

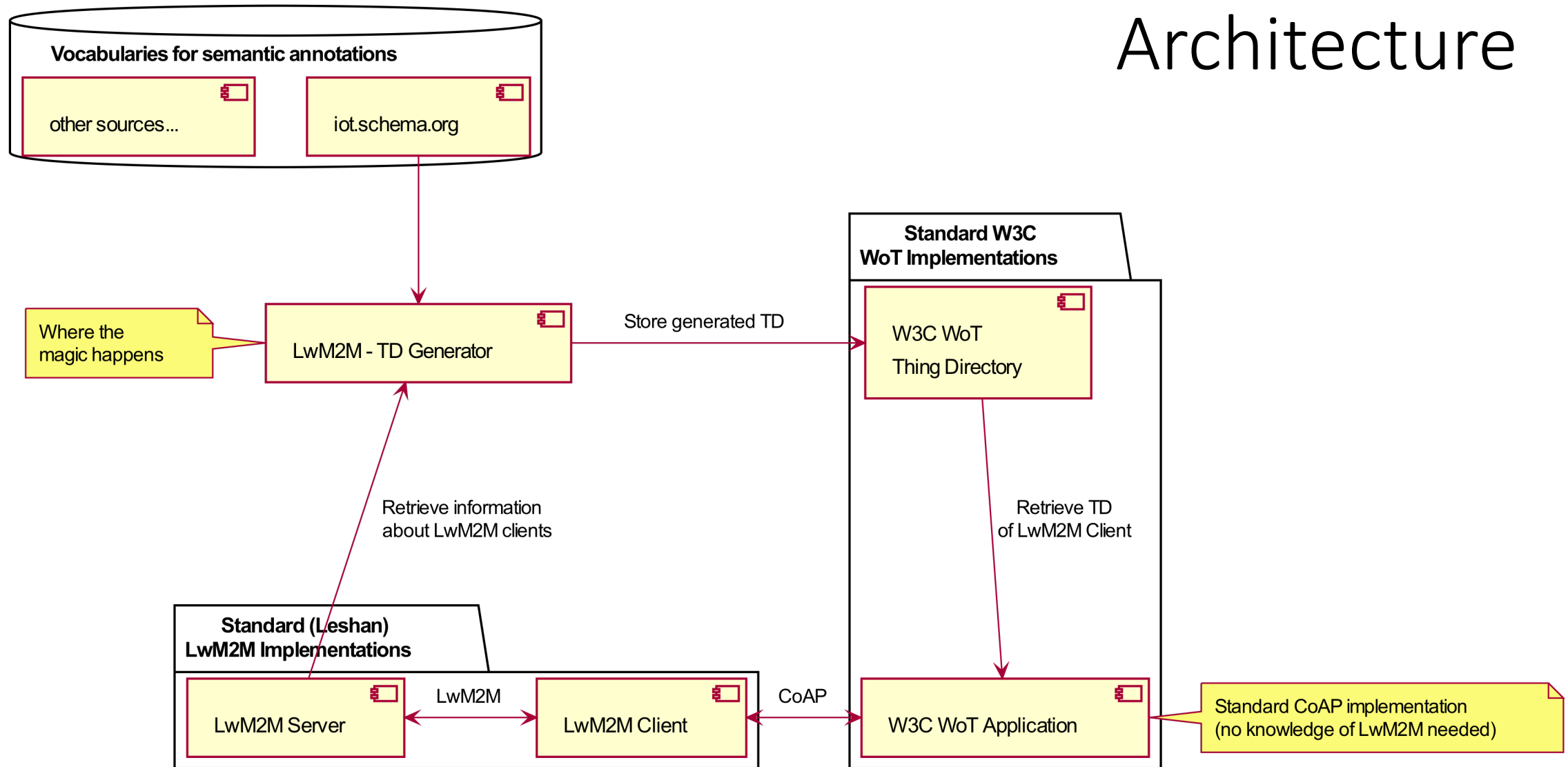
# LwM2M-WoT integration with iot.schema.org semantics

Ari Keränen

[ari.keranen@ericsson.com](mailto:ari.keranen@ericsson.com)

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# Architecture



## Eclipse Leshan config file for LwM2M objects

```
"name": "Temperature",
"id": 3303,
"instancetype": "multiple",
"mandatory": false,
"description": "This IPSO object should be used with a
temperature sensor...",
"resourcedefs": [
{
    "id": 5601,
    "name": "Min Measured Value",
    "operations": "R",
    "instancetype": "single",
    "mandatory": false,
    "type": "float",
    "range": "",
    "units": "Defined by Units resource.",
    "description": "The minimum value measured by
the sensor since power ON or reset"
},
{
    "id": 5602,
    "name": "Max Measured Value",
    (etc.)
```

## Proto config file with LwM2M/IPSO ID -> (iot.schema.org) semantics mapping

```
"3301" : {
    "object" : "Illuminance Sensor",
    "semantics" : ["iot:IlluminanceSensing"],
    "resources" : {
        "5700" : {
            "semantics" : ["Property", "iot:Illuminance"]
        }
    }
},

"3303" : {
    "object" : "Temperature Sensor",
    "semantics" : ["iot:TemperatureSensing"],
    "resources" : {
        "5700" : {
            "semantics" : ["Property", "iot:Temperature"]
        }
    }
}
(etc.)
```

## Example generated TD (retrieved from Thing Directory)

```
{
  "@context": "https://w3c.github.io/wot/w3c-wot-td-context.jsonld",
  "id": "urn:dev:eid:3881:wishi-lwm2m-ak-foo",
  "@type": "Thing",
  "name": "wishi-lwm2m-ak-foo",
  "actions": {
    "DeviceReboot": {
      "@type": "Action",
      "forms": [
        { "href": "coap://31.133.155.139:51234/3/0/4",
          "mediaType": "application/octet-stream"
        }
      ]
    }
  },
  "properties": {
    "DeviceErrorCode": {
      "@type": "Property",
      "forms": [
        { "href": "coap://31.133.155.139:51234/3/0/11",
          "mediaType": "text/plain"
        }
      ]
    }
  }
}
```

```
"TemperatureSensorValue": {
  "@type": [
    "Property",
    "http://iotschema.org/Temperature"
  ],
  "forms": [
    {
      "href": "coap://31.133.155.139:51234/3303/0/5700",
      "mediaType": "text/plain"
    }
  ],
  "observable": "true",
  "writable": "false"
}
```