

A Generalized Open Source Platform for Building Energy Management

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Outline

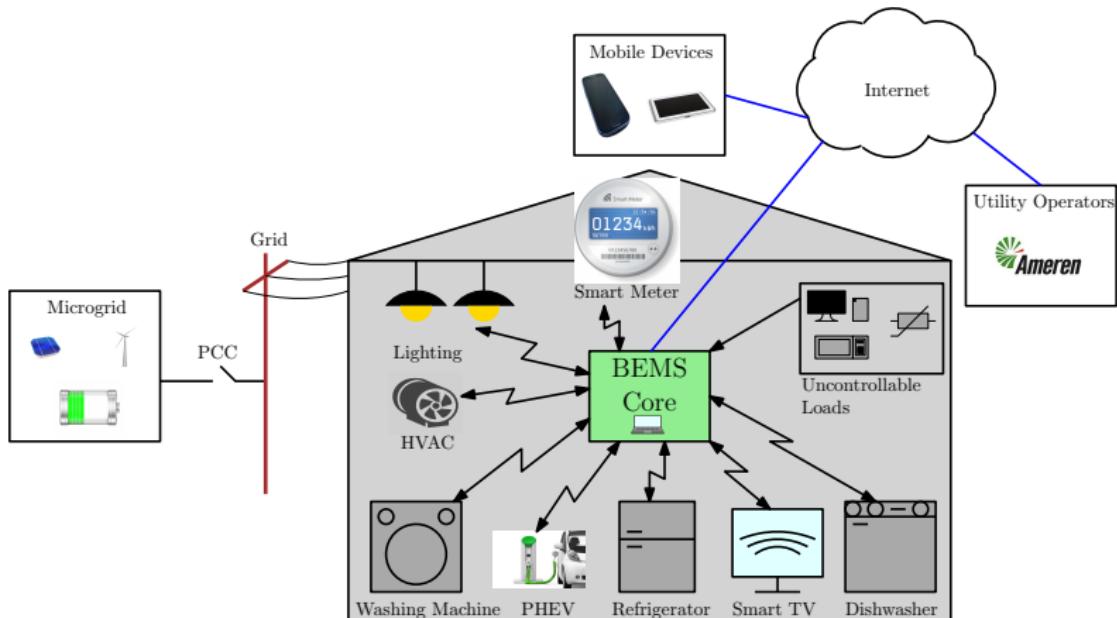
1 Introduction

2 Progress

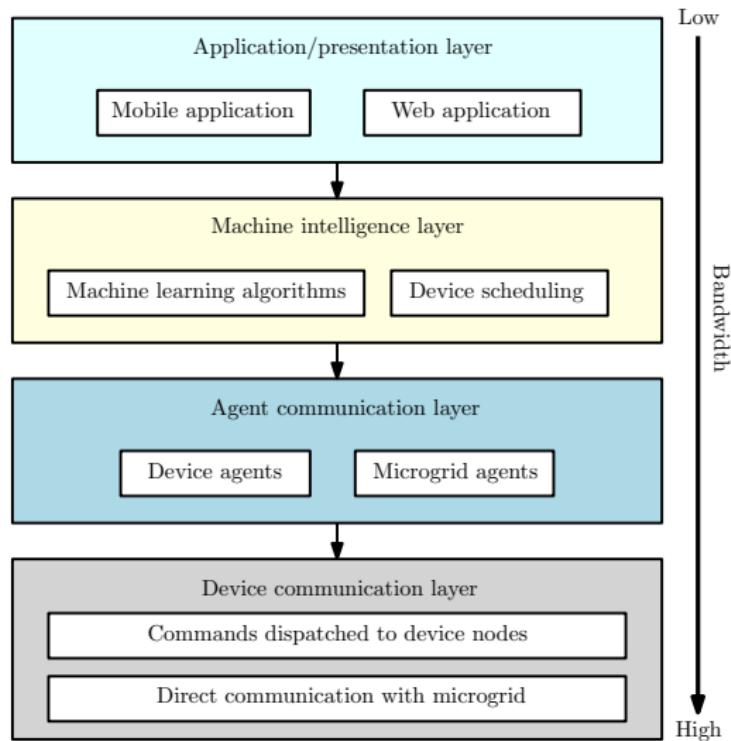
3 Implementation

4 Plans

Introduction



Introduction



Progress

- Successfully able to find device on LAN
- Returns URL `http://{IP address}:49153/setup.xml`
- Able to determine information like device type, manufacturer, serial number
- Have not fully implemented SOAP requests yet

Implementation

- Heavily based off BEMOSS Wemo API
- Uses SSDP to send a HTTP request over UDP to the device
- Responses will be returned from all UPNP devices on the network
- Use if '49153/setup.xml' in header to determine if device is a WeMo Switch
- 49153 is the port number and setup.xml is the name of the initial XML file

Implementation

- Plan on use SOAP requests to retrieve and set device data
- Must extract host from url
- In current implementation, `http://{IP address}:49153/setup.xml` is saved to a list
- Extracted URL by using `pathBegin = url.rfind('/');` `url = url[:pathBegin]`
- `getState` method throwing `IndexError` when attempting to read from tag corresponding to 'BinaryState'

Implementation

```
blauer@blauer-MS-7A71: ~/NewBEMS/DeviceDrivers
File Edit View Search Terminal Help
>>> url = url[:pathBegin + 1]
>>> url
'http://192.168.0.30:49153/'
>>> url = url[:pathBegin]
>>> url
'http://192.168.0.30:49153'
>>>
blauer@blauer-MS-7A71:~$ cd NewBEMS/DeviceDrivers/
blauer@blauer-MS-7A71:~/NewBEMS/DeviceDrivers$ python3 WeMoAPI.py
Traceback (most recent call last):
  File "WeMoAPI.py", line 93, in <module>
    state = wemo.getState()
  File "WeMoAPI.py", line 80, in getState
    print(url)
NameError: name 'url' is not defined
blauer@blauer-MS-7A71:~/NewBEMS/DeviceDrivers$ python3 WeMoAPI.py
http://192.168.0.30:49153
Traceback (most recent call last):
  File "WeMoAPI.py", line 93, in <module>
    state = wemo.getState()
  File "WeMoAPI.py", line 83, in getState
    binaryState = dom.getElementsByTagName('BinaryState')[0].firstChild.data
IndexError: list index out of range
blauer@blauer-MS-7A71:~/NewBEMS/DeviceDrivers$
```

Implementation

- `xml.dom.minidom` used for building XML tree of tags from XML file
- `requests` for sending SOAP requests to device
- `urllib.request` for opening XML dom

Plans

- Finish up adding SOAP requests to WeMo Switch API
- Add support in UI for Switch
- Look into Jemdoc and how to create a wiki with this markup language

For Further Reading I



BEMOSS WeMo API

<https://github.com/bemoss/BEMOSS3.5/wiki/API-WeMo>