Requirements for Energy Management

draft-ietf-eman-requirements-08

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Status

- Most of it already quite mature at IETF #82
  - Solved open issues listed in previous versions
  - Still a few points may be controversial
    - Hope we can solve this with the WGLC reviews

- Changes in versions -07 and -08
  - Remove requirement 7.7
    - Indicating content of remote information
    - not feasible: lacking content identifiers
  - Filled terminology section
  - Supporting energy providers as well as energy receivers
    - "powered entities" -> "entities"
    - "consumed energy" -> "received and provided energy"
  - A lot of editorial improvements
  - Many thanks to all who contributed

Potentially Controversial Issue: What to report for what?

- For which values must the standard provide means to report them?
  - per device
  - per component
  - per power interface

- Basic assumption
(still to be confirmed by framework discussion)
  - devices contain components
  - devices and components receive or provide energy
  - power interfaces are inlets or outlets of devices where energy passes by
  - power interfaces of components are not modeled

device

power interface 1

power interface 2

component 1

component 2

component 3
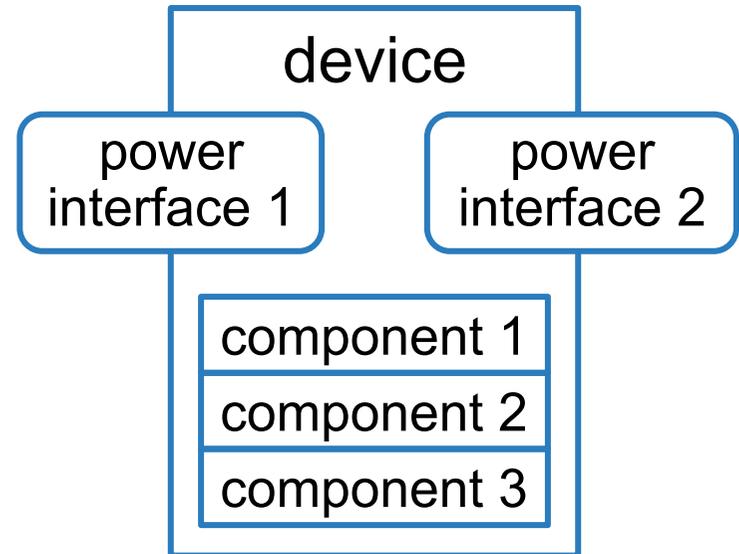
What to report for what?

- Power Interface
  - energy in & out
  - Real power in & out
  - power availability (yes/no)?
  - interface status (on/off
  - type of current (AC/DC)
  - nominal voltage
  - nominal AC frequency
  - number of AC phases
  - power measurement interval
  - accuracy of power & energy values
  - actual voltage & current
  - complex power (apparent power, reactive power, phase angle, power factor)
  - actual AC frequency
  - total harmonic distortion
  - power supply impedance

- Device
  - total energy
  - total real power
  - accuracy of power & energy values
  - actual power state
  - type of current (AC/DC)
  - actual voltage & current

- Component
  - total energy
  - total real power
  - accuracy of power & energy values
  - actual power state
  - type of current (AC/DC)
  - actual voltage & current

device
power interface 1
power interface 2
component 1
component 2
component 3
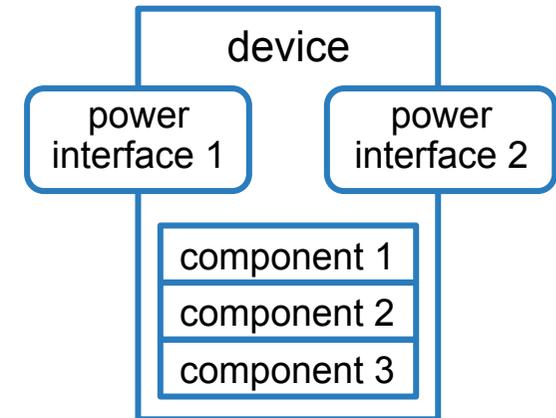
What if they are different at interfaces (AC mains, DC PoE)?

What if component has multiple ones (motherboard, S-ATA HD)?

Next steps

- Basically ready for WGLC

- Remaining minor potential discussion points can be solved during WGLC