EAP-FIDO Proof of Concept

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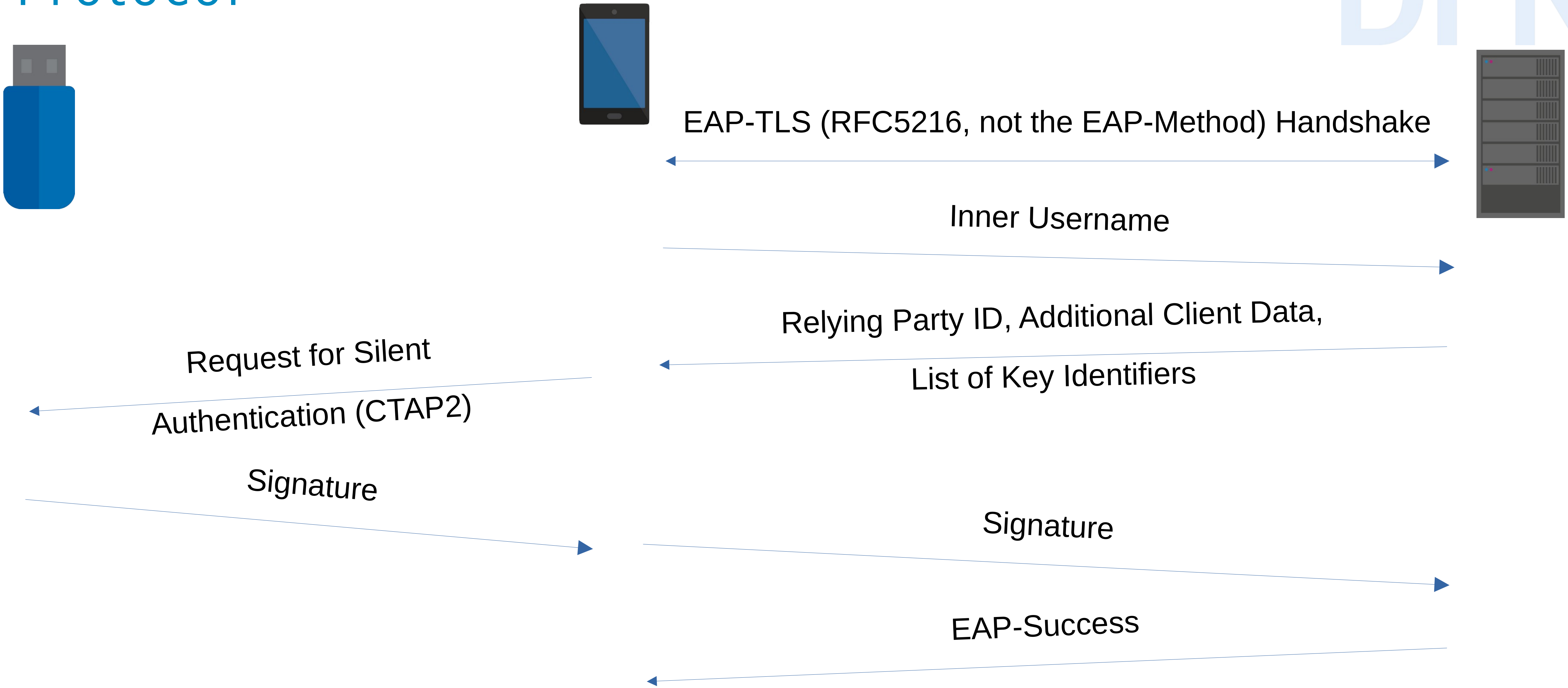
Scope of the Proof-of-Concept

- Registration already done
  - In Practice this could be done by a web portal
    - Login via LDAP/SAML/OIDC/…, then register FIDO-Token
- Implementation wpa_supplicant and hostapd
- Certificate check will check the Relying Party ID against certificate SANs.
  - Not yet implemented
- In the PoC-Code only one token per user is allowed
- No Discoverable Credentials/Residential Keys (Username-less login) yet.

Protocol



EAP-TLS (RFC5216, not the EAP-Method) Handshake

Inner Username

Relying Party ID, Additional Client Data, List of Key Identifiers

Request for Silent Authentication (CTAP2)

Signature

Signature

EAP-Success

Details about Implementation

- https://git.rieckers.it/rieckers/hostap/-/tree/eap_fido
- Relies on
  - Latest master of https://github.com/Yubico/libfido2.git
  - Latest master of https://github.com/Intel/tinycbor.git
- Current EAP-Type 57 (Not allocated, use with caution)
- PoC was created during tnc (Don’t blame me for the code. I’m ashamed of it)

Next steps

- Write specification with message format, …
- Early allocation for EAP-Type codepoint from IANA
  - There is interest from relevant people at IETF, this should not be a problem
- FreeRADIUS implementation will be available soon after the spec is out

  (Thanks to Alan)
- Specification may be published as Informational RFC
  - Independent submission instead of going through EAP Method Update (emu) WG
  - People will (hopefully) still implement it

Discussion/Questions?

- Contact
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