

# From Sysadmin to SRE

CORE Site Reliability at Netflix







NETFLIX

# The Seven Deadly Sins



NETFLIX

This is Dev.  
He has  
a lot of  
questions.

AZIZ ANSARI

# Master of None

A NETFLIX ORIGINAL SERIES

ALL EPISODES  
November 6

C l o u d  
O p e r a t i o n s  
R e l i a b i l i t y  
E n g i n e e r i n g



context > control



hire smart people



(and get out of the way)





freedom &  
responsibility



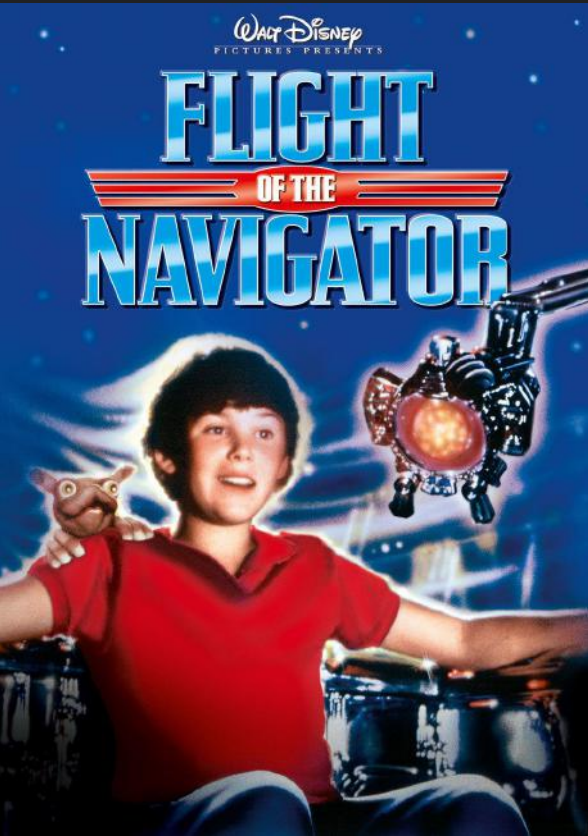
# learning organization



# Netflix as a Node shop







sysadmin to SRE

