

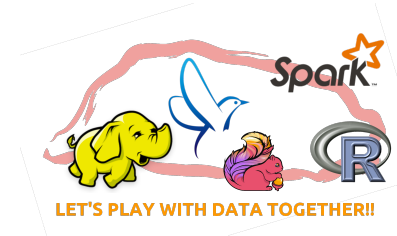
varOne

A Efficient Apache Spark Monitoring Tool On Web

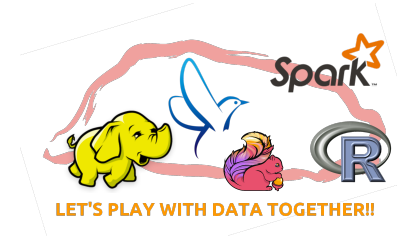
Who am I ?

- Stana 何永安
- Worked at is-Land
- Be familiar with Hadoop 、HBase 、Hive and Spark



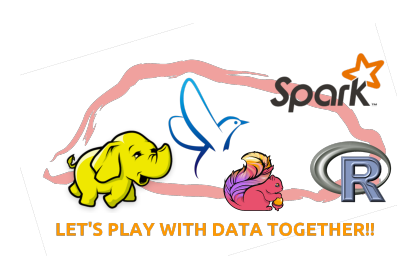


Story



Problems

- Living monitor interfaces is required.
- Leak of a UI which summarize event log and metrics together.

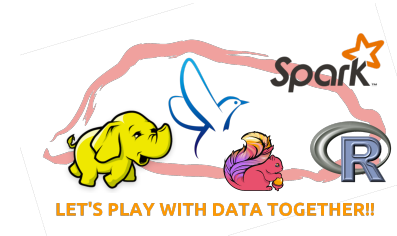


Solution

varOne

varOne provides a web UI for you to monitor the metrics of Spark applications more efficiently and easily.

varOne ingests the spark event logs and metric data then summarizes them as rich charts.



