Energy Management Framework
draft-ietf-eman-framework-04

B. Claise, J. Parello, B. Schoening,
J. Quittek, B. Nordman
New in this version
Merge with EMAN-REFERENCE-MODEL

- Merge with “draft-quittek-eman-reference-model-03”, with an entire section copied over (slightly updated):
  2. Energy Management Issues
    2.1. Power Supply
      2.1.1. Identification of Power Supply and Powered Devices
      2.1.2. Multiple Devices Supplied by a Single Power Line
      2.1.3. Multiple Power Supply for a Single Powered Device
      2.1.4. Relevance of Power Supply Issues
      2.1.5. Remote Power Supply Control
    2.2. Power and Energy Measurement
      2.2.1. Local Estimates
      2.2.2. Management System Estimates
    2.3. Reporting Sleep and Off States
    2.4. Entities
New in this version

• Feedback from Bill Mielke, [http://www.ietf.org/mail-archive/web/eman/current/msg00983.html](http://www.ietf.org/mail-archive/web/eman/current/msg00983.html)

• Added the terminology section, based on the version 5 of the terminology draft.
  – Integrated the terms Energy Device and Energy Device Component in the text.

• Removed the "Dependency Relationship"

• Removed "virtual grouping of Energy Objects with the keywords"
New in this version
Merge with EMAN-REFERENCE-MODEL

• Introduced the notion of power interface (power inlet/power outlet)
  
  Power Interface:
  
  “A power interface is an Energy Object that serves as a interconnection among Energy Objects, and participates in a Power Source Relationship”

• Similarities to the network interface
Physical Devices

PC w/ one inlet

PC w/ two inlets

PDU w/ one inlet and 10 outlets

Device W

Device X

Device Y

Device Z
Power Interface Clarification

• In some cases, don’t have power interfaces
  – PDU with a single meter for all power outlet
  – A small independent device (power interface = device)
  – Bus-bars which distribute power to a building
  – smart meter measuring current by a connection-less CT
Power Interface Clarification: Example 1

Physical:

Information Model:

Interfaces:

No Interfaces:
Power Interface Clarification: Example 2

Physical:

Information Model:

Interfaces:

No Interfaces:
New in this version

• Extending the section 6.4 "Energy Object Relationships“
  – Explain the different types of relationships
• Added a new section 6.4.2 "Energy Object Relationship Conventions and Guidelines“
  – Example: “The Energy Device SHOULD NOT establish Power Source Relationship with Energy Device Component”
• Section 10 with examples has been added.
More Open Issues/TO DOs

• Since we speak about Power Interface now, we need to double the EO Relationships here and in [EMAN-AWARE-MIB]
  Example: poweredBy versus providingPower.
• The UML must be aligned with the latest [EMAN-AWARE-MIB] and [EMAN-AWARE-MIB] document versions.
• Complete the section "Energy Object Relationship Guidelines and Conventions“
• Add figures to the section 10 examples
• Aggregation Relationship is different compared to the other Relationships. There are some use cases: a building mediator implementing the MIB, with some subtended devices, a meter for many devices, etc... However, this is also a generic function. We could argue that an aggregation function is something that is not particular to the EMAN context.
Conclusion

• Good progress, specifically thanks to the merge
• Much discussion on the list
• Difficult to keep up with all the open issues
• Hopefully, all listed into the draft
• Feedback (with proposed text ideally) is welcome