Requirements for Energy Management

draft-ietf-eman-requirements-01

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Overview

- ## Purpose
  - ◆ specifying what standards are needed for energy management
  - ◆ to be developed in the eman WG
  - ◆ current focus on monitoring

- ## History
  - ◆ evolved from draft-quittek-power-monitoring-requirements
  - ◆ first WG version in Dec, second version in March
  - ◆ changed title between
    - ▪ "Requirements for Power Monitoring"
    - ▪ "Requirements for Energy Management"
  - ◆ appropriate title to be chosen soon

Content of current draft

- ## Scenarios to be considered

- ## Monitoring requirements

  - ### What needs to be monitored?

  - ### Remote monitoring and aggregation

  - ### Discovery

- ## Discussion of existing standards

Added since last meeting

- Multiple power supply
- Power outlet "gangs"
- Batteries in powered devices
- Discovery
- Identification
- Discussion of the Entity MIB
    - may be not correct – discussion going on
- Security considerations

Big issue today: Power states

- How many states do we need?

- Do we need different sets?
    - How would we maintain different sets?

- Do we need to support multiple sets concurrently?
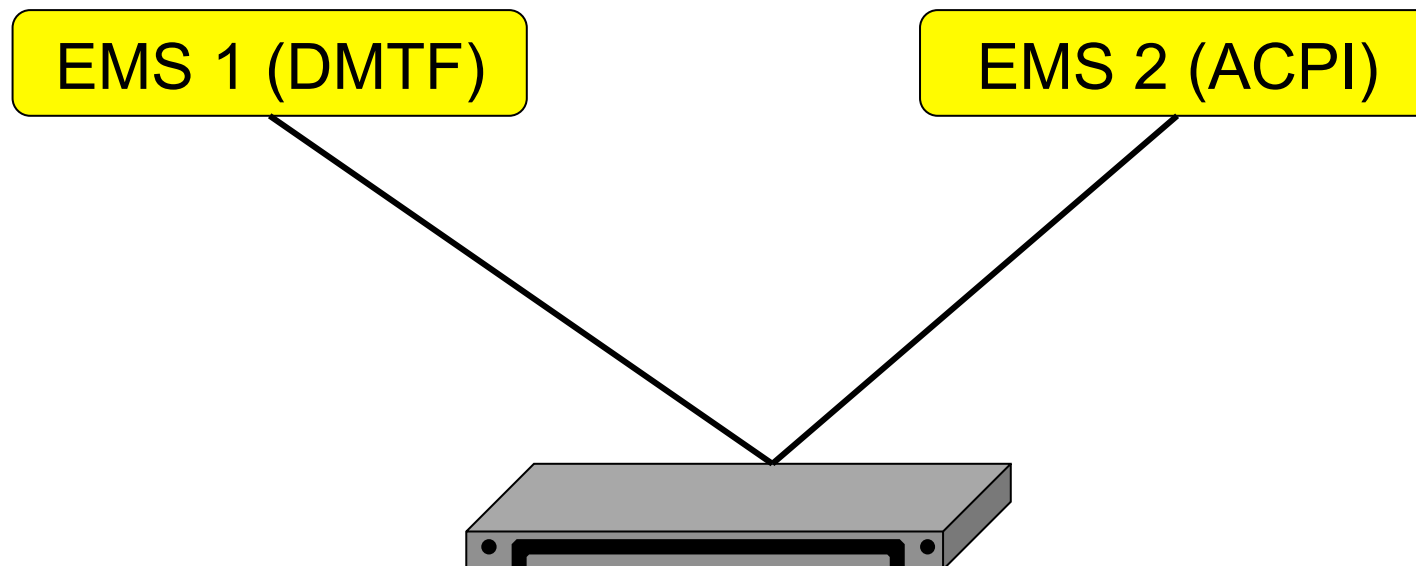
What is out there?

- **Set of just three states**
  - on, sleep, off   (IEEE 1621 Power Modes)
- **Set of 12 states**
  - 6 operational (on)
  - 6 non-operational (sleep,off)
- **ACPI: set of 7 states for motherboards**
- **DMTF: set of 15 states**
  - including transitional states
- **IEEE ISTO PWG: set of 20 states for printers**
  - mapped to ACPI, DMTF, IETF MIBs
- **Certainly there are more ...**

What can we do?

- Choose just one fixed set
  - many specific devices may be covered poorly
    - printers, access points, …
  - very difficult to agree on "the right set"
  - not open for future extensions

- Support open list of individual power states
  - numbered and registered at IANA
  - would be common IETF procedure
  - problem: grouping of states not necessarily clear

- Support open list of sets of states
  - to be registered at IANA with set IDs
  - device could express which set(s) it supports
  - would reflect the situation of various sets from different bodies
    - external bodies could maintain "their" sets of states separate from others
  - we expect management systems to operate within given sets, not across them
    - e.g. a DMTF-conform EMS would just use DMTF states

If we choose multiple sets:

- Do we require that the standard supports devices that offer multiple sets concurrently?

EMS 1 (DMTF)

EMS 2 (ACPI)

Next steps

- After agreement on some basic issues we will revise the entire draft carefully
  - elaboration needed for several sections
- Input on the completeness of the scenario section is appreciated
- Discussion of related MIB modules to be revised
  - after conclusion of the discussion on the Entity MIB
- Collecting sets of power states already defined by other standards bodies
  - input highly appreciated