Time-series data tracking process

Clients need a clean, concise or intuitive dashboard for visualizing time-series data. The solution also need to be simple, so that it can be easily used by non-technical person.

The Collector

STEP 01

Time-series data need to be collected from the system and store in a database

The Database

STEP 02

Using InfluxDB to store time-series data. Allowing easy manipulation of huge data

Visualizing Data

STEP 03

Time-series data is hard to read if given in data point. Hence, we use Grafana to build beautiful dashboards

Alerts

STEP 04

These dashboards need to provide a timely alert and warning protocol if any system fail to perform

The Delivery

STEP 05

Able to produce monthly report and enhance ability manipulate data

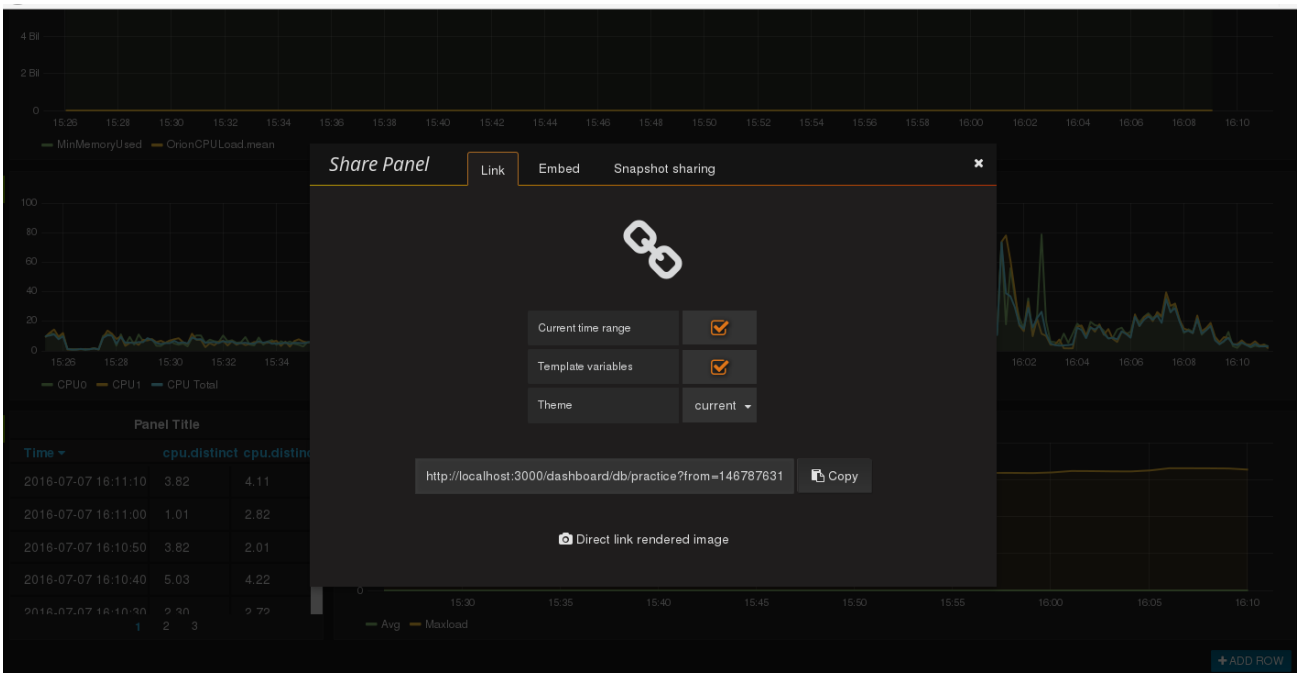
Report All Panels at once

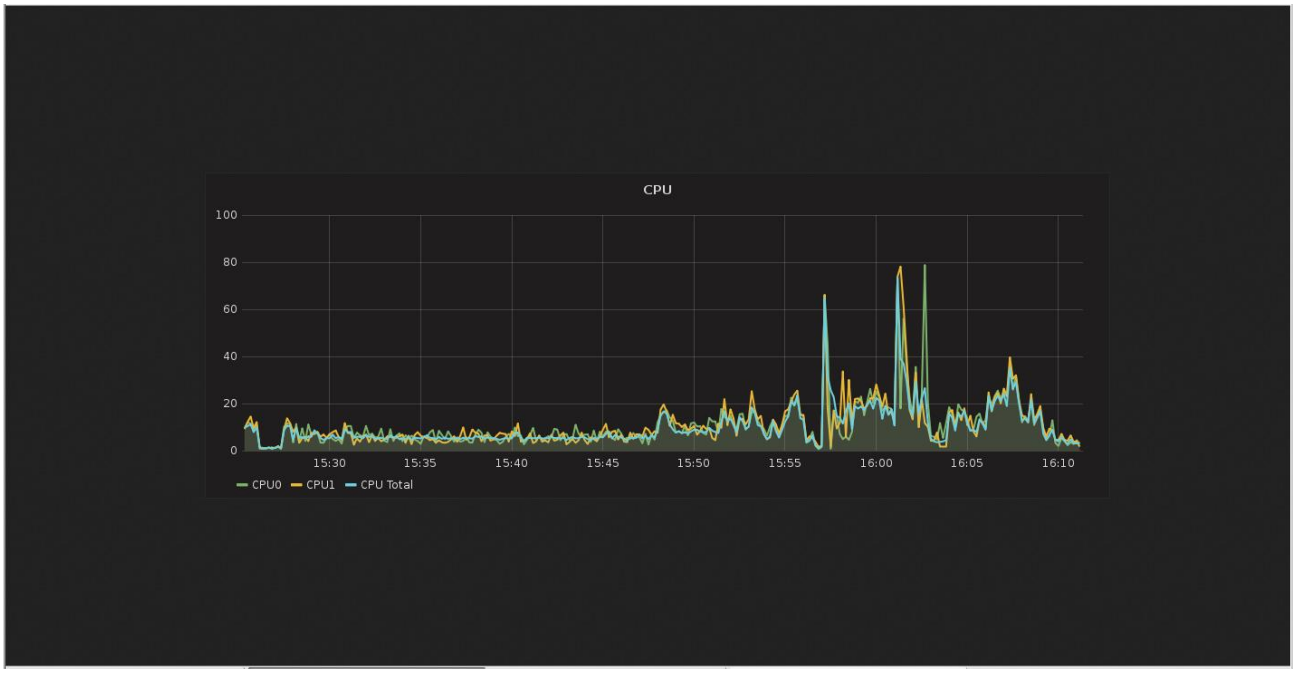
Step 3: Grafana-

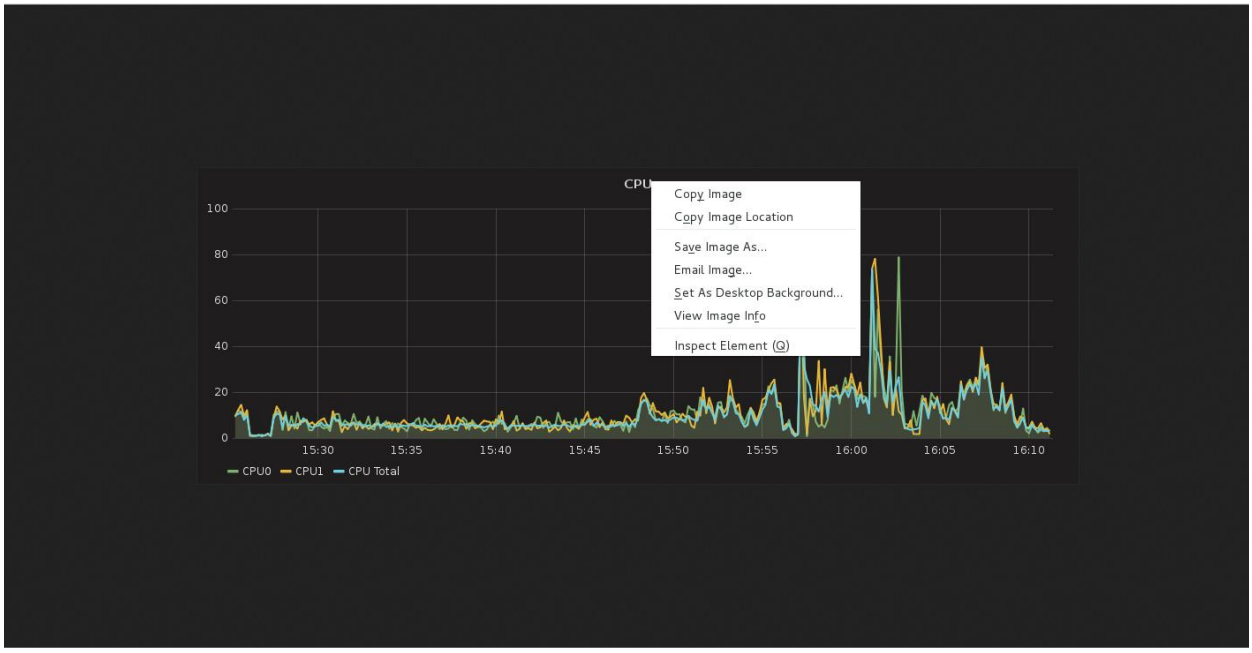
Visualizing time-series data

Problems

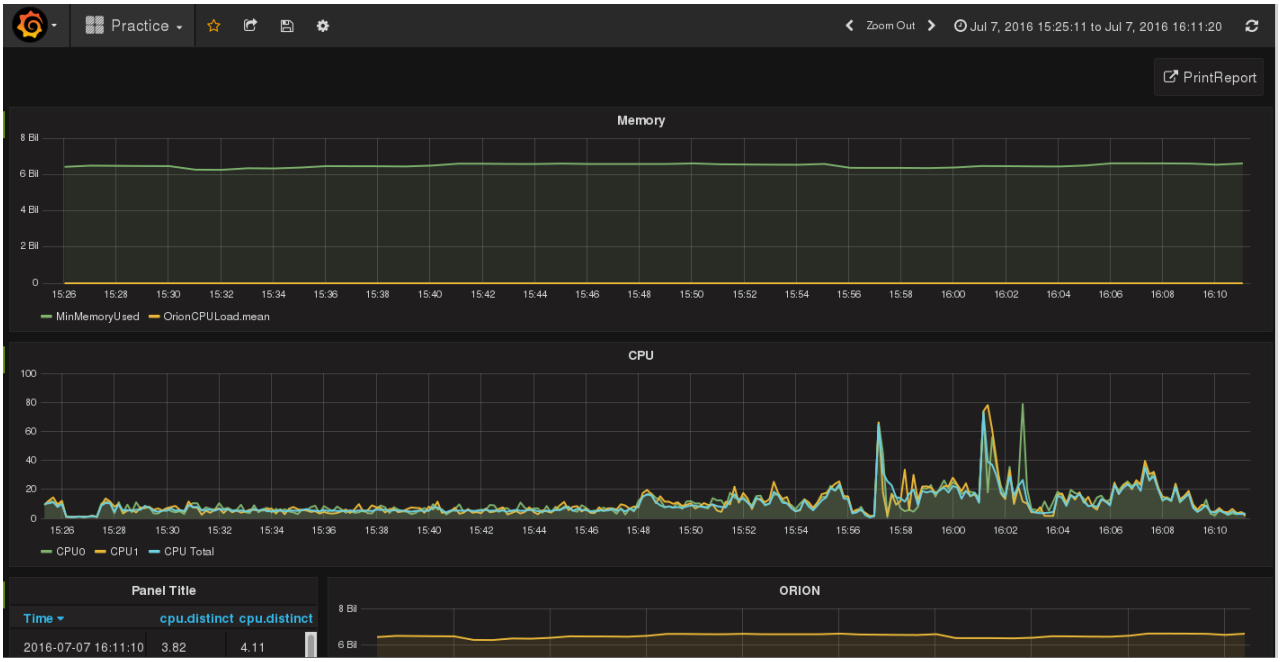

Grafana - Practice
Grafana Dashboard Dow...
Grafana Dashboard Dow...
http://loca...-6h&to=now
InfluxDB - Admin Interface
localhost:3000/dashboard/db/practice?from=1467876311554&to=1467879080703
Search
MinMemoryUsed
OrionCPULoad.mean
View
Edit
Duplicate
Share
CPU
CPU0
CPU1
CPU Total
Panel Title
Time
cpu.distinct
cpu.distinct
2016-07-07 16:11:10
3.82
4.11
2016-07-07 16:11:00
1.01
2.82
2016-07-07 16:10:50
3.82
2.01
2016-07-07 16:10:40
5.03
4.22
ORION
Avg
Maxload


Share Panel
Link
Embed
Snapshot sharing
Current time range
Template variables
Theme
current
http://localhost:3000/dashboard/db/practice?from=146787631
Copy
Direct link rendered image
Panel Title
Time
cpu.distinct
2016-07-07 16:11:10
3.82
4.11
2016-07-07 16:11:00
1.01
2.82
2016-07-07 16:10:50
3.82
2.01
2016-07-07 16:10:40
5.03
4.22
ADD ROW