a before and after story





configuration management



baked AMIs





uncontrolled chaos



deliberate chaos





change prevention









Nagios  
Ganglia  
Graphite  
Cacti  
MRTG

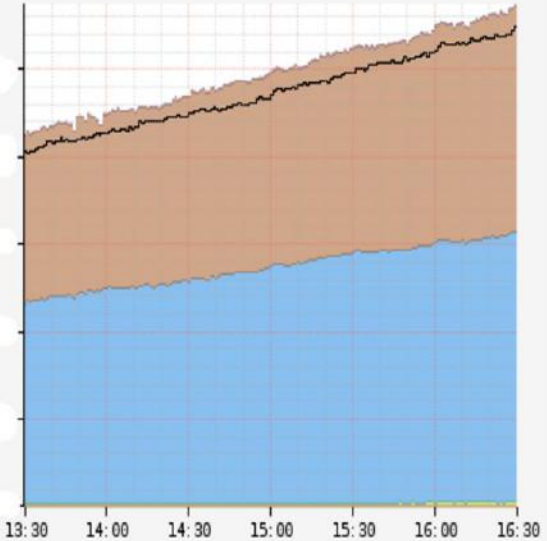




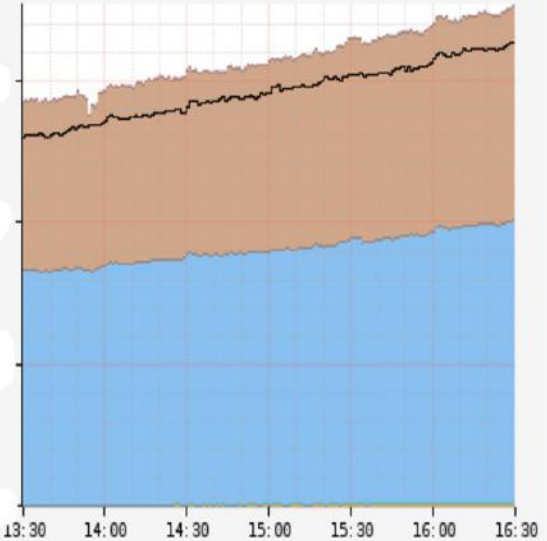


Atlas & insight engineering

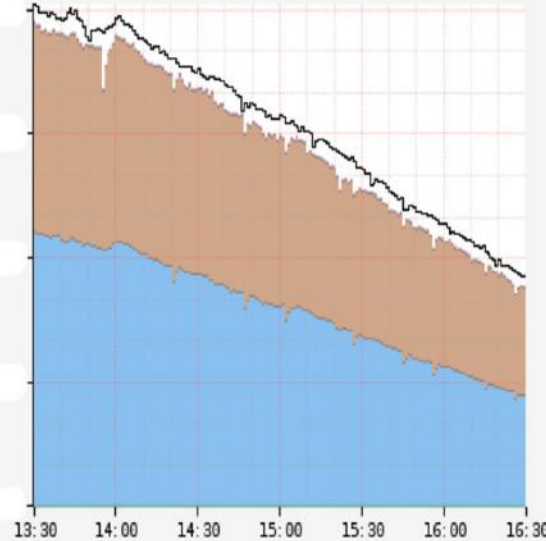
SPS - us-west-2



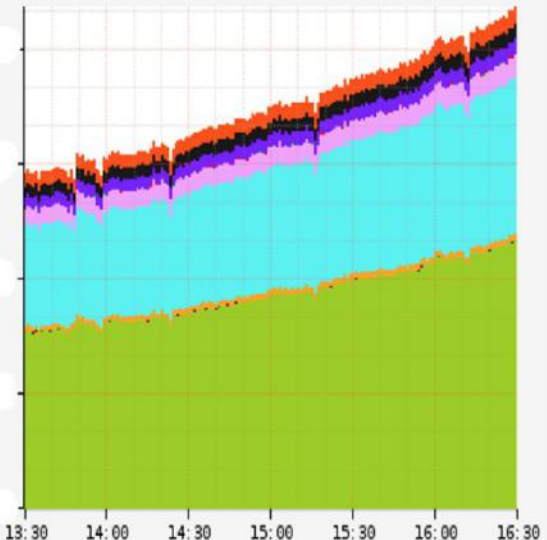
SPS - us-east-1



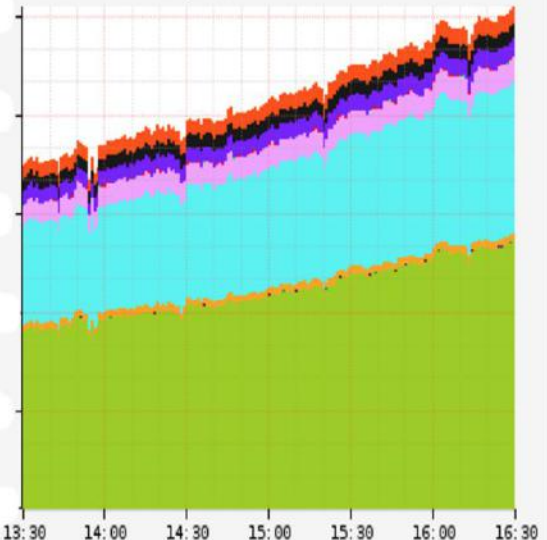
SPS - eu-west-1



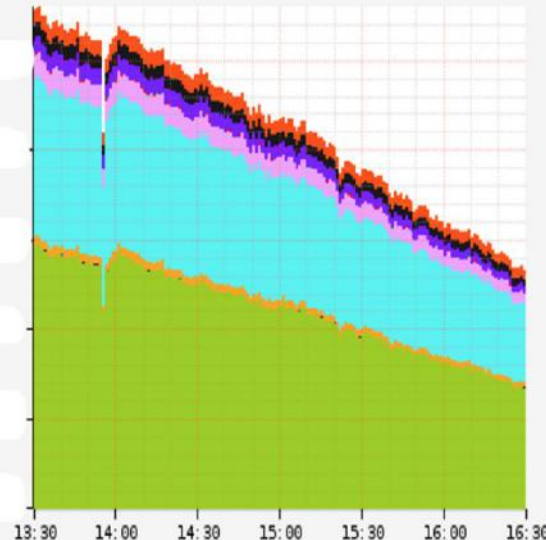
Bladerunner Playback Actions - us-west-2



