NIPC updates

ASDF meeting 04/09/2024

Agenda

- NIPC
  - Draft-asdf-nipc
  - Updates to API structure and nomenclature to align to ASDF
  - Data format: Protobuf – JSON - CBOR

- NIPC in SDF: where can it be applied and how

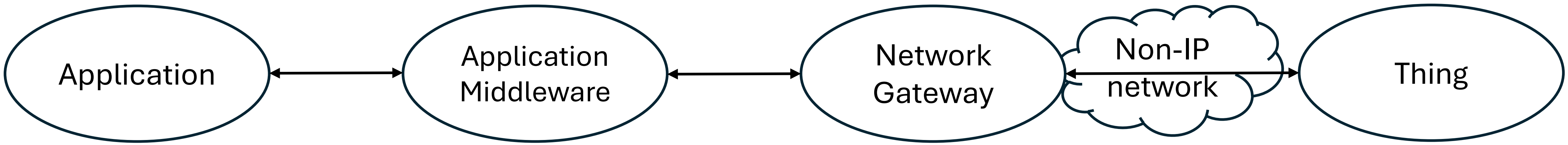
NIPC

- Draft-asdf-nipc-01 released
- New openapi YAML file available with updates to align with ASDF: https://github.com/iot-onboarding/non-ip-iot-control/blob/main/nipc-openapi/NIPC_REST.yaml
  - Changed different types of operations (connections, data, …) to single action category as per SDF spec
  - Updated all references to attributes to properties as per SDF spec
  - Changed specific objects like file to properties (a file is a type of property) simplified API’s and removed object specific API’s
  - Updated pub/sub topic API’s to event API’s as per the SDF spec
- Update draft with changes: in the works

NIPC Data MQTT Payload Format

- Current draft specifies protobuf as the format
  - Protobuf schema for the messages published as part of draft
  - Code: https://github.com/iot-onboarding/tiedie/tree/main
- Evaluated options proposed in the mailing list:
  - JSON: not compact/efficient, includes schema
  - CBOR: compact (little bigger than protobuf), includes schema
  - Protobuf: compact, does not include schema
- OpenSource (TieDie project) updated with CBOR implementation: https://github.com/iot-onboarding/tiedie/tree/cbor
- Decision: update spec to use CBOR for Data payload format?