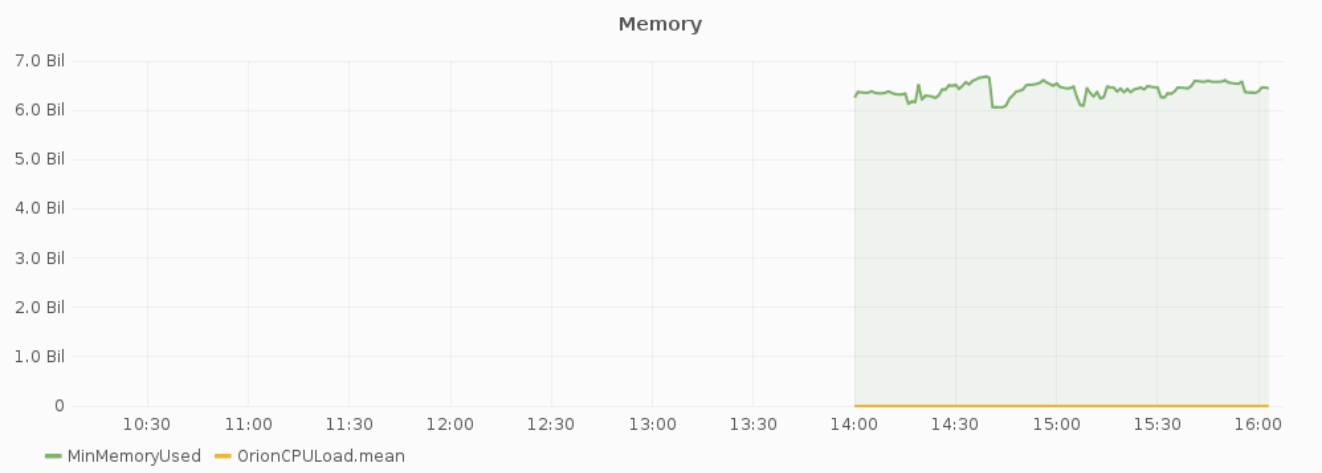

CPU
100
80
60
40
20
0
15:30
15:35
15:40
15:45
15:50
15:55
16:00
16:05
16:10
CPU0
CPU1
CPU Total

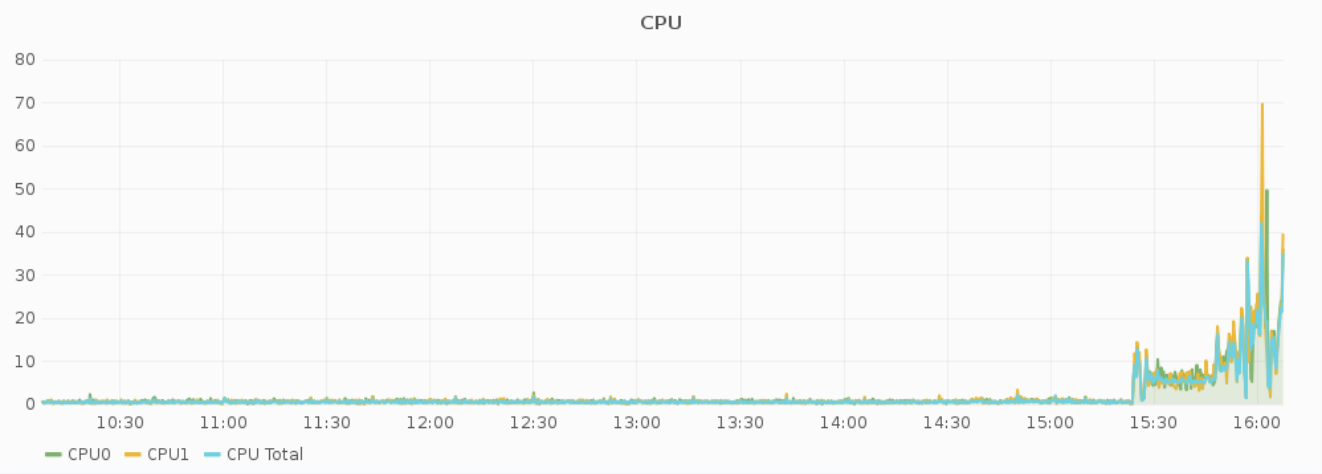

CPU
Copy Image
Copy Image Location
Save Image As...
Email Image...
Set As Desktop Background...
View Image Info
Inspect Element (Q)
100
80
60
40
20
0
15:30
15:35
15:40
15:45
15:50
15:55
16:00
16:05
16:10
CPU0
CPU1
CPU Total

SOLUTION


Practice
Zoom Out
Jul 7, 2016 15:25:11 to Jul 7, 2016 16:11:20
PrintReport
Memory
8 Bil
6 Bil
4 Bil
2 Bil
0
15:26 15:28 15:30 15:32 15:34 15:36 15:38 15:40 15:42 15:44 15:46 15:48 15:50 15:52 15:54 15:56 15:58 16:00 16:02 16:04 16:06 16:08 16:10
MinMemoryUsed
OrionCPULoad.mean
CPU
100
80
60
40
20
0
15:26 15:28 15:30 15:32 15:34 15:36 15:38 15:40 15:42 15:44 15:46 15:48 15:50 15:52 15:54 15:56 15:58 16:00 16:02 16:04 16:06 16:08 16:10
CPU0
CPU1
CPU Total
Panel Title
Time
cpu.distinct
cpu.distinct
2016-07-07 16:11:10
3.82
4.11
ORION
8 Bil
6 Bil

Download All





Panel Title

Time	cpu.distinct	cpu.distinct
2016-07-07 16:07:20	33.57	30.75
2016-07-07 16:07:00	14.26	15.27
2016-07-07 16:06:40	17.51	24.42
2016-07-07 16:06:20	19.98	18.19
2016-07-07 16:06:00	18.74	25.23
2016-07-07 16:05:40	6.46	15.75
2016-07-07 16:05:20	3.54	7.38
2016-07-07 16:05:00	6.61	4.03

