Problem Statement

• How to communicate to deployment how much bandwidth a device is supposed to use?
Questions about this device

• How much traffic should it generate?
  • 100 pps
  • 1 pps
  • 1 ppm
  • 1 pph
  • 1 ppd
What about when there’s a fire?

- 1 pps
- 10 pps
- 100 pps
Occupancy Sensors

- Have cameras
- Do local processing
- Regular volume transmissions
- Occasional firmware updates
- Never transmit raw video
Manufacturer can point out what “good” looks like

```
augment /mud:mud/mud:to-device-policy:
  +++rw bw-params
    +++rw service* [name]
      +++rw name string
      +++rw timeframe uint32
      +++rw pps? uint32
      +++rw bps? uint64
      +++rw dscp? inet:dscp
      +++rw aclname? -> /acl:acls/acl/name

augment /mud:mud/mud:from-device-policy:
  +++rw bw-params
    +++rw service* [name]
      +++rw name string
      +++rw timeframe uint32
      +++rw pps? uint32
      +++rw bps? uint64
      +++rw dscp? inet:dscp
      +++rw aclname? -> /acl:acls/acl/name
```
A few areas for improvement (already)

• Currently augmenting MUD grouping
  • No chance of interfering with other MUD aspects
  • REALLY complex– one ACL per profile. Ew.

• Probably better to directly augment “ace” grouping from ACL model
  • Just an additional set of parameters to ACEs already in the file
    • Much smaller files
Experimental thoughts

• May not be that easy for manufacturers to answer these questions
  • Do we need simple abstractions?
    “Low volume”
    “High volume”?  
  • Do we need some tooling to help manufacturers?

• Needs to integrate with MUD abstractions
Comments?