

BEMOSS and Its Enhanced Applications

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Outline

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

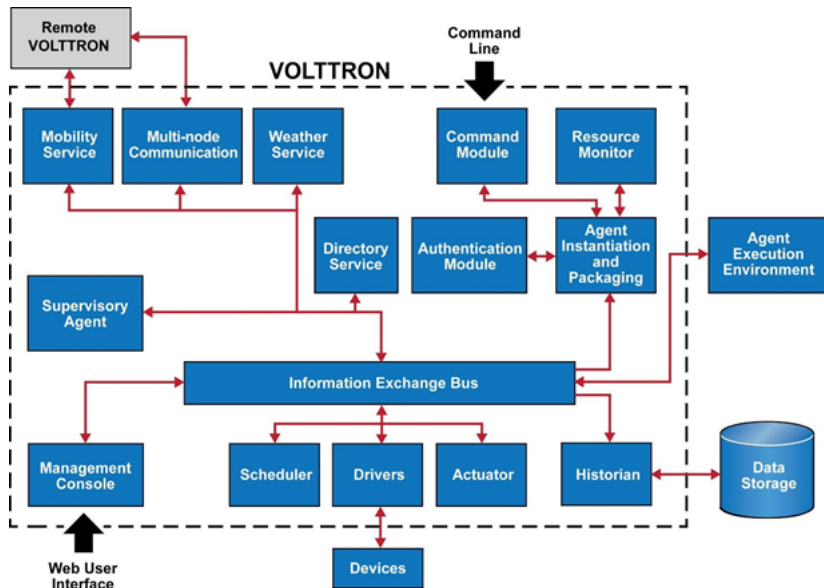


Figure: Source
<https://volttron.readthedocs.io/>

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

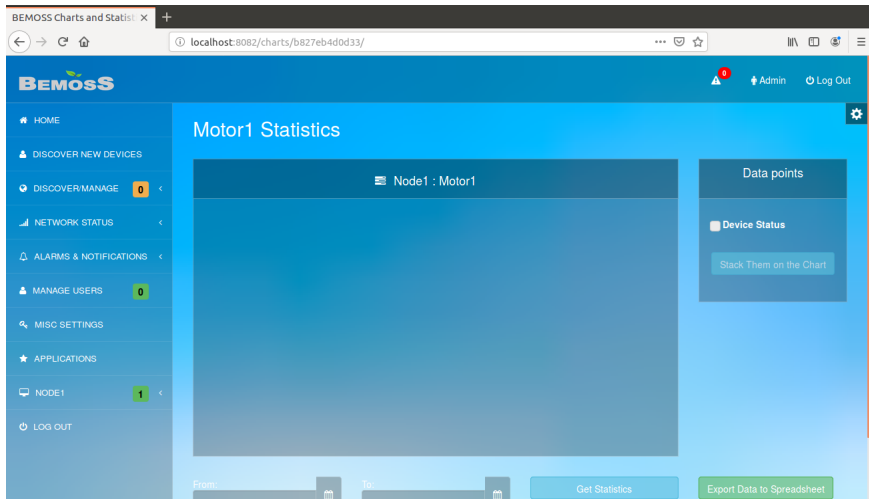
Motor Interface

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", an "Identify Device" button, and a "View/Edit Information" button. The footer of the application 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/>