Dashboard

30m

1h

2h

6h

5

Node Qty

View Details

1

Running Job Qty

View Details

3

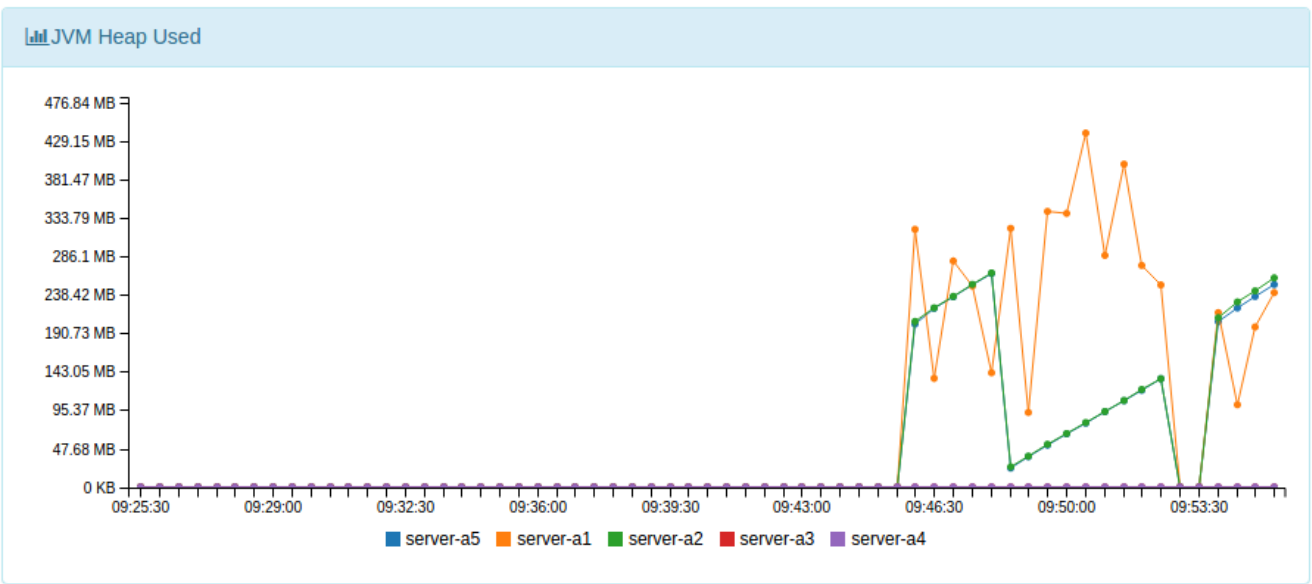
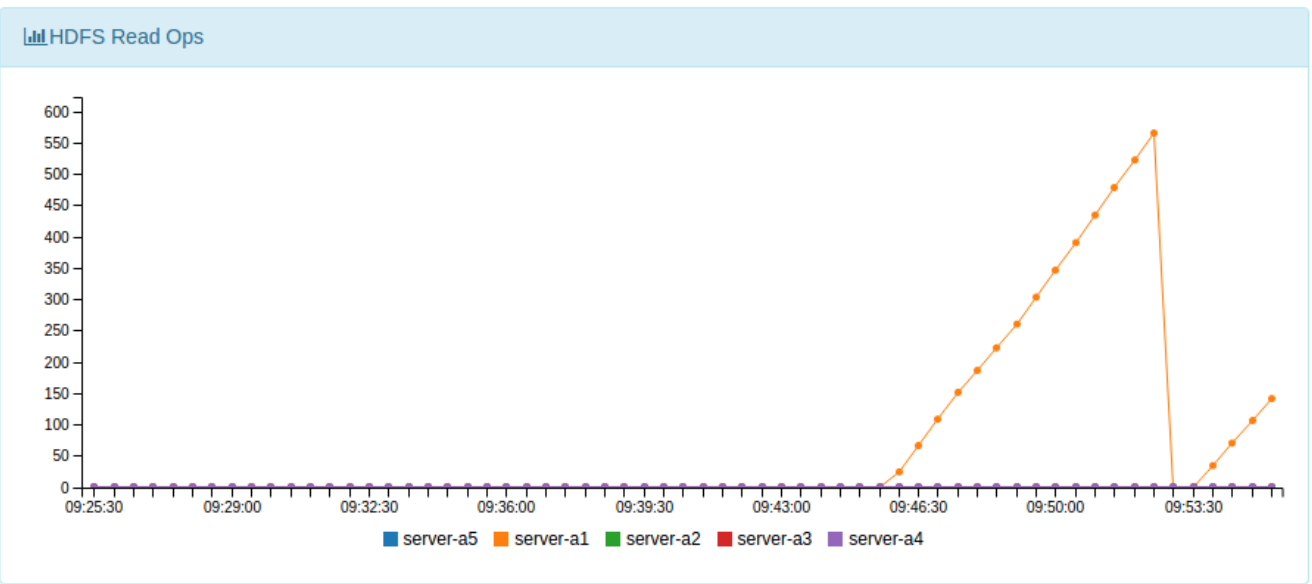
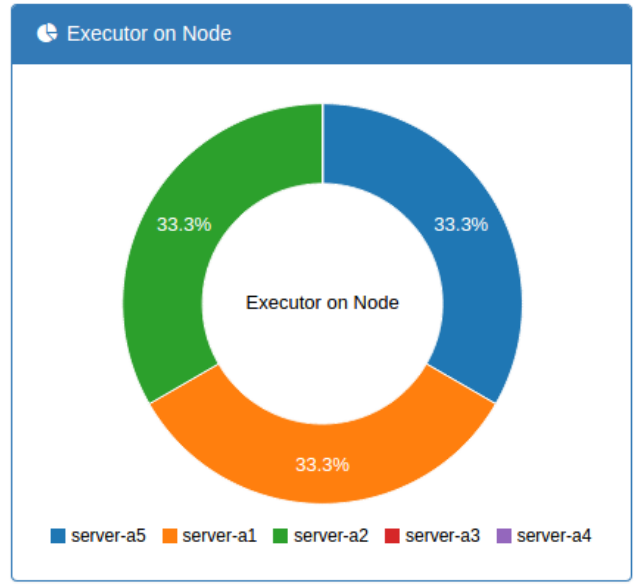
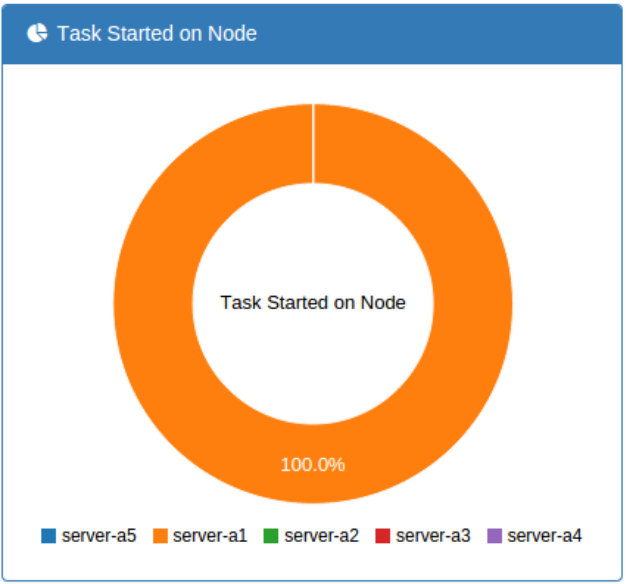
Running Executor Qty

