DEPRECATING FFDH

Carrick Bartle, Nimrod Aviram, Filippo Valsorda

THE RACCOON ATTACK

- September 2020
- Timing attack
- · Uses server as oracle to derive premaster secret

VULNERABLE CIPHER SUITES

- Non-ephemeral Finite Field Diffie-Hellman (FFDH)
- Ephemeral FFDH if public key is reused

VULNERABLE CIPHER SUITES

- Non-ephemeral Finite Field Diffie-Hellman (FFDH)
- Ephemeral FFDH if public key is reused

Already not recommended since they don't provide forward secrecy

ECDH

- · Not vulnerable to Raccoon Attack, but:
 - · Vulnerable to side-channel attacks, e.g. invalid curve attacks
- Prohibit reuse of ECDHE public keys

ECDH

- · Not vulnerable to Raccoon Attack, but:
 - · Vulnerable to side-channel attacks, e.g. invalid curve attacks
- Prohibit reuse of ECDHE public keys

Already not recommended since they don't provide forward secrecy

SUMMARY

- × FFDH
- Reusing FFDHE and ECHDE keys
- F ECDH