



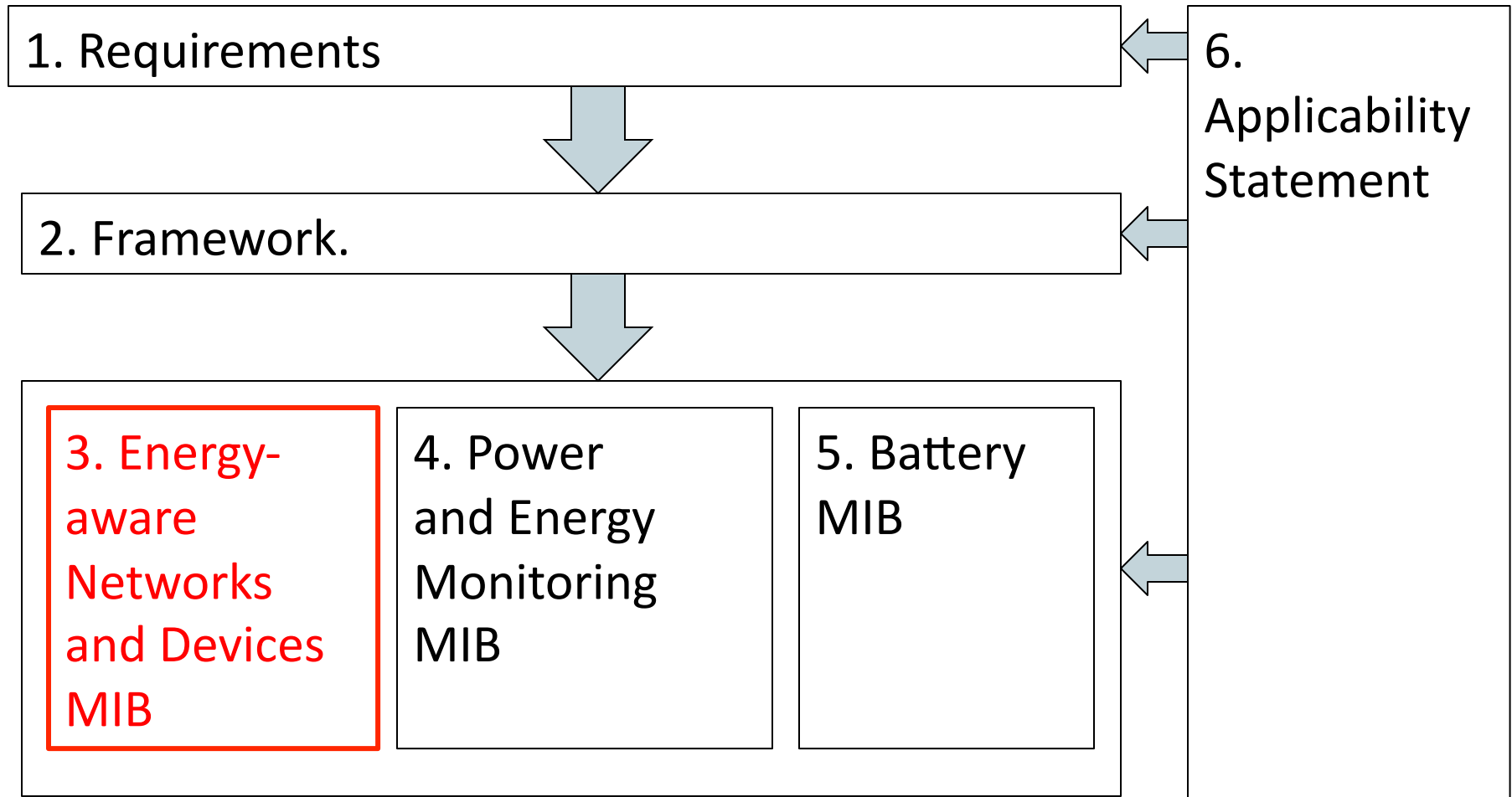
EMAN Energy Aware MIB

draft-parelo-eman-energy-aware-mib-00

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79th IETF Meeting, Beijing, 2010