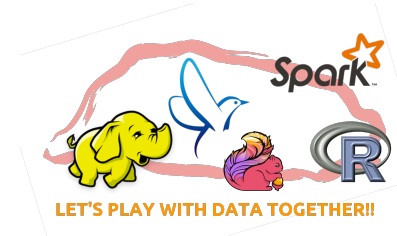
View Details

2

Running Task Qty

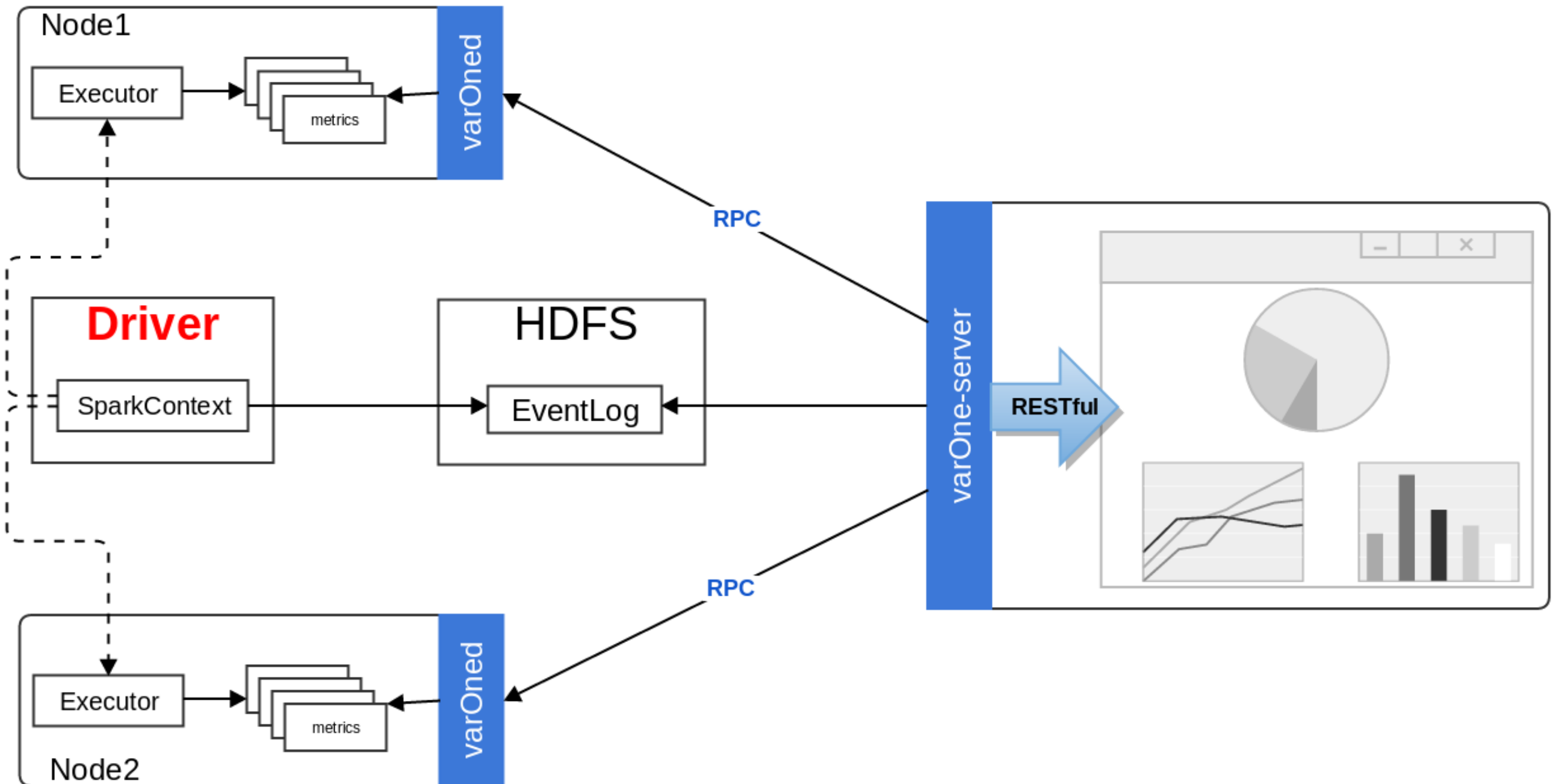
View Details



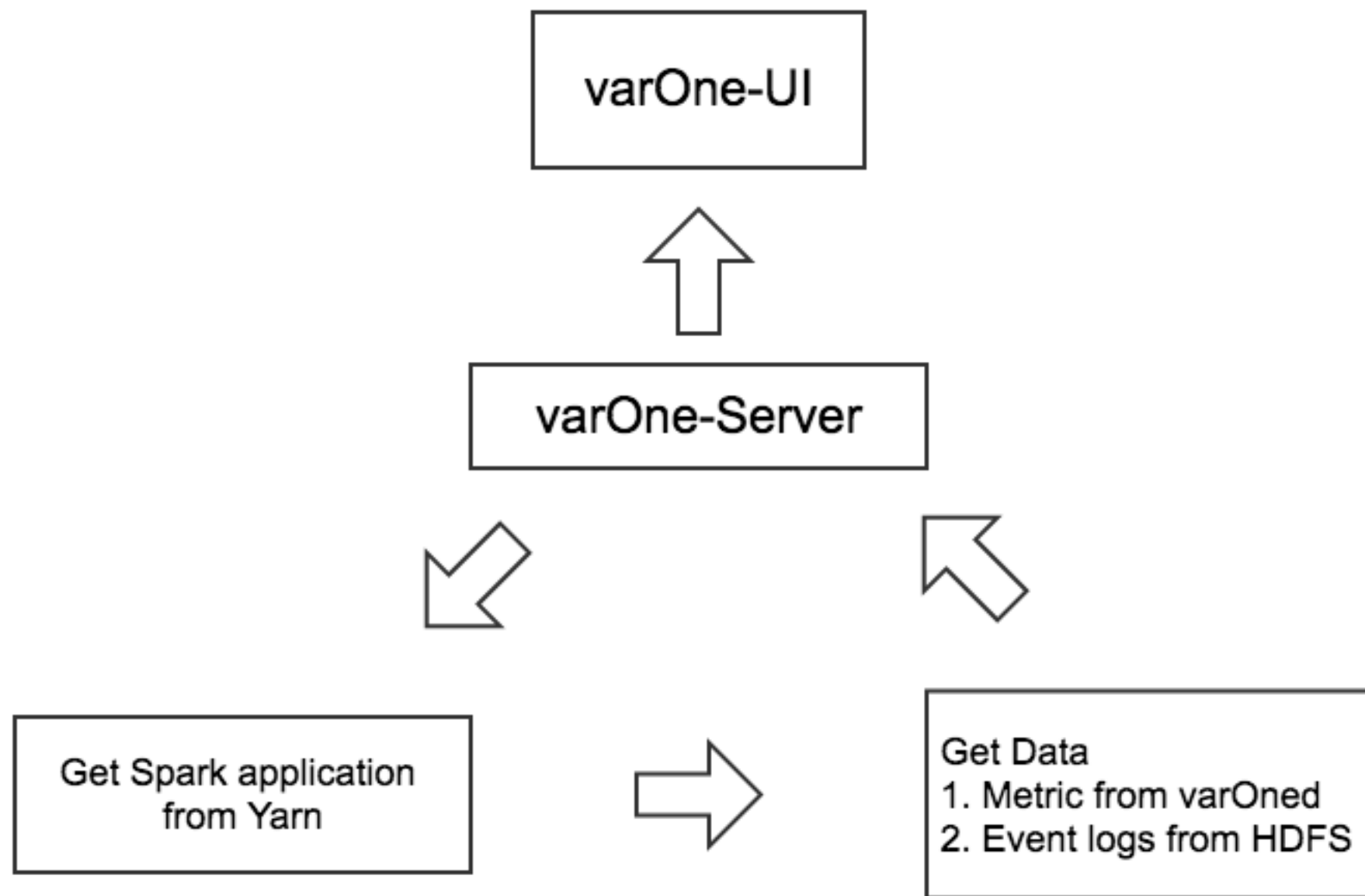


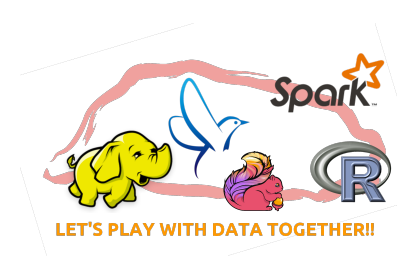
Implementation

System Architecture



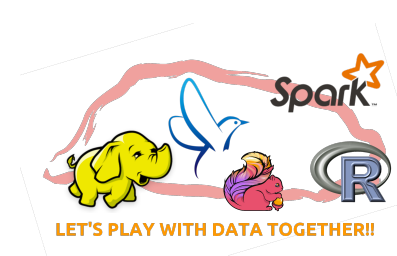
System Flow





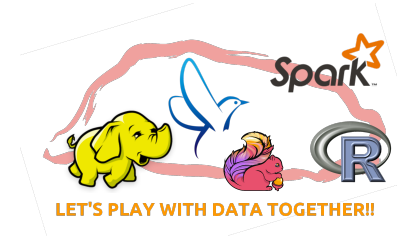
Prerequisites

- JDK 7 and later
- Spark on YARN
 - Yarn-Client
- Enable Spark metrics by CsvSink
- Enable Spark event log on HDFS

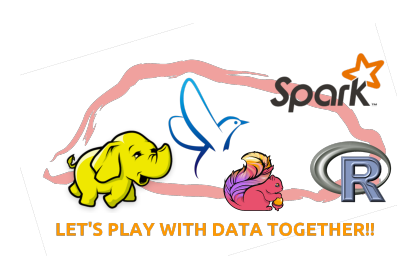


Advantage

- More efficiency and easy
- Open Source
