

API Statistics Export and Monitoring using Graphite

Parag Deuskar & Amar Jyothi

June 2015

Agenda

- API Statistics Export Feature
- Graphite/Grafana basics
- Sample code provided with the product
- Example of a dashboard

API Statistics Export Feature

Current behavior

- Data store: YFS_STATISTICS_DETAIL
- Only summarized data available
- No easy way to graph data

New behavior

- Interface enables to use your choice of data store
- Granular data available
- Easy way to graph data

API Statistics Export Feature

- Current behavior – data published to table
- Key Properties
 - `yfs.yantra.statistics.collect=Y`
 - `yfs.yantra.statistics.persist.interval=10m`

Example data in YFS_STATISTICS_DETAIL table

START_TIME_STAMP	END_TIME_STAMP	HOSTNAME	SERVER_NAME	SERVER_ID	SERVICE_NAME	SERVICE_TYPE	STATISTIC_NAME	STATISTIC_VALUE
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	Minimum	154
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	Average	288.57
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	Invocations	3438
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	Maximum	2852
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	NumOrdersCreated	3438
04-MAY-15 12:10:36	04-MAY-15 12:20:36	qiubl02	SVTCreateOrder	SVTCreateOrder_0	createOrder	API	NumOrderLinesCreated	17190

API Statistics Export Feature

- New behavior
 - Custom class is invoked
 - Interface provided to access all the statistics data at maximum granularity
- Key Properties
 - `yfs.plt.statistics.consumer.classname`
 - `yfs.plt.statistics.collection.interval`
- [Here](#) is the link to relevant documentation

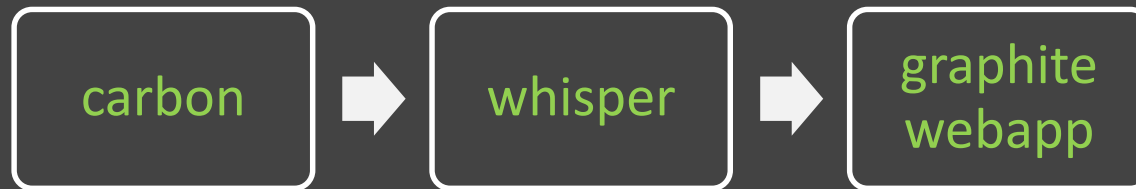
Agenda

- API Statistics Export Feature
- Graphite/Grafana basics
- Sample code provided with the product
- Example of a dashboard

Graphite/Grafana basics

Graphite

- Open source tool for graphing
- Collects, Stores, Displays **time series** data

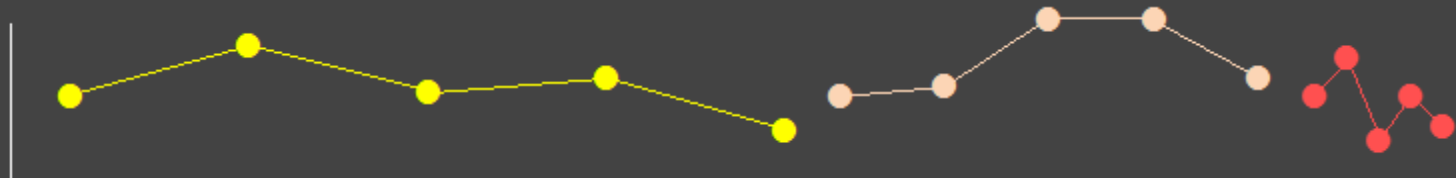


Grafana

- Open source, feature rich dashboard
- A substitution for graphite webapp

Graphite/Grafana basics

- Data stored in buckets of different granularity



Oldest Latest

- Example `pattern = ^weather.*`
`retentions = 1h:2d,1d:7d,7d:31d`

Store weather data of 1 hour granularity for 2 days, 1 day granularity for 7 days etc

- Data accepted in dot-delimited form

- Examples:

```
weather . temperature . Bangalore . average 24 <timestamp>  
weather . temperature . Boston . average 32 <timestamp>  
weather . rainfall . Bangalore . total 110 <timestamp>
```


Graphite/Grafana basics

- Data moved from one bucket to another based on aggregation rules.

```
pattern = weather.+average$  
aggregationMethod = average
```

For "average" temperature

```
pattern = weather.+total$  
aggregationMethod = sum
```

For "total" rainfall

- To view data in Grafana
 - Use queries
 - Access dot-delimited data with or without wildcards
 - Functions available to manipulate the graphs

Agenda

- API Statistics Export Feature
- Graphite/Grafana basics
- Sample code provided with the product
- Example of a dashboard

Sample code provided with the product

- Sample code provided to send data to Graphite.
 - Available in `xapidocs/code_examples/graphite`
 - Key properties

<code>graphite.host</code>	
<code>graphite.port</code>	
<code>metrics.common.prefix</code>	
<code>statistics.categories</code>	<code>timers, counters, jvmstat</code>

Sample code provided with the product

– Key properties (continued)

statistics.category.timers.statnames	ResponseTime
statistics.category.timers.prefix	timer
statistics.category.timers.digests	min,max,sum,count,avg

statistics.category.counters.statnames	NumOrderLinesBackOrdered,NumOrderLinesCreated,NumOrderLinesScheduled (these are some examples)
statistics.category.counters.prefix	counter
statistics.category.counters.digests	sum

statistics.category.jvmstat.statnames	UsedMemory,TotalMemory,GarbageCollectionCount,GarbageCollectionTime
statistics.category.jvmstat.prefix	jvmstat
statistics.category.jvmstat.digests	lastval

Sample code provided with the product

– Example of the statistics produced

```
{Prefix} . timer . {Host} . {ServerName} . {ServerId} . AGENT . {ServiceName} . ResponseTime . avg
```

```
SVT . timer . qiubl02 . SVTSchedule . SVTSchedule_0 . AGENT . ScheduleDefault . ResponseTime . avg
```

Apart from 'avg', you will also get 'count', 'lower', 'sum', 'upper'

```
{Prefix} . counter . {Host} . {ServerName} . {ServerId} . AGENT . {ServiceName} . NumOrdersScheduled . sum
```

```
SVT . counter . qiubl02 . SVTSchedule . SVTSchedule_0 . AGENT . ScheduleDefault . NumOrdersScheduled . sum
```

```
{Prefix} . jvmstat . {Host} . {ServerName} . {ServerId} . JVM . vmstat . UsedMemory . value
```

```
SVT . jvmstat . qiubl02 . SVTSchedule . SVTSchedule_0 . JVM . vmstat . UsedMemory . Value
```

Apart from 'UsedMemory', you will also get 'TotalMemory', 'GarbageCollectionCount', 'GarbageCollectionTime'

Agenda

- API Statistics Export Feature
- Graphite/Grafana basics
- Sample code provided with the product
- Example of a dashboard

Example of a dashboard