Charter: Documents



Data Modeling of Power Monitor from Architecture Concepts

- Already Presented in IETF-77, IETF-78

Nothing new just split of work from OPSAWG draft-claise-energy-monitoring-mib-04 two distinct parts:

- Awareness / Business Context (Collected Once or Configured)
 - Identity
 - Parent identification
 - Context
 - Domain, Category, Role, Keyword, Importance
- Presented Later (Not in this draft):
 - Usage (Collected over time)
 - Levels
 - Instantaneous Usage and Measurement
 - Optional Usage Over Time
 - Optional Power Quality
 - Optional Battery

OPEN ISSUES

- Capabilities is not modeled as yet
 - Model Parent capabilities on behalf of child and how to represent that
- Any Others?

Concepts

- Basic information needed to identify device and set (business) context
- Collected once or at configuration
- Relates to time based usage in monitoring MIB

Simple Elements Already Use in Deployments

```
energyAwareMIBTableGroup OBJECT-GROUP
OBJECTS    {
    -- pmIndex Reference
    pmPowerMonitorId,
    pmPhysicalEntity,
    pmEthPortIndex,
    pmEthPortGrpIndex,
    pmLldpPortNumber,

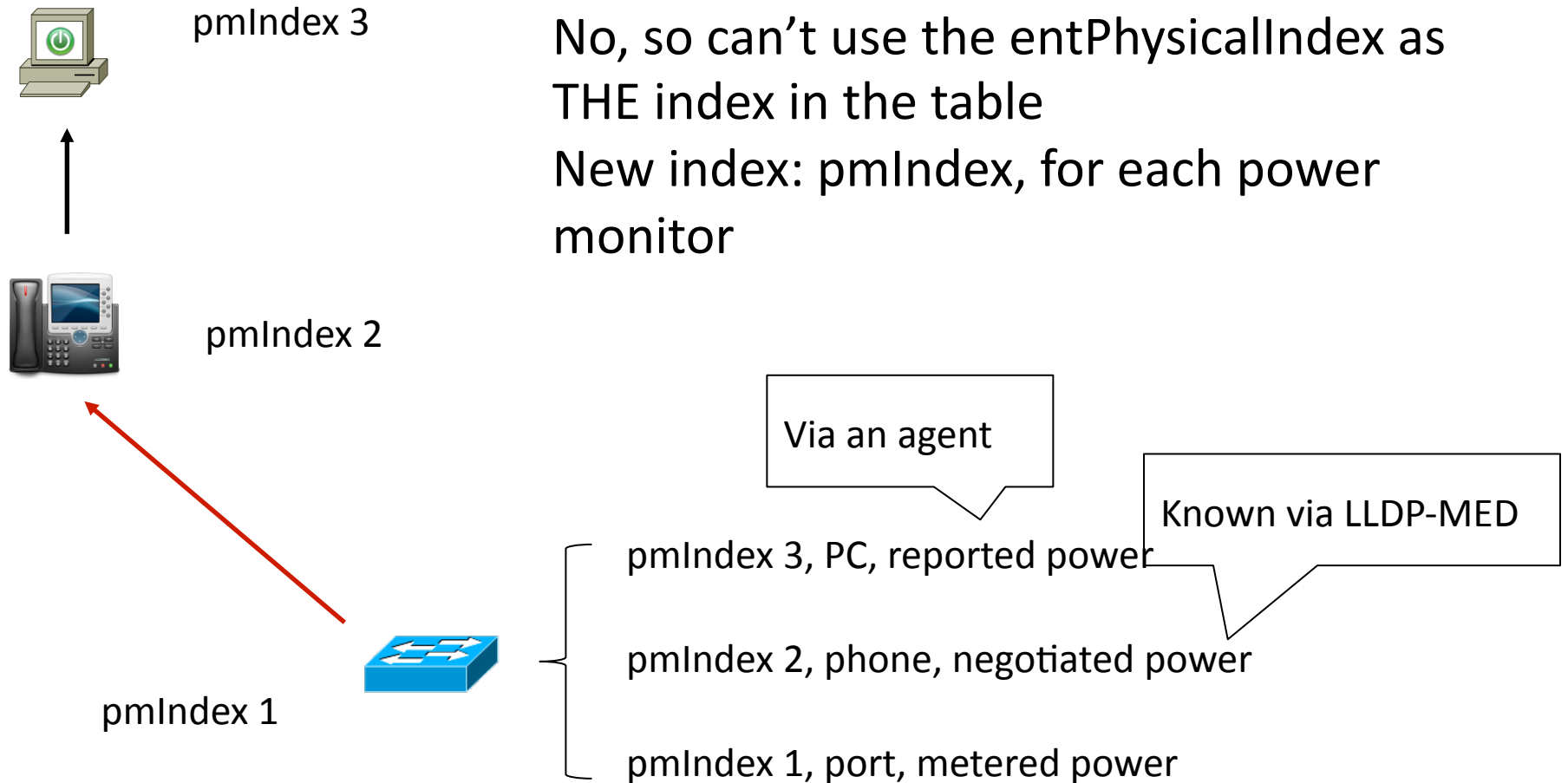
    pmName,
    pmDomainName,
    pmRoleDescription,
    pmKeywords,
    pmImportance,
    pmPowerCategory,
    pmParentId
}
```