NIPC in SDF: Roles



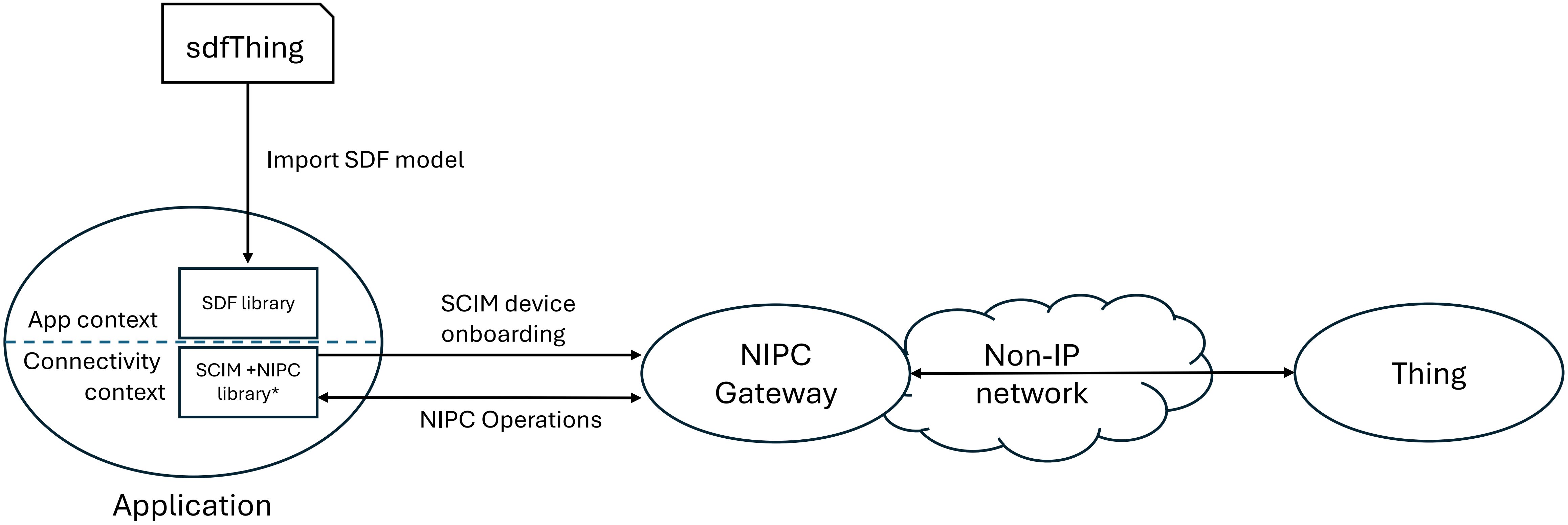
Application context

Application & connectivity Context (optional)

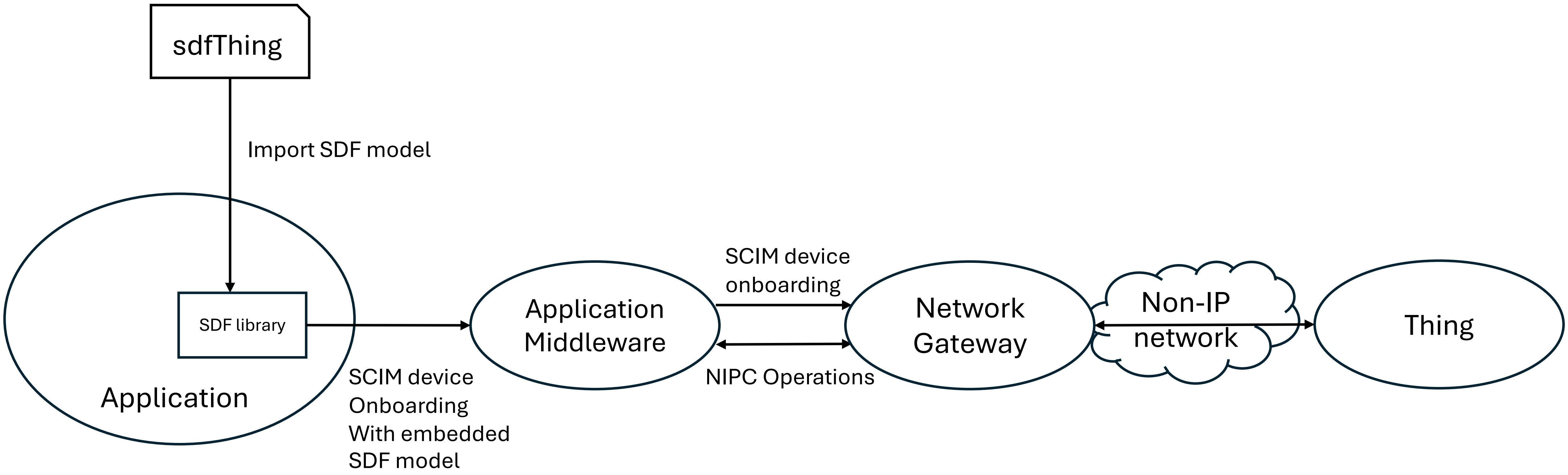
connectivity context

* *https://github.com/iot-onboarding/tiedie*

Deployment model 1: Application direct to Gateway



Deployment model 2: Leveraging middleware



Mapping NIPC into SDF

- Leverage generic mapping: draft-bormann-asdf-mapping

https://datatracker.ietf.org/doc/draft-bormann-asdf-sdf-mapping/

- Develop a native mapping