

# BEMOSS and Its Enhanced Applications

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# Outline

- 1 VOLTTRON
- 2 Motor Interface
- 3 Bug Fixes
- 4 Plans

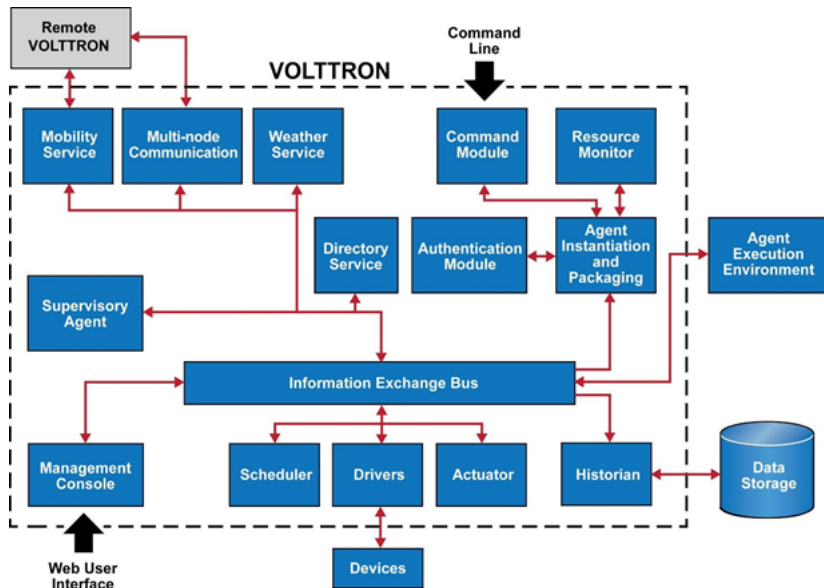


Figure: Source  
<https://volttron.readthedocs.io/>

## Overview

- Agent-based system for improving energy management
- Improves sensing and control of devices in buildings
- Single point of contact for interfacing with devices (RTUs, building systems, power meters)
- Open source, available on github
- Python 2.7, Linux

# VOLTTRON



## Update

- Added identify device behavior to motor
- Python Digi-XBee library instead of python-xbee library
  - Commands to read status of IO pins
  - Send commands to end point XBee specifying remote node identification

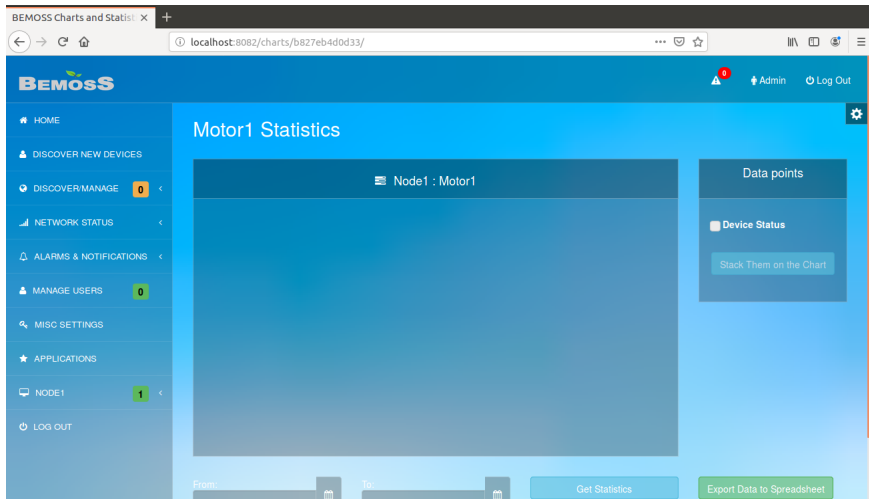
# Motor Interface

The screenshot shows a web browser window with the address bar displaying `localhost:8082/dashboard/0/Motor`. The page title is "Node1: MOTOR DEVICES". The left sidebar contains a navigation menu with the following items: HOME, DISCOVER NEW DEVICES, DISCOVER/MANAGE (with a yellow badge showing "0"), NETWORK STATUS, ALARMS & NOTIFICATIONS, MANAGE USERS (with a green badge showing "0"), MISC SETTINGS, APPLICATIONS, NODE1 (with a green badge showing "1"), and LOG OUT. The main content area is titled "Node1: MOTOR DEVICES" and features a "Motor Controllers" section. Under this section, there is a card for "MOTOR1" which includes an image of a motor, the text "Status : None ONLINE", and a yellow button labeled "Identify Device". Below the card is a button labeled "View/Edit Information". The footer of the page displays the copyright notice: "2013-2017 © Building Energy Management Open Source Software."

## Problems

- No chart visible
- Motor not properly added to BEMOSS database (PostgreSQL)
  - Required to run `PROJECT_DIR/Web_Server/run/defaultDB.py`

# Motor Interface





## Corrected TSDAgent Error

- Downgraded Python cassandra-driver to version 3.16.0

# Plans

## Finish motor interface

- Fix database and chart issues
- Implement ssh keys

## Begin writing paper

- Motor interface must be fully functional

## Develop deep understanding of BEMOSS

- Understand every part of the code base
  - This is required to make further progress
- Completed before August 23

## Add new device

- Possibly space heater



**Figure:** Dyson Pure Hot + Cool Air Purifier Courtesy of <https://www.wantse.com/images/2/o6y516bzd.jpg>

# For Further Reading I



**VOLTTRON**

VOLTTRON Documentation.

<https://volttron.readthedocs.io/>