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

EO Identification
  entPhysicalIndex (*)
  entPhysicalName (*)
  entPhysicalUris (*) (EO UUID)

EO EthPort
  eoEthPortIndex (**)  
  eoEthPortGrpIndex (**)  
  eoLldpPortNumber (***)  
  eoAlternateKey

EO Domain
  eoDomainName
  eoMgmtMacAddress (optional)
  eoMgmtAddress (optional)
  eoMgmtAddressType (optional)
  eoMgmtDNSName (optional)

Note: entPhysicalIndex from the ENTITY-MIB for the eoTable

Note: entPhysicalName from the ENTITY-MIB

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

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

Should be optional

(*): Compliance From the ENTITY MIB [RFC4133]
(**): Link with the Power over Ethernet MIB [RFC3521]
(***): Link with LLDP MIBs [LLDP-MIB] [LLDP-MED-MIB]
Information Model (part 2)

- 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]...