 - <https://github.com/SparkMonitor/varOne>
- RESTful API
 - You can customize your UI by calling RESTful provided by varOne
 - <https://github.com/SparkMonitor/varOne/blob/master/docs/api.md>
- Summarize event log and metrics together

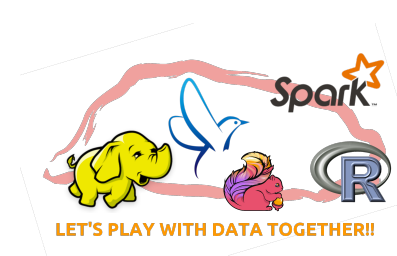


Demo



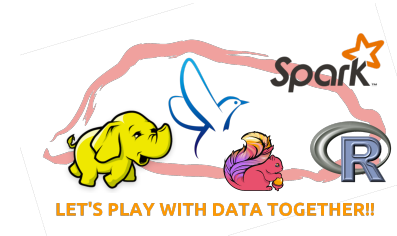
How to get varOne

- Download on github or build from source code by yourself
 - Download from github:
 - `wget http://sparkmonitor.github.io/varOne/varOne-0.1.0.tgz`
 - Building by yourself:
 - `git clone https://github.com/SparkMonitor/varOne.git`
 - `./{VARONE_HOME}/bin/release.sh {version_no}`



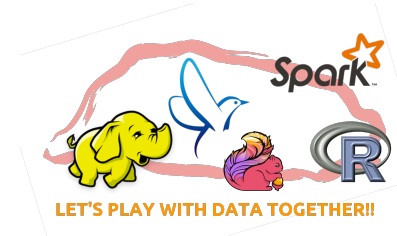
Installing varOne

- Configure varOne:
 - varOne-env.sh
 - export SPARK_HOME=/PATH/TO/SPARK_HOME
 - export HADOOP_CONF_DIR=/PATH/TO/HADOOP_HOME/etc/hadoop
 - varOne-site.xml
 - Setting of varOne, including ip, port...
 - varonedamond
 - Node list of cluster that you want to monitor.

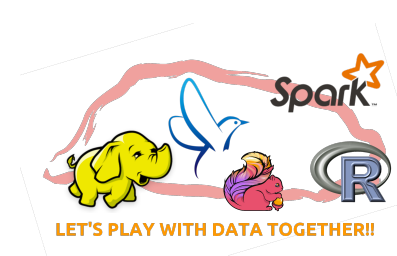


Startting varOne

- Starting varOne daemons
[user@server bin]\$./varOned-all.sh start
- Starting varOne web server
[user@server bin]\$./varOne.sh

