Using MUD in Constrained Environments

`draft-romann-iotops-mud-constrained-00`

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Motivation

- Exposure of MUD URLs via the predefined methods (DHCP and LLDP) is vulnerable to manipulation
  - Devices may use other device's MUD URLs
- Also not possible in some environments
  - IPv6 (SLAAC without DHCP)
  - IEEE 802.15.4 (no LLDP)

Architecture

- CoAP MUD Receiver as addition to MUD architecture
  - cf. `draft-ietf-suit-mud`
- Two submission flows:
  - Thing-initiated
  - Receiver-initiated

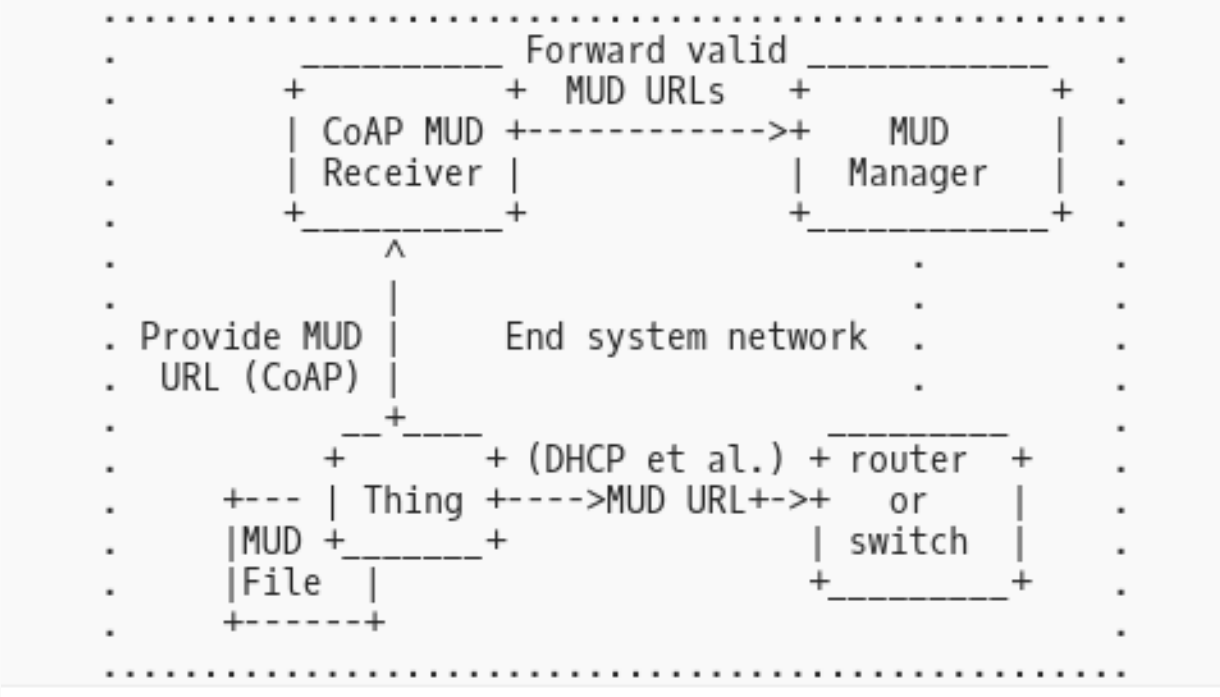

Figure 1: Proposed Architecture for Using MUD with CoAP.

Features

- Usage of CWTs to bind MUD URLs to a device
  - Signed by a (trusted) manufacturer
  - Bound to a specific device using proof-of-possession mechanism
- Additional methods for discovery using CoAP with IP multicast

TODOs and Questions

- TODOs:
  - Flesh out of proof-of-possession procedures
  - Deal with security considerations
  - Rename “MUD Receiver”
- Questions:
  - Should devices host their own MUD files?
  - Is this a worthwhile standardization effort?

Thank you!