

# "Control plane" considerations

Discussions around potential new RFID/LLRP device service highlight that it can be inconvenient to control some device interactions via existing EdgeX mechanisms.

Example device profile extract:

```
deviceResources:
- name: "Action"
  properties:
    value: { "type": "String", readWrite: "W" }

- name: "ROSpecID"
  description: "Client-generated Reader Operation Specification Identifier"
  properties:
    value: { type: "uint32", readWrite: "W", defaultValue: "1" }

- name: "AccessSpecID"
  description: "Client-generated Access Specification Identifier"
  properties:
    value: { type: "uint32", readWrite: "W", defaultValue: "1" }

deviceCommands:
- name: enableROSpec
  set:
    - { deviceResource: "ROSpecID", parameter: 0 }
    - { deviceResource: "Action", parameter: "Enable" }

- name: startROSpec
  set:
    - { deviceResource: "ROSpecID", parameter: 0 }
    - { deviceResource: "Action", parameter: "Start" }
```

Potential areas of improvement for EdgeX:

- Allow for more dynamic device profiles
  - We could provide ways of performing "safe" updates to a Device Profile, such as adding new Device Resources
- Implement command chaining
  - In the data plane, this provides for hierarchical structure. For control, it allows commands made up of subcommands
- Add new modelling for control-type operations
  - Rather than trying to fit such things onto the data model.
  - This may help with the common request to be able to write to the device and get results back