draft-moran-iot-nets

ietf 111

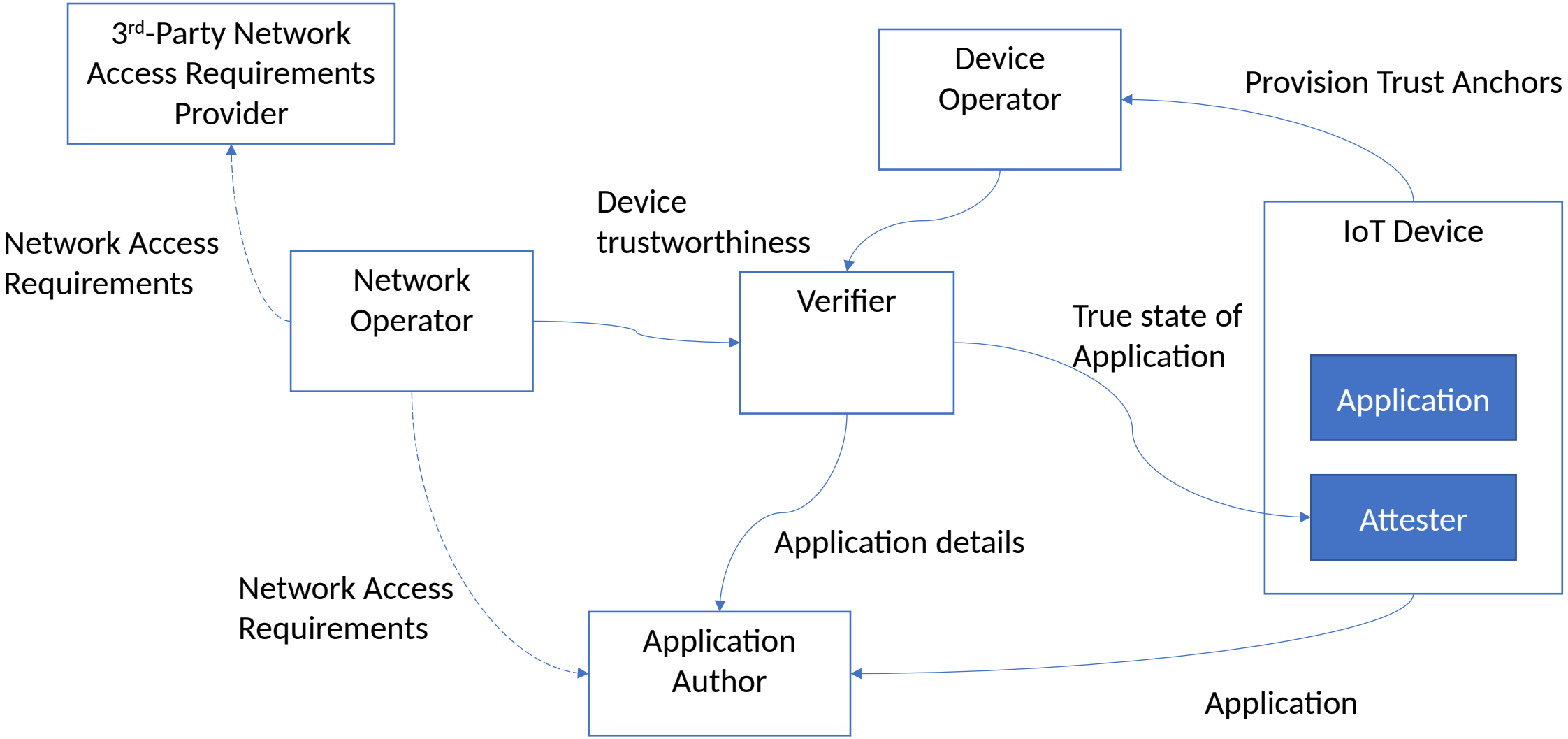
How IoT standards fit together

- Many recent & developing standards in IoT Security
  - SUIT
  - RATS
  - TEEP
  - MUD
  - FDO / LwM2M Bootstrap / BRSKI
  - CoSWID
- But what does an implementer actually need? What is the whole-system view?