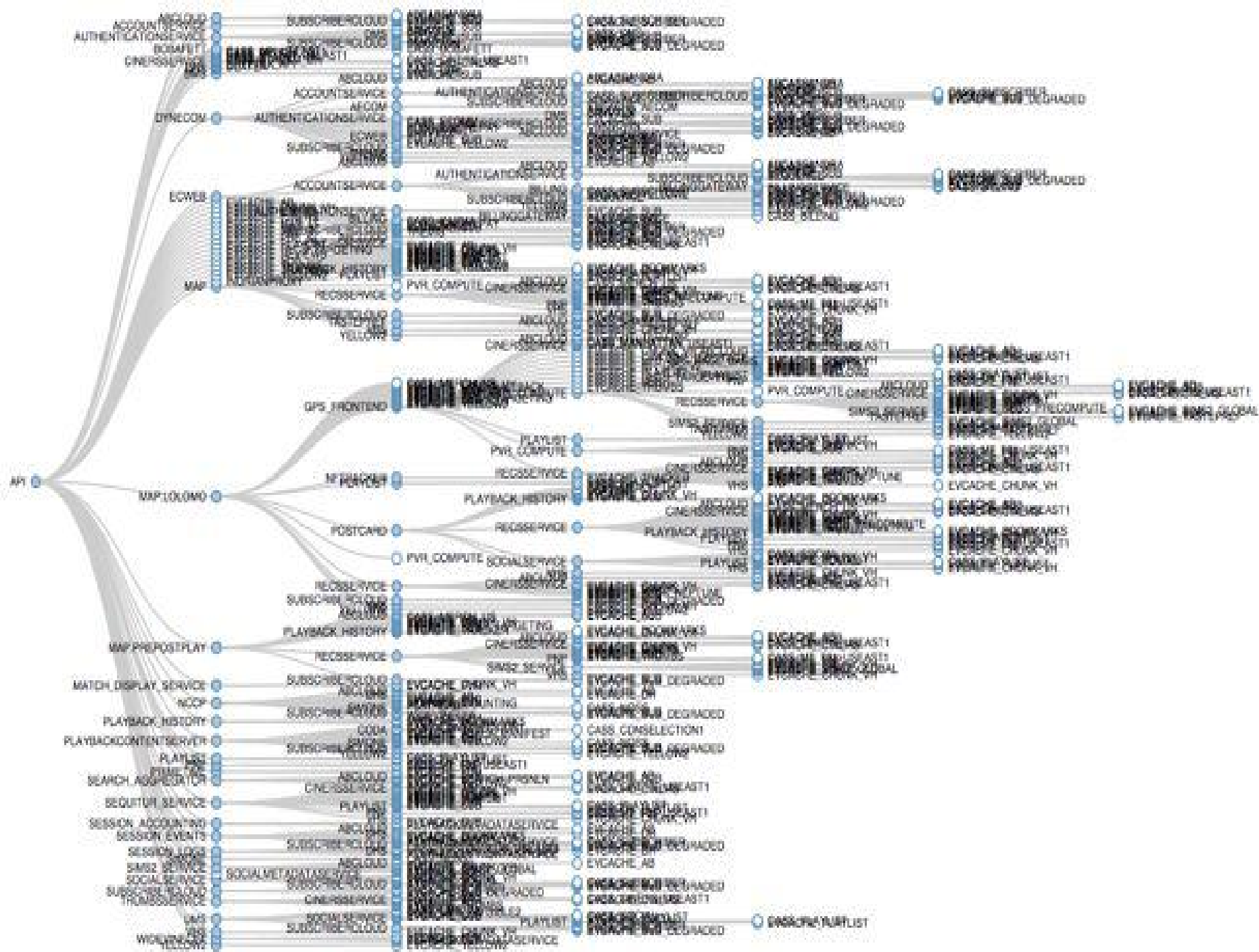
Bladerunner Playback Actions - us-east-1