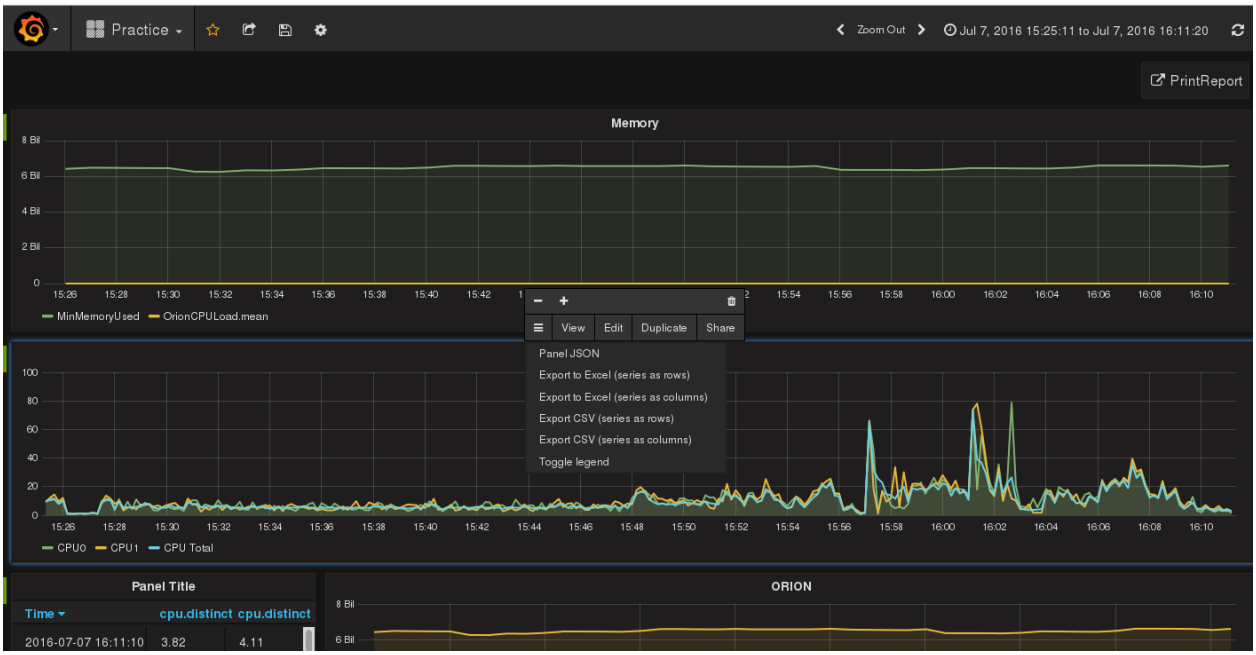
1 2 3 4 5 6 7 8 9

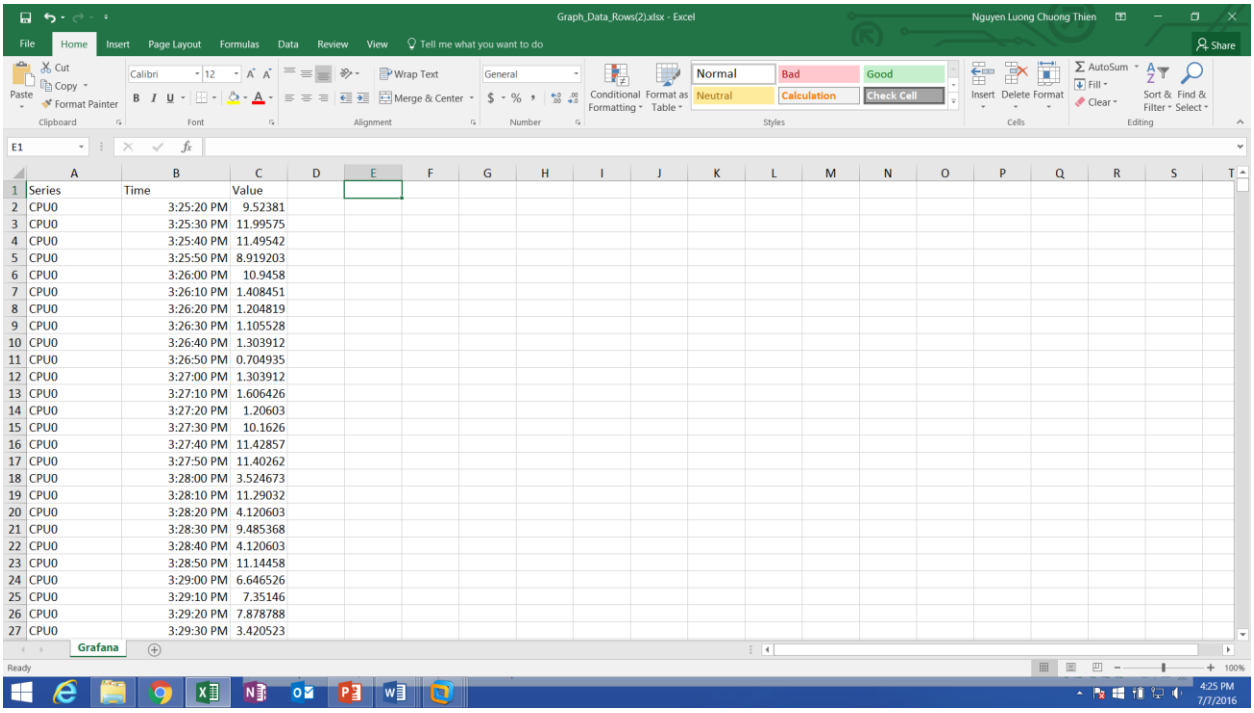
EXPORT TO EXCEL SOLUTION

Step 5: Grafana- Reporting Data

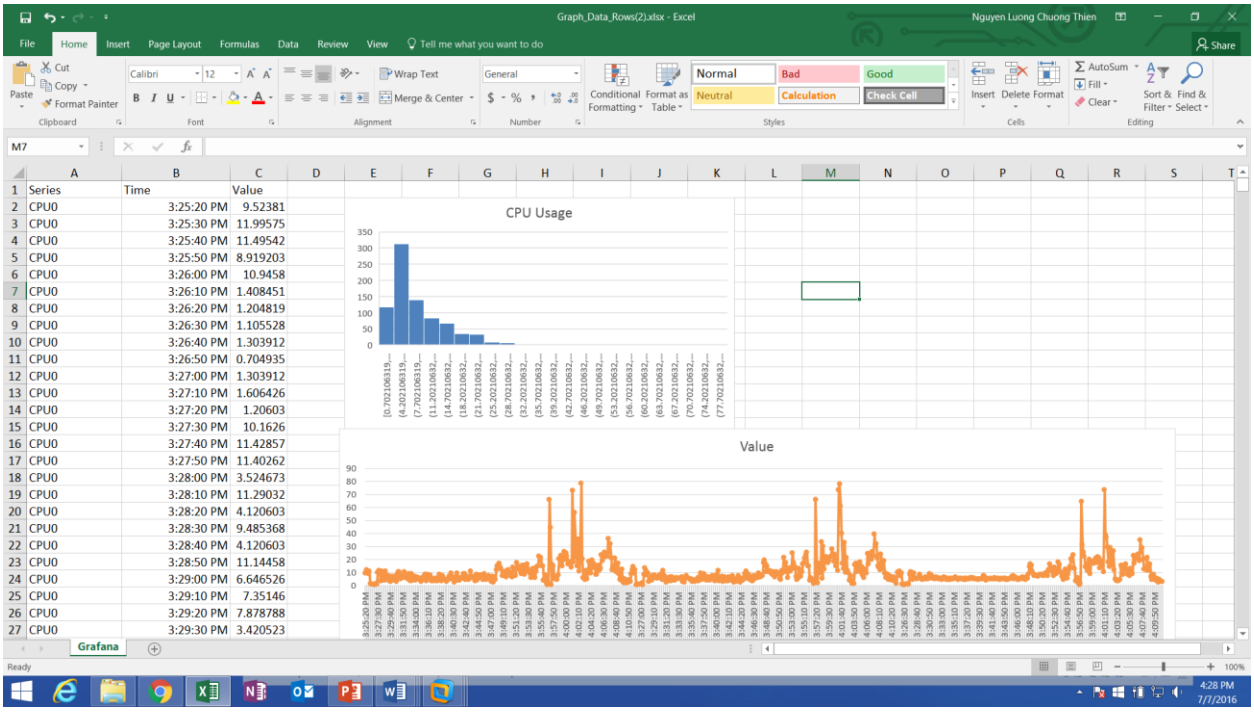
Problem

Solution





	A	B	C
1	Series	Time	Value
2	CPU0	3:25:20 PM	9.52381
3	CPU0	3:25:30 PM	11.99575
4	CPU0	3:25:40 PM	11.49542
5	CPU0	3:25:50 PM	8.919203
6	CPU0	3:26:00 PM	10.9458
7	CPU0	3:26:10 PM	1.408451
8	CPU0	3:26:20 PM	1.204819
9	CPU0	3:26:30 PM	1.105528
10	CPU0	3:26:40 PM	1.303912
11	CPU0	3:26:50 PM	0.704935
12	CPU0	3:27:00 PM	1.303912
13	CPU0	3:27:10 PM	1.606426
14	CPU0	3:27:20 PM	1.20603
15	CPU0	3:27:30 PM	10.1626
16	CPU0	3:27:40 PM	11.42857
17	CPU0	3:27:50 PM	11.40262
18	CPU0	3:28:00 PM	3.524673
19	CPU0	3:28:10 PM	11.29032
20	CPU0	3:28:20 PM	4.120603
21	CPU0	3:28:30 PM	9.485368
22	CPU0	3:28:40 PM	4.120603
23	CPU0	3:28:50 PM	11.14458
24	CPU0	3:29:00 PM	6.646526
25	CPU0	3:29:10 PM	7.35146
26	CPU0	3:29:20 PM	7.878788
27	CPU0	3:29:30 PM	3.420523



