

Energy Aware MIB

draft-ietf-eman-energy-aware-mib-05

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Charter & Abstract & New Versions

- “3. Energy-aware Networks and Devices MIB document The EMAN WG will develop a MIB module for monitoring energy-aware networks and devices. The module will address devices **identification**, **context** information, and potential **relationship** between reporting devices, remote devices, and monitoring probes.”
- Version 5 posted on March 12
- Version 4 posted on February 16

Changes in version 4 and 5

- MIB module changed to ENERGY-OBJECT-CONTEXT-MIB (from ENERGY-AWARE-MIB)
- The terminology consistency with draft-parello-eman-definitions-04, with two additions: Energy Device, Energy Device Component
 - Note: draft-parello-eman-definitions-05 has been posted, with those two terms
 - TO DO (Agreement on the list): Replace Energy Device and Energy Device Component by
 - Device: a piece of electrical or non-electrical equipment (Adapted from IEEE100)
 - Component: a part of an electrical or non electrical piece of equipment (Device). (Adapted from IEEE100)

Changes in version 4 and 5

- Removed the eoPhysicalEntity (PhysicalIndexOrZero) as the entPhysicalIndex index from the ENTITY-MIB is now required
- This entPhysicalIndex was used an “AUGMENT” in version 4
 - “if there is a sparse relationship between the conceptual rows of this table and an existing table, then an INDEX clause should be used which is identical to that in the existing table. “ SMIv2, RFC2578, section 7.8.1
 - Corrected to “INDEX” in version 5

Information Model (part 1)

```

+-----+
| EO Context Information |
+-----+
| eoRoleDescription     |
| eoKeywords            |
| eoImportance          |
| eoPowerCategory       |
+-----+

```

|
v

```

-> +-----+
| EO Identification |
+-----+
| entPhysicalIndex (*) |
| entPhysicalName (*) |
| entPhysicalUris (*) (EO UUID) |
|
| eoEthPortIndex (**) |
| eoEthPortGrpIndex (**) |
| eoLldpPortNumber (***) |
| eoAlternateKey      |
|
| eoDomainName        |
| eoMgmtMacAddress (optional) |
| eoMgmtAddress (optional) |
| eoMgmtAddressType (optional) |
| eoMgmtDNSName (optional) |
+-----+

```

Note: entPhysicalIndex from the ENTITY-MIB for the eoTable

Note: entPhysicalName from the ENTITY-MIB

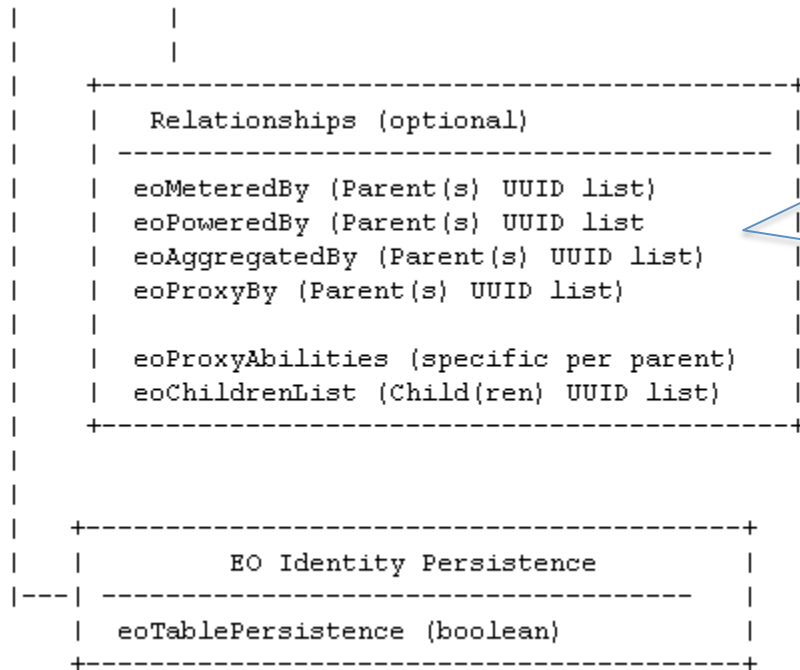
Should be optional

Specific Textual Convention in the MIB module, with a reference to RFC 4122

Minimum requirement from the ENTITY-MIB: entPhysicalIndex, entPhysicalName, entPhysicalUris

- (*) Compliance From the ENTITY MIB [[RFC4133](#)]
- (**) Link with the Power over Ethernet MIB [[RFC3621](#)]
- (***) Link with LLDP MIBs [[LLDP-MIB](#)] [[LLDP-MED-MIB](#)]

Information Model (part 2)



OCTET STRING, specified as the entPhysicalUris (ENTITY-MIB v3), i.e. a list of UUIDs

- Two power supplies: eoPoweredBy = list of (UUID1, UUID2)
- Note: relationships are “optional”

Changes in version 4 and 5

- Use zero-length string instead of null, as suggested by Jürgen Schönwälder
- A lot of feedback from Bill Mielke (<http://www.ietf.org/mail-archive/web/eman/current/msg00998.html>) and Juergen Quittek
- Dependency relationship is removed (disappeared from the EMAN Framework)

Current Open Issues (part 1)

Writeable UUID and ENTITY-MIB downgrade

1. entPhysicalUris is read-write.

This is now stressed in the draft

However, is this ok for a UUID from an operational point of view?

2. non-compliant implementations of the Entity MIB?

Only 3 objects doesn't mach the COMPLIANCE statement from the ENTITY

- The ideal solution is still an Entity-MIB v4 with:
 - A read only UUID
 - A conformance statement for small independent device with just a few managed objects.

Current Open Issues

UUID Representation

- Best practice would be to import URI-TC-MIB (rfc5017) and then use a datatype of either:
 - (a) "Uri (SIZE (0 | 45))" - to allow for empty relationships; or
 - (b) "Uri (SIZE (45))" - to allow only RFC 4122 compliant values.

Current Open Issues

Multiple URIs separated by white spaces

- EnergyObjectList ::= TEXTUAL-CONVENTION:
TC defining a type of concatenated string
with URIs separated by white spaces.

Juergen Quittek: “It may turn out to be the best choice, but if possible, I would like to avoid it.”

- Proposal

```
+ - eoRelationTable(3)
```

```
|
```

```
+ - eoRelationEntr (1)[entPhysicalIndex, eoPeerUUID]
```

```
|
```

```
+ - -n OCTET STRING eoPeerUUID(1)
```

```
+ - r-n BITS eoRelationships(2)
```

- Note: the current eoProxyTable already have eoPeerUUID as the index

Current Open Issues Children Relationships

- Right now, we have eoChildrenList
- Do we need eoMeteringChildrenList, eoPoweringChildrenList, eoAggregatingChildrenList, eoProxyingChildrenList?

So, from a Parent, to be able to list the relationships to all the children.

- Proposal on the list: yes
- Note: the design in the previous slide would solve this issue

Conclusion

- Good progress: some more feedback to be integrated
- What is key is the information model
- Listen to the MIB experts for the MIB module design
- Must still check if all the requirements are covered. Let's freeze [EMAN-REQ]...