Bladerunner Playback Actions - eu-west-1







## apiproxy

PIPELINES

CLUSTERS

LOAD BALANCERS

SECURITY GROUPS

PROPERTIES

TASKS

CONFIG

## Server Groups

Show ☒ Instances ☐ with details

Create Server Group

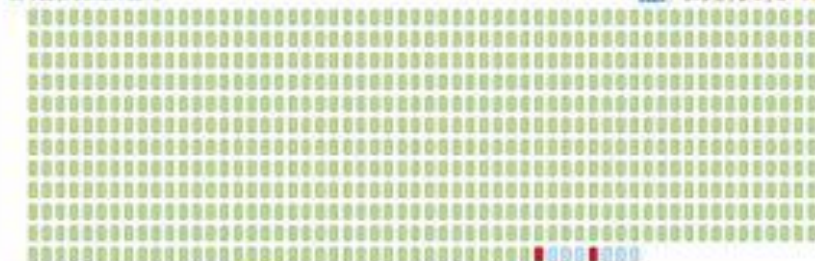
Filtered by: SEARCH: apiproxy-prod ACCOUNT: prod REGION: us-east-1 Clear All

## PROD apiproxy-prod

1357  $\Delta$  / 9  $\Delta$  / 15  $\Delta$  / 639  $\Delta$  : 98%

## US-EAST-1

## V136: build: #1276

675  $\Delta$  / 2  $\Delta$  / 6  $\Delta$  : 100%

## V135: build: #1291

250  $\Delta$  -

Permissions

## PROD apiproxy-prod-coalmine

1  $\Delta$  : 100%

## US-EAST-1

## V106: build: #1291

1  $\Delta$  : 100%

Permissions

## PROD apiproxy-prod-michaels

## US-EAST-1

## V003: build: #15

1  $\Delta$ 

Permissions

## apiproxy-prod-v135

Server Group Actions

Insights

[SERVER GROUP IS DISABLED]

## SERVER GROUP INFORMATION

Created: 2015-08-18 11:09:18 PDT

In: prod us-east-1

VPC: None (EC2 Classic)

Availability Zones:  
us-east-1c  
us-east-1d  
us-east-1e

## SIZE

Min: 250  
Desired: 250  
Max: 1359  
Current: 250[Resize Server Group](#)  
[View Scaling Activities](#)

## HEALTH

Instances: 250  $\Delta$ 

## LAUNCH CONFIGURATION

|                     |   |
|---------------------|---|
| Name                | apiproxy-prod-v135-20150818180918   |
| Image ID            | ami-bb9425d0  |
| Image Name          | 179727101394/edgezuul-1.27-h1291.1292fa0-x86_64-201508180743-trusty-hvm-ariov-eks |
| Base Image Name     | trustybase-x86_64-201508090208-eks  |
| Instance Type       | m3.xlarge   |
| IAM Profile         | BaseIAMRole   |
| Instance Monitoring | disabled  |
| Key Name            | nf-prod-keypair-a   |
| User Data           | <a href="#">Show User Data</a>  |

## SCALING PROCESSES

## SECURITY GROUPS

## NETWORKING

## SCALING POLICIES

## SCHEDULED ACTIONS

## TAGS

## PACKAGE



## apiproxy

PIPELINES

CLUSTERS

LOAD BALANCERS

SECURITY GROUPS

PROPERTIES

TASKS

CONFIG

Group by Time Boundary

Pipeline Status

Not Started

Running

Completed

Failed

Canceled

Suspended

Show 1 per group

Configure Pipelines

Last Month

Trigger

Status

Enable Smoke Tested  
ASGPipeline  
DEV (cfieber testing)  
(anonymous)  
2015-06-23 10:54:15 PDT

COMPLETED

4 minutes

WAIT FOR APPLICATION STARTUP

POST DEPLOY SMOKE TEST  
(10/10)

ENABLE SERVER GROUP

DESTROY SERVER GROUP

Enable Smoke Tested  
ASGPipeline  
DEV (cfieber testing)  
(anonymous)  
2015-06-23 10:52:01 PDT

COMPLETED

3 minutes

WAIT FOR APPLICATION STARTUP

POST DEPLOY SMOKE TEST  
(10/10)

ENABLE SERVER GROUP

DESTROY SERVER GROUP

DEV (cfieber testing)  
Manual StartBuild #1162  
cfieber@redfin.com  
2015-06-23 10:49:10 PDT

COMPLETED

14 minutes

MULTI-REGION ...