	A	B	C
1	Series	Time	Value
2	CPU0	3:25:20 PM	9.52381
3	CPU0	3:25:30 PM	11.99575
4	CPU0	3:25:40 PM	11.49542
5	CPU0	3:25:50 PM	8.919203
6	CPU0	3:26:00 PM	10.9458
7	CPU0	3:26:10 PM	1.408451
8	CPU0	3:26:20 PM	1.204819
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14	CPU0	3:27:20 PM	1.20603
15	CPU0	3:27:30 PM	10.1626
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17	CPU0	3:27:50 PM	11.40262
18	CPU0	3:28:00 PM	3.524673
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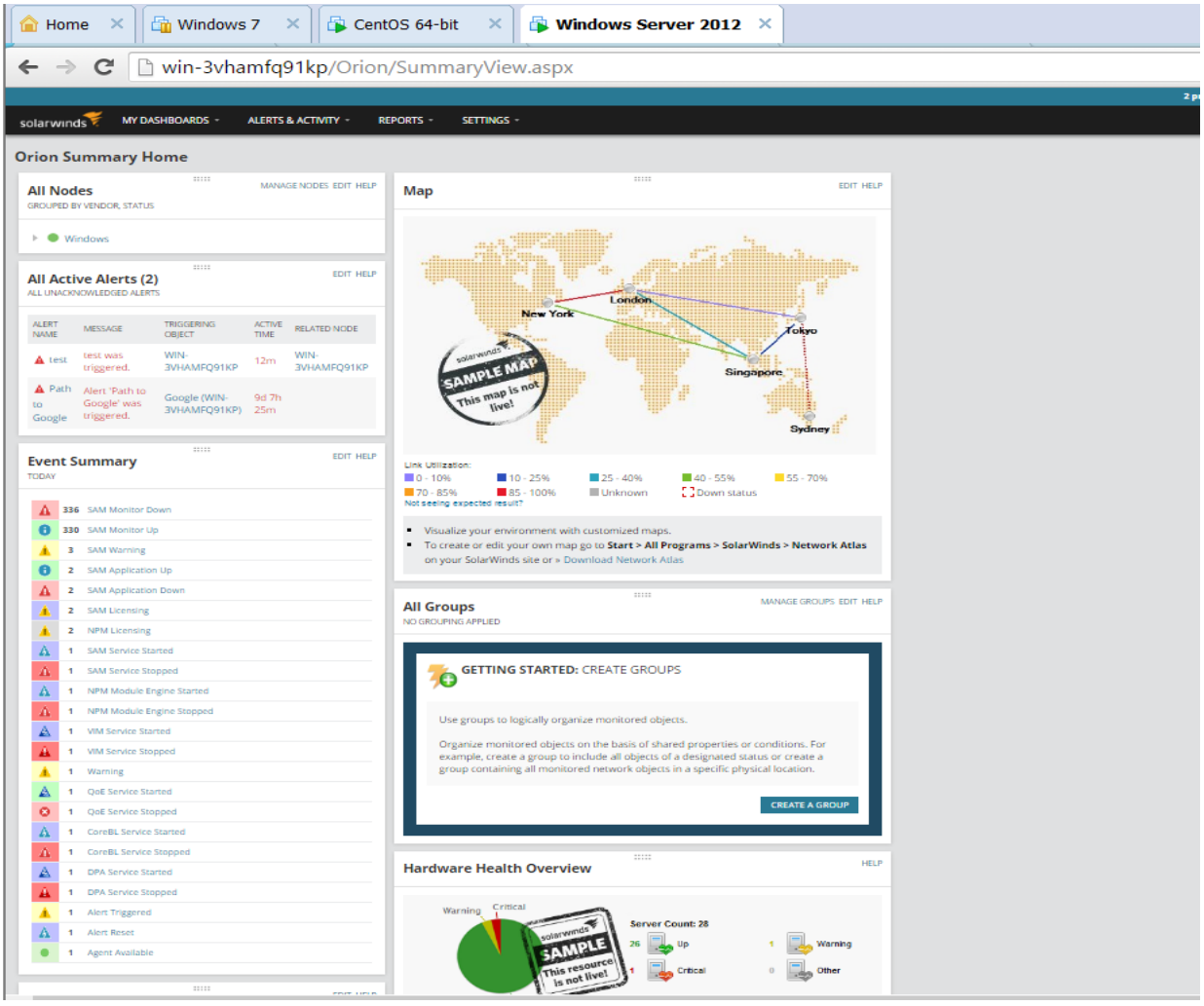
23	CPU0	3:28:50 PM	11.14458
24	CPU0	3:29:00 PM	6.646526
25	CPU0	3:29:10 PM	7.35146
26	CPU0	3:29:20 PM	7.878788
27	CPU0	3:29:30 PM	3.420523