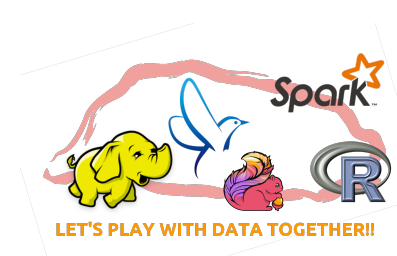


Running Spark Application



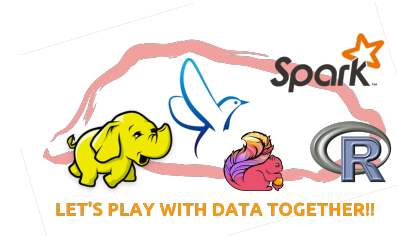
Spark-Submit

- `cd $SASPRK_HOME`
- `/opt/spark/bin/spark-submit --class
org.apache.spark.examples.SparkPi --master yarn-client --
files /opt/spark/conf/metrics.properties
--conf spark.metrics.conf=metrics.properties /opt/spark/lib/
spark-examples-1.6.1-hadoop2.6.0.jar 10000`

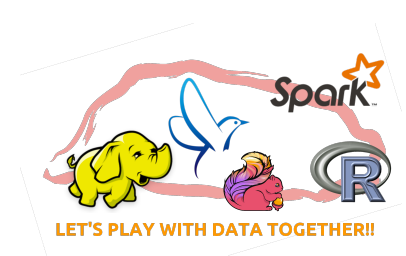


Setting of SparkConf

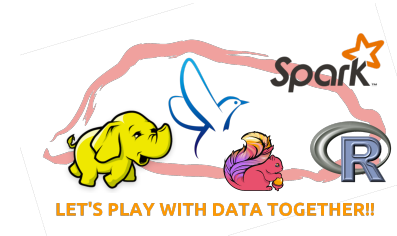
```
val sparkConf = new spark.SparkConf()  
.set("spark.metrics.conf.*.sink.csv.class", "org.apache.spark.metrics.sink.CsvSink")  
.set("spark.metrics.conf.*.sink.csv.period", "1")  
.set("spark.metrics.conf.*.sink.csv.unit", "seconds")  
.set("spark.metrics.conf.*.sink.csv.directory", "/path/to/CSV_SINK")  
.set("spark.metrics.conf.driver.source.jvm.class", "org.apache.spark.metrics.source.JvmSource")  
.set("spark.metrics.conf.executor.source.jvm.class", "org.apache.spark.metrics.source.JvmSource")  
  
val sc = new spark.SparkContext(sparkConf)
```



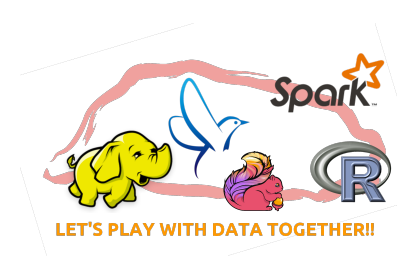
Improving



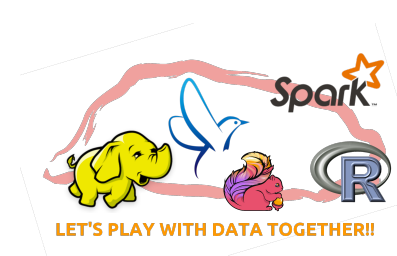
- Stored data of monitoring in varoOne.
 - RDB - Mysql etc...
- Supported other platform.
 - Standalone
 - Mesos
- Fully supported on yarn
 - Yarn-Client(For now)
 - Yarn-Cluster(In the future)
- Time Zone.
- Auto deploy.



Contribution



- Feel free to open PR or issues
 - <https://github.com/SparkMonitor/varOne/blob/master/CONTRIBUTING.md>
- Getting started
 - <https://github.com/SparkMonitor/varOne/blob/master/docs/development.md>
- Join us on Gitter
 - <https://gitter.im/SparkMonitor/varOne>



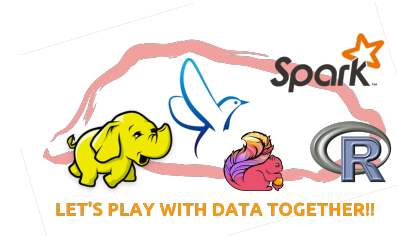
工商時間

- 請加入Spark-Hsinchu Gitter Group
<https://gitter.im/hubertfc/SparkHsinchu>
- Gitter app : <https://gitter.im/apps>
- 與 Spark-Hsinchu Meetup
<https://www.meetup.com/Apache-Spark-Hsinchu/>

We want you !

- Be interesting in Big Data.
- Skill with statistics is plus.
- Liking food of Hsinchu.
 - varOne 、 Rice Noodles





Thank You!