STIR Certificate delegation

IETF **104**

STIR WG

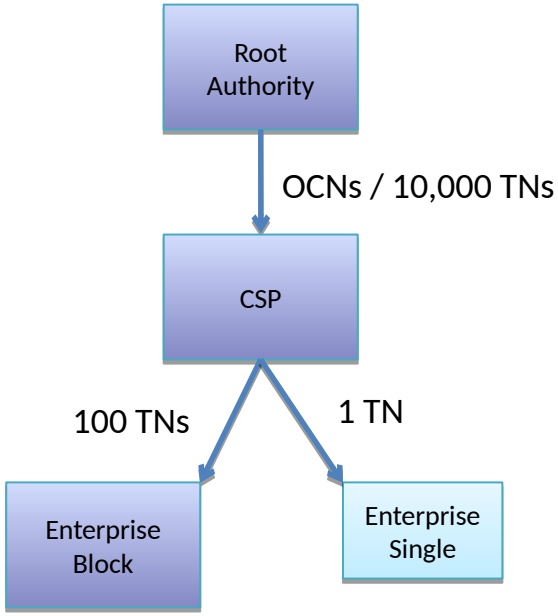
Jon - Praha - Mar 2019

draft-peterson-stir-cert-delegation-00

- New document, sets out to explain:
  - how delegation of RFC8226 certificates works
  - how AS/VS deal with certificate chains
  - interaction with ACME
- It's short, hopefully doesn't need to be much longer
- Supports a number of enterprise use cases
  - Also meaningful for some OTT providers
  - End users? Maybe someday, not current focus

Delegation & Authority

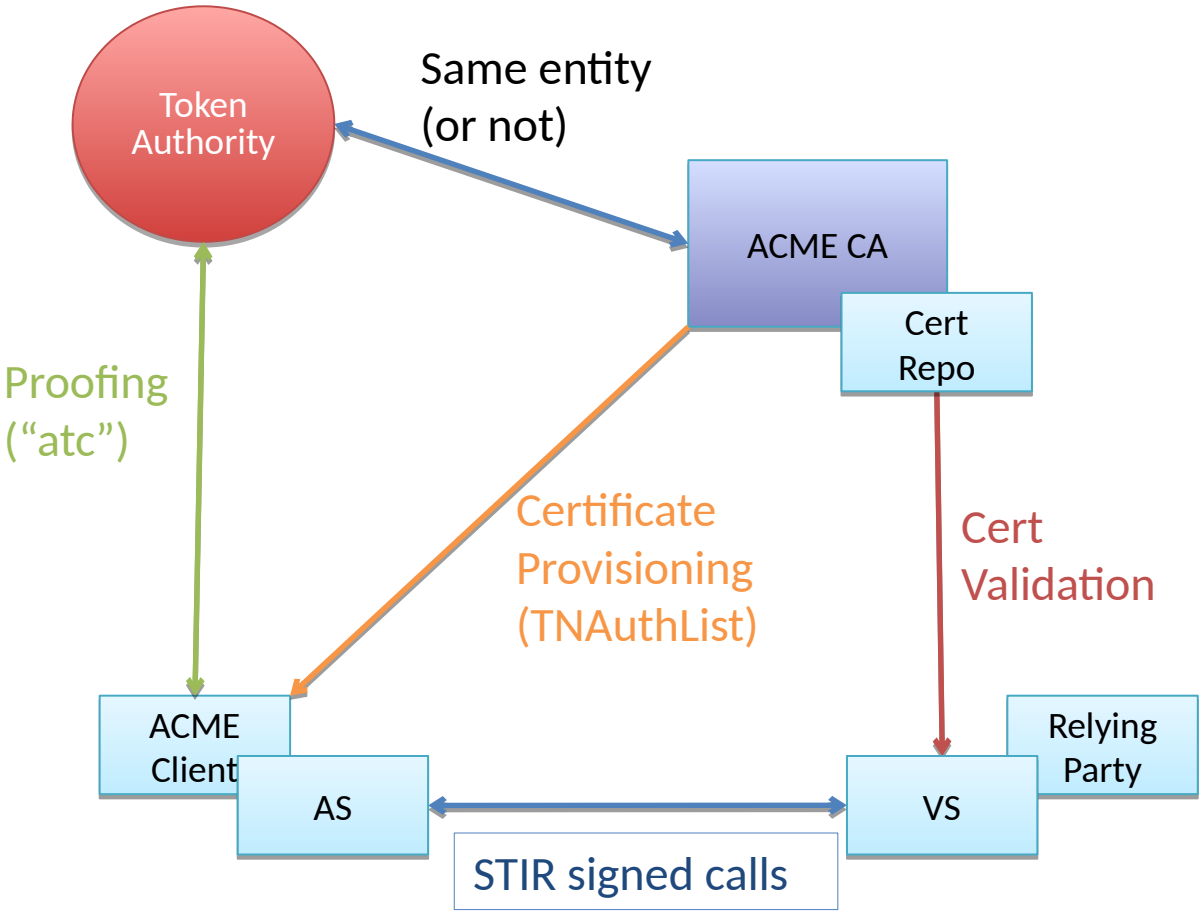
- Delegation built-in to certificates
  - RFC5280 describes path construction and path validation
    - STIR uses SKID/AKID delegation
- A root authority assigns certificates to number assignees
  - Could contain OCNs or TNs/blocks
- Assignees then delegate individual TNs or blocks to enterprises
  - Authentication Service signs with delegate certificate
  - Verification Service does path validation



How does STIR use it?

- Based (loosely) on RPKI semantics
  - Each certificate in a chain must be “encompassed” by its parent
    - No name constraints used: TNAuthList *is* the constraint
    - Verification services do the necessary path validation
  - Also means these are CA certs, not EE
    - Allowing CA certs to sign PASSporTs to reduce chain length
- In the x5u of PASSporT, specify an application/pem-certificate-chain
  - Stolen shamelessly from ACME
- In our ACME ”atc” work, we’ve added hooks for it
  - ACME knows how to give you a CA cert and a cert chain
  - Delegation is not required to use ACME, however

ACME (through a STIR lens)



No different for delegation

Future Work

- Maybe define “partial” delegation cases
  - I want to just delegate part of my authority
    - i.e., this entity can only sign MMS messages for me
- Alignment with ATIS
- Flesh out other tools enterprises want
  - Return to work on connected identity
  - Return to short-lived certs work
    - Both have their own drafts, dusty ones now
  - Certificate conveyance in SIP? Maybe time

Next Steps

- Adoption?
  - Prefer to keep this simple, do ”future work” in separate drafts
- Review, advance, etc.