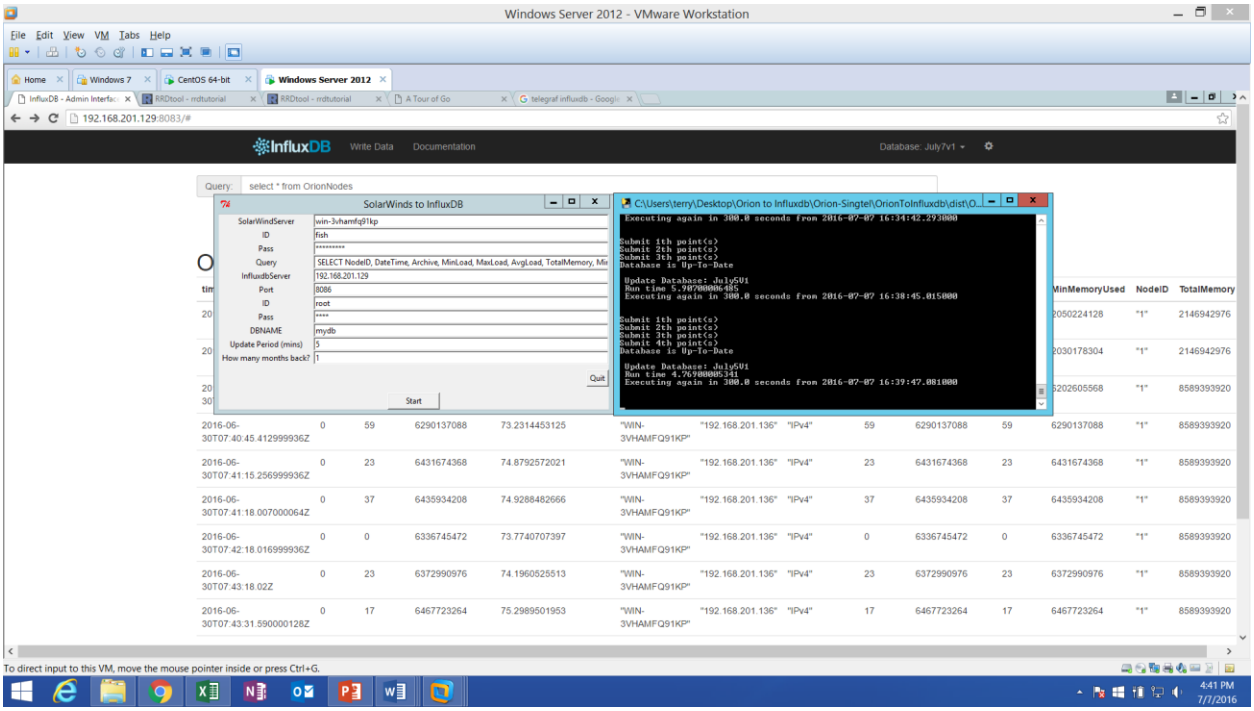
EXTEND THE CAPABILITY

Step 1: Collecting Time-Series Data

Problem



Solution


Windows Server 2012 - VMware Workstation
SolarWinds to InfluxDB
SolarWindServer
win-3vhamfq91kp
ID
fish
Pass
Query
SELECT NodeID, DateTime, Archive, MinLoad, MaxLoad, AvgLoad, TotalMemory, Mi
InfluxdbServer
192.168.201.129
Port
8086
ID
root
Pass
DBNAME
mydb
Update Period (mins)
5
How many months back?
1
Start
Quit
C:\Users\terry\Desktop\Orion to Influxdb\Orion-Singtel\OrionToInfluxdb\dist\O...
Executing again in 300.0 seconds from 2016-07-07 16:34:42.293000
Submit 1th point(s)
Submit 2th point(s)
Submit 3th point(s)
Database is Up-To-Date
Update Database: July5U1
Run time 5.707000005405
Executing again in 300.0 seconds from 2016-07-07 16:38:45.015000
Submit 1th point(s)
Submit 2th point(s)
Submit 3th point(s)
Submit 4th point(s)
Database is Up-To-Date
Update Database: July5U1
Run time 4.767000005341
Executing again in 300.0 seconds from 2016-07-07 16:39:47.081000
InfluxDB
Write Data
Documentation
Database: July7v1
Query:
select * from OrionNodes
MinMemoryUsed
NodeID
TotalMemory
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
4:41 PM
7/7/2016