Entity MIB Relationship

Can we assume that the ENTITY-MIB is supported on all monitored devices?

No, so can't use the entPhysicalIndex as THE index in the table

New index: pmIndex, for each power monitor



"This object contains the index of a physical entity in the ENTITY MIB. " otherwise Zero

MIB Relationship

- Entity MIB
 - This object contains the index of a physical entity in the ENTITY MIB. “ otherwise Zero
- PoE MIB
 - Use port and group from [RFC3621] or else zero.
- LLDP
 - Use port from LLDP-MIB/LLDP-MED-MIB or else zero.

Elements That Set Context

Element	Description
pmName,	Simple name like host name for device suggest default to model
pmDomainName,	The metering or power management group. Similar to community
pmRoleDescription,	Set context. Answers "provides?" Two words like "Hospitality Lighting"
pmKeywords,	Arbitrary tagging for grouping
pmImportance,	Scale 1-100 with suggested ranges
pmPowerCategory,	Device is consider producer consumer meter. Used to check versus usage
pmParentId	Establishes link for children in framework

Example from working implementations

Entity Data Class

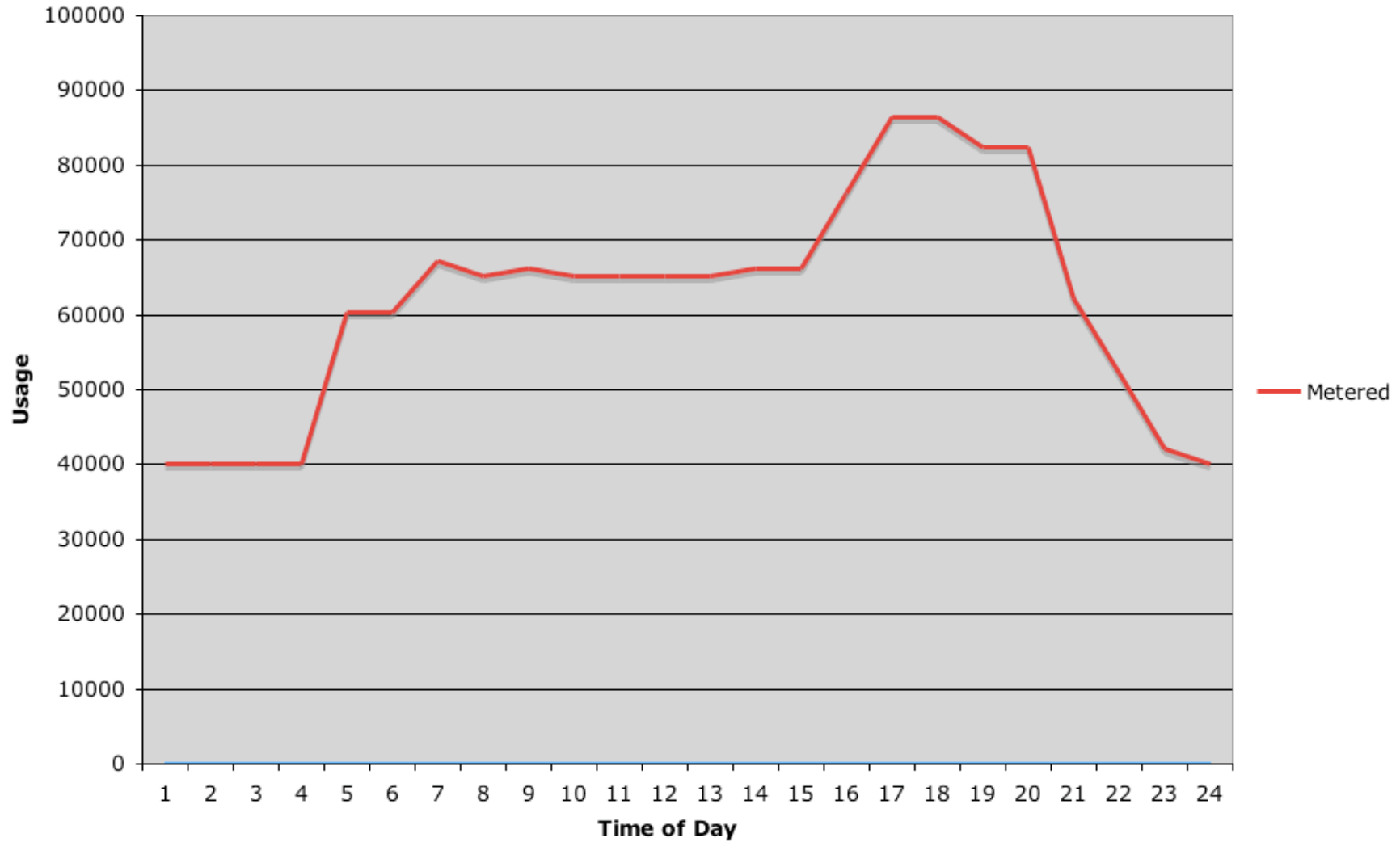
