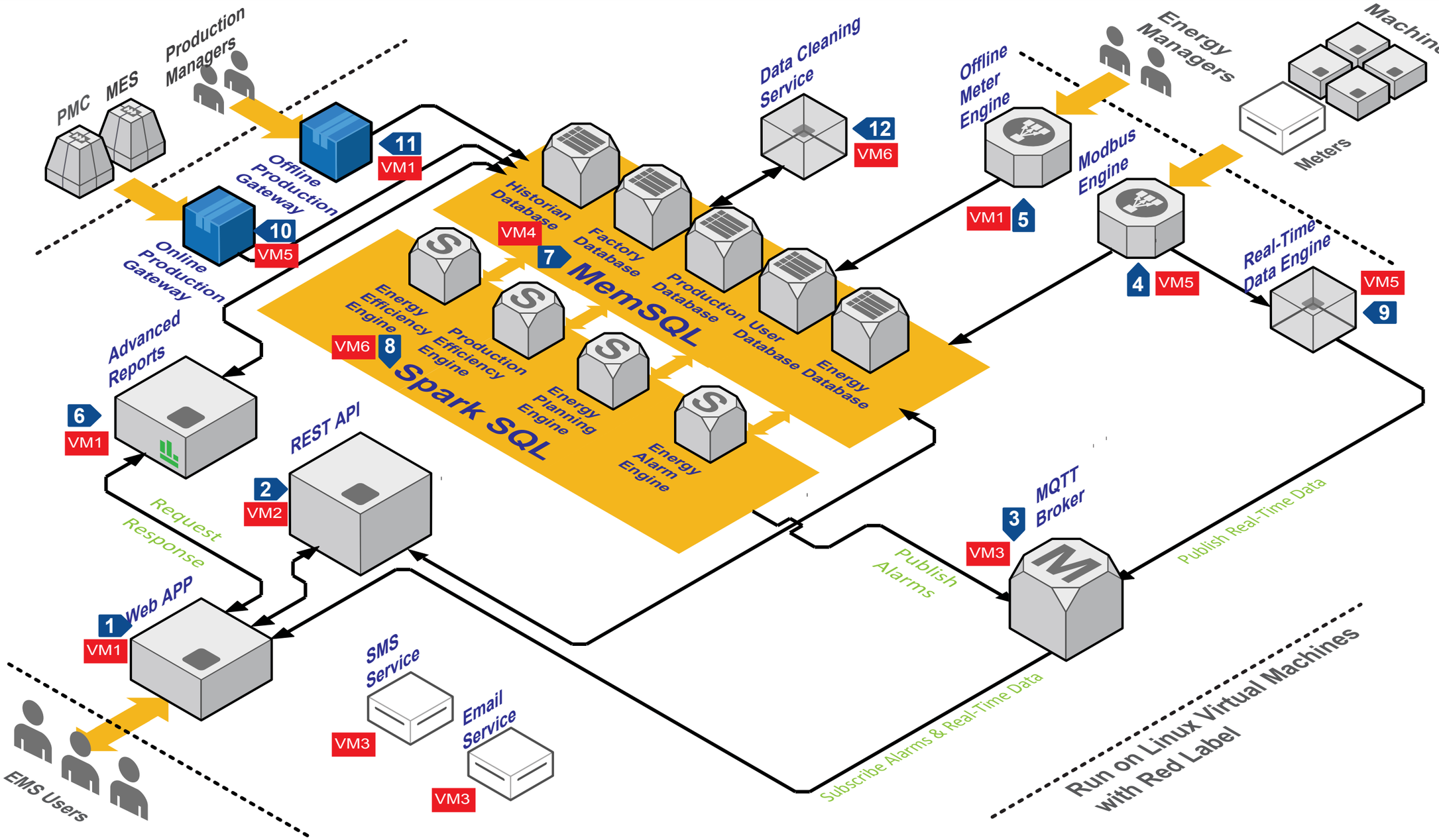
FEED Software Architecture

Aug.18th, 2016, Beijing



References

- getbootstrap.com
- ubuntu.com
- python.org
- modbus.org
- spark.apache.org
- angular.io
- memsql.com
- mqtt.org
- virtualbox.org

Componets Overview

1. Responsive web app based on bootstrap and JavaScript MVC framework
2. Provide RESTful API to Web APP or Mobile APPs
3. Using Mosquitto to implement the MQTT protocol for distributing real-time messages
4. Acquisition of energy meters via Modbus protocol
5. Acquisition of offline meter
6. Reporting server to provide reporting and analytics that can be embedded into the web application
7. Persistent storeage for historian data, factory, production, users and energy consumption based on MemSQL
8. Data processing engines based on Spark SQL
9. Converting real-time data from Modbus to MQTT
10. Acquisiton of production data from PMC or MES automaticly to the database
11. Acquisition of production data manually
12. Cleaning historian energy data
13. A Linux server or cluster with fully configured application stack

VM1	FEED-Web-Server
VM2	FEED-API-Server
VM3	FEED-Messaging-Server
VM4	FEED-MemSQL-Server
VM5	FEED-Integration-Server
VM6	FEED-Analysis-Server