draft-ietf-ace-wg-coap-eap

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Outline

• CoAP-EAP: The Concept
• Use cases
• Current state
• How to move forward from last version -00
CoAP-EAP: The main idea

Controller Services

CoAP-EAP (EAP-Exchange) 

AAA (EAP-Exchange)

IoT device

Controller

Security Domain

AAA Server

Security Association

AAA client-server connection (Optional)
CoAP-EAP: The main idea

Controller Services

AAA Server

IoT device

CoAP-EAP (EAP Success)

Controller

Security Domain

Security Association

AAA client-server connection (Optional)
Use cases

- CoAP-EAP in ACE
  - CoAP-EAP can be used to perform the Client registration, and derive key material to establish different Security Associations (SA)
Use cases

• CoAP-EAP for network access
  • As a way of allowing traffic through an network entity for packet forwarding.

• CoAP-EAP for service authentication
  • Additional authentications other services beside Network Access can be needed, and can be also managed using CoAP-EAP. (Infrastructure and network is managed by one organization, services by other)
Different ways to operate in the use cases

• Multi-domain case with AAA infrastructures
  • Devices from different organizations can join the same security domain

• Single-domain with AAA infrastructures
  • Within an organization, different buildings can be managed with AAA infrastructures and any device will be able to operate within the domain.

• Single-domain without AAA infrastructures
  • Using EAP in standalone mode we can also manage the devices deployed co-locating the EAP server with the EAP authenticator.
Current state

- CoAP-based EAP lower layer
- Independent of CoAP engine
- AAA support
- OSCORE security association
How to move forward from last version - 00

• CoAP engine independent vs optimized solution
  • Can we (do we want to) modify the way the CoAP engine chooses
    • Tokens
    • MSG-IDs

• Possible optimizations
  • Empty Token
  • No additional SeqNum Option
  • Monotonically increasing MSG-ID after initial value