<i>ID</i>	<i>Domain</i>	<i>Name</i>	<i>Category</i>	<i>Role</i>	<i>Importance</i>	<i>Keywords</i>	<i>Vendor</i>	<i>Source</i>	<i>Reference</i>
17	com.example.lincoln.building2.zone2	switch17	consumer	Public Access	50	sales, public	Cisco	2.2.2.2	energywise
51	com.example.lincoln.building2.zone3	light51	consumer	Hospitality Service	25	sales	Schneider	2.2.2.3	bms
153	com.example.lincoln.building2.zone3	light153	consumer	Common Service	75	public	Schneider	2.2.2.3	bms
459	com.example.lincoln.building2.zone2	phone459	consumer	Lobby Phone	100	emergency	Cisco	2.2.2.2/17	energywise
1377	com.example.lincoln.building2.zone5	pc1377	consumer	Public Kiosk	50	sales, public	IBM	2.2.2.5	energywise

Usage Class

<i>ID</i>	<i>Time</i>	<i>Level</i>	<i>Usage</i>	<i>Scale</i>	<i>Accuracy</i>	<i>Caliber</i>
17	7/17/10 1:00 PM	10	60 watts	1010	Actual	
17	7/17/10 2:23 AM	10	57 watts	1010	Actual	
51	7/17/10 1:00 PM	10	700 watts	1010	Actual	
51	7/17/10 2:23 PM	5	300 watts	1010	Actual	
153	7/17/10 1:00 PM	10	500 watts	0	Predicted	
459	7/17/10 1:00 PM	8	6 watts	0	Trusted	
1377	7/17/10 1:00 PM	10	65 watts	0	Presumed	
1377	7/17/10 2:23 PM	8	42 watts	0	Presumed	
1377	7/17/10 4:01 PM	0	0 watts	0	Presumed	

