- Poor interoperability of digital asset networks
  - Difficult to securely move assets across networks

- Poor scalability:
  - Bilateral agreements
  - Proprietary transfer protocols

- Lack of standards on security for asset transfers
  - Increases risks and inhibits industry growth

SATP Goal

- An interoperability protocol that permits the secure movement of a unique *value-bearing data-object* ("asset") from one network to another,

- while guaranteeing that the data-object is *valid* in one network only at any one time, and that

- the transfer is *verifiable* by an independent authorized 3rd party

Proposed Scope of Work
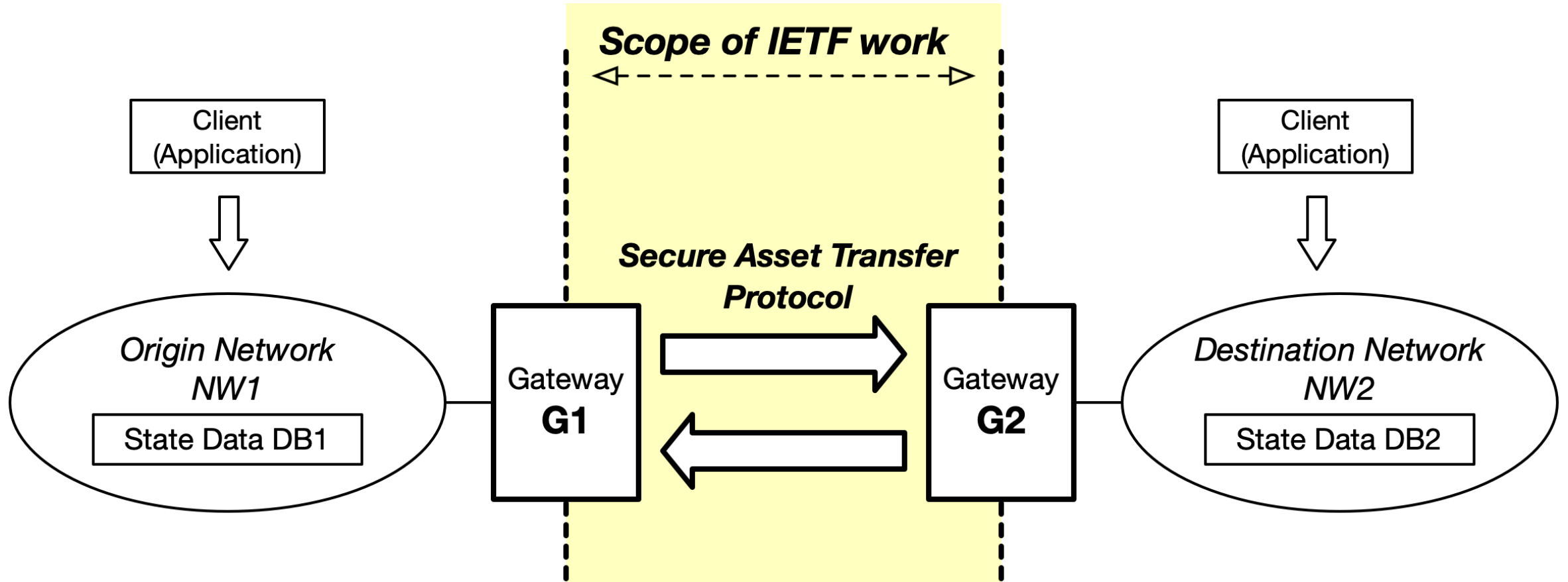
Assumptions

- Both networks share common semantics about the data-object and the notion of validity

- One or both networks are opaque

- "Gateways" implementing the transfer protocol are trusted

- Information subsets (views) of a data-object maybe shared with authorized external parties

Proposed Approach: Gateway Model

- Interoperability "lessons learned" from the Internet Architecture

- One (or more) gateway in front of each network

- Peer gateways implement a *Secure Asset Transfer Protocol* (SATP)

- Each gateway handles (hides) the interior characteristics of its network

Proposed Starting Point

- Collect Use-Cases:
  - draft-ramakrishna-sat-use-cases-00

- Develop a common Architecture
  - draft-hardjono-sat-architecture-00

- Initial design for asset transfer
  - draft-hargreaves-sat-core-00

- Initial design for sharing asset-related data
  - draft-ramakrishna-sat-data-sharing-00

Thank You & Questions