Fundamental questions

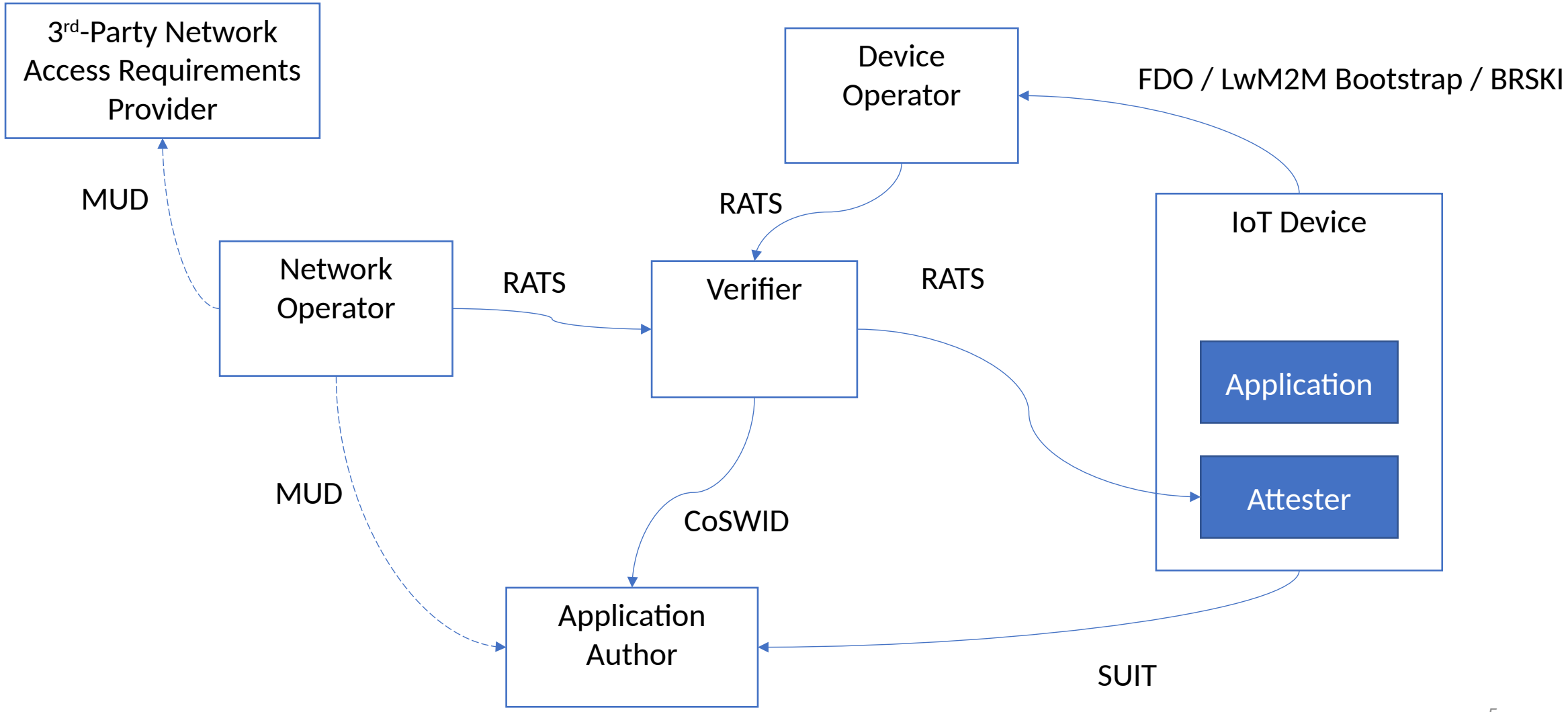
- What software is my device running?
- What is the provenance of my device's software
- Who is authorised to initiate a software update and under what circumstances
- How should my device connect to a network?
- With which systems should my device communicate?
- How should my device update its trusted software?

Where is the trust?



NOTE: TEEP not included

IoT Security Standards



NOTE: TEEP not included

Recommendations for IoT deployments

- What Devices SHOULD do:
  - attest their application
  - support secure remote update
  - use a secure onboarding protocol
  - use TEEs to protect valuable assets
- What Application developers SHOULD do:
  - issue a SBOM with each update
  - issue model attestation evidence with each update
  - issue network access requirements with each update
- What Verifiers SHOULD do:
  - consume model attestation evidence
- What Network Operators SHOULD do:
  - place devices in a DMZ until an attestation report is received
  - apply restrictive network policies to devices that are out-of-policy (e.g. need update)
  - enable network access requirements based on attestation reports