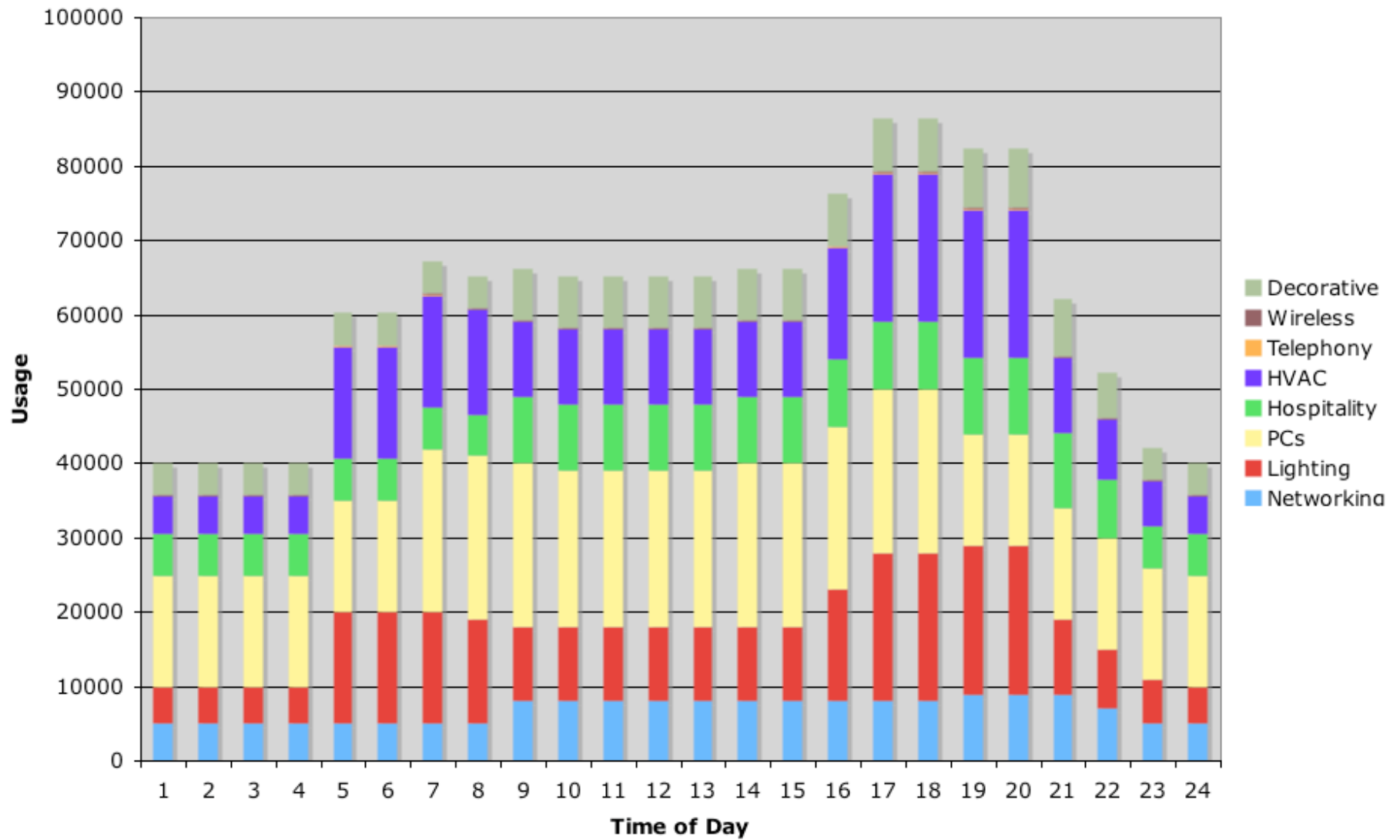
Reporting with No Context

Energy Domain Metered



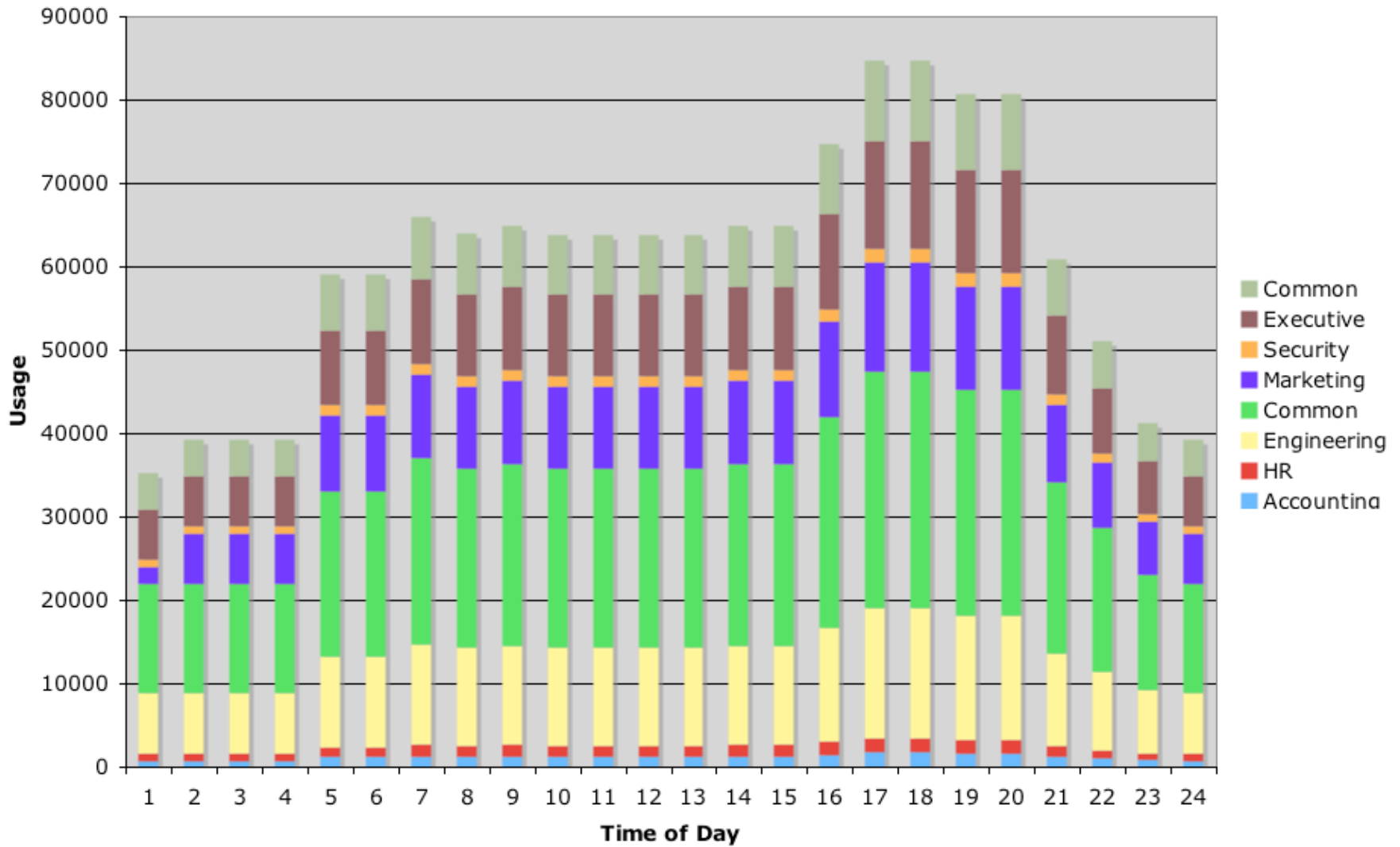
Reporting using Role

Energy Domain Details



Reported using Keywords

Energy Domain Business Context



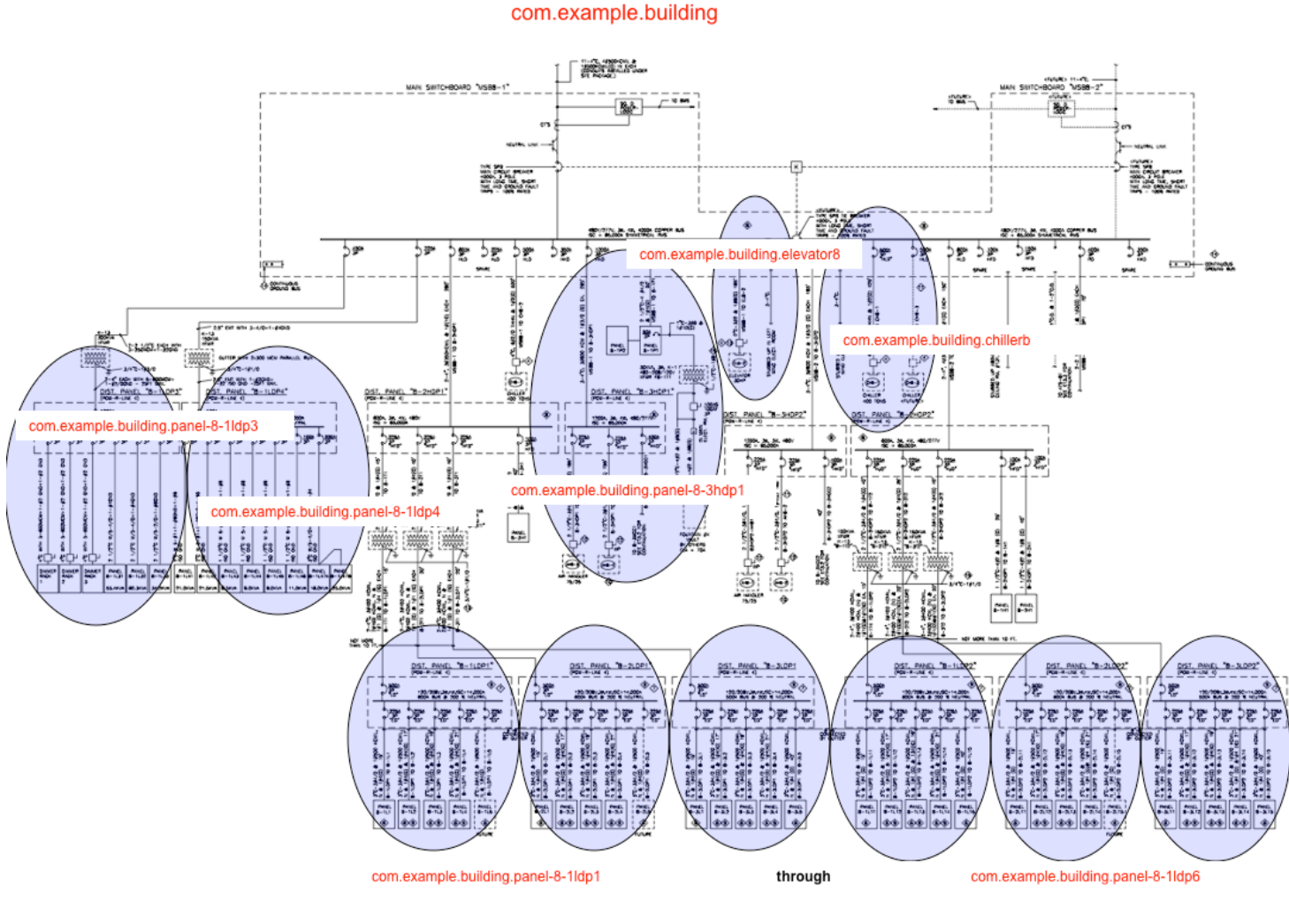
Conclusion

- MIB has been discussed
- Network Management vendors and device manufacturers are using concepts and links to entity MIB now in shipping products
- We believe this fulfils WG item 3
- Propose to accept Draft as WG Item

- Questions? Feedback?

END

Match Energy Domains to Electrical Distribution



Add Business Context