DEPLOY US-EAST-1

DEPLOY US-WES...

DEPLOY EU-WES...

SMOKE TEST BE...

SMOKE TEST BE...

SMOKE TEST BE...

DEV (cfieber testing)  
Manual StartBuild #1163  
cfieber@redfin.com  
2015-06-23 10:29:23 PDT

FAILED

Smoke Test Before  
Enable (us-east-1)

MULTI-REGION ...

DEPLOY US-EAST-1

DEPLOY US-WES...

DEPLOY EU-WES...

SMOKE TEST BE...

SMOKE TEST BE...

SMOKE TEST BE...

developer-michaels  
Triggered BuildBuild #15  
EDGE-Build-michaels  
2015-04-24 10:20:44 PDT

FAILED

smoke-test - prod

BAKE

DEPLOY - TEST

SMOKE-TEST - TEST  
(1/1)

DEPLOY - PROD

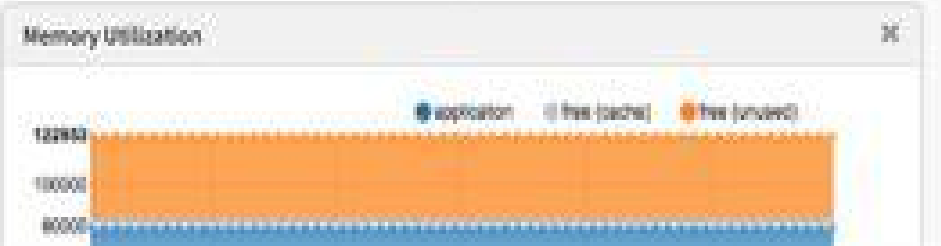
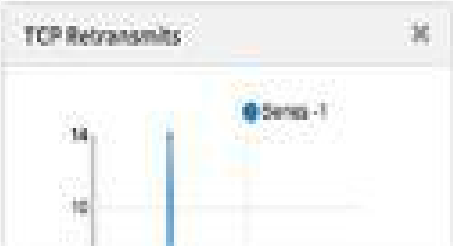
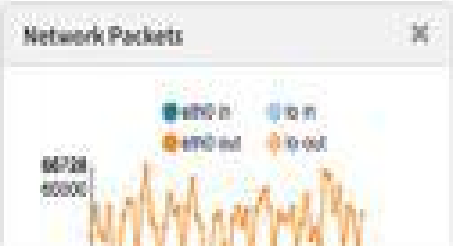
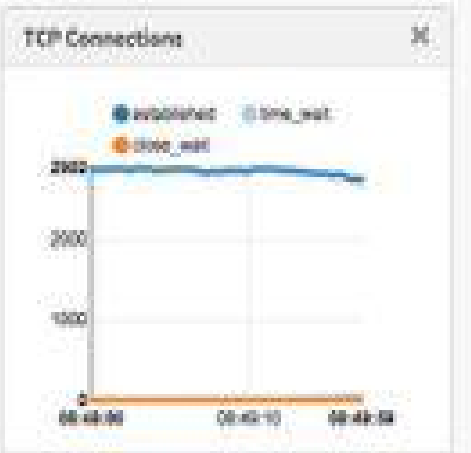
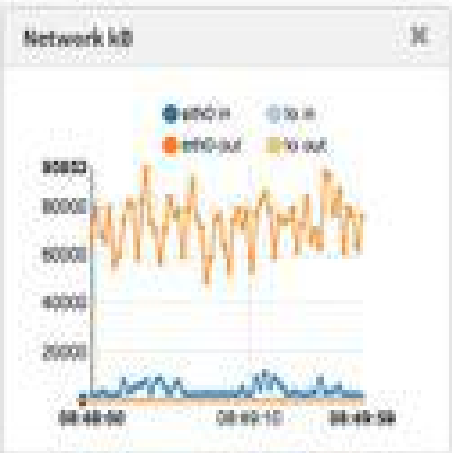
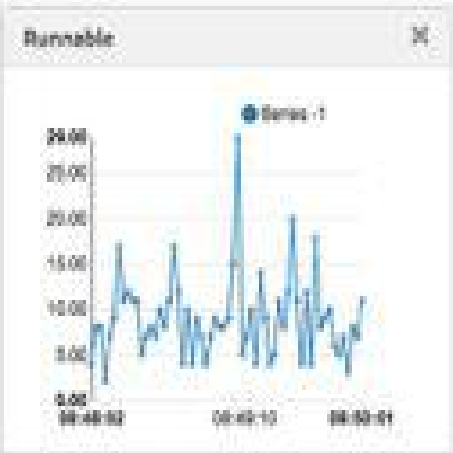
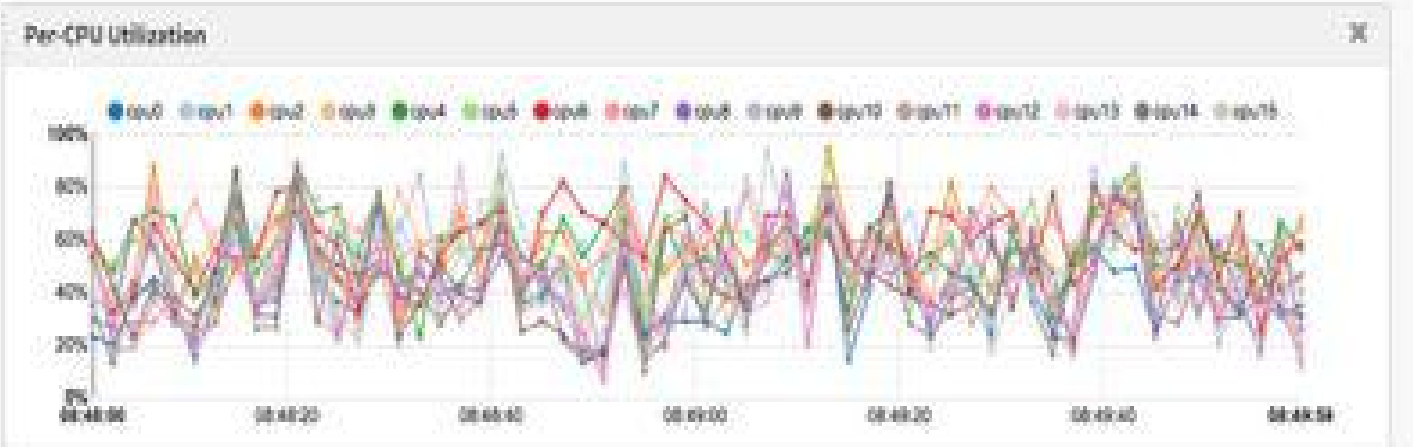
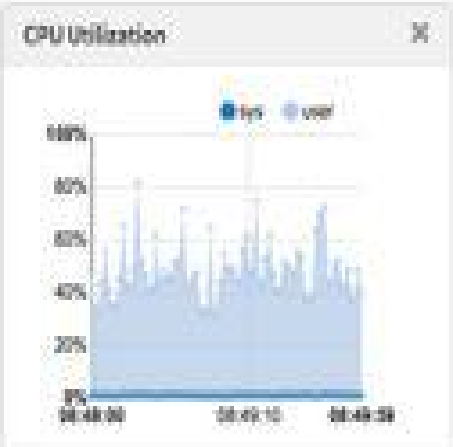
SMOKE-TEST - PROD

Hostname ec2-54-159-49-252.compute-1.amazonaws.com ✓

Widget +

Window 2 min ⌵

Interval 2 sec ⌵





 @jonahhorowitz

 @altobey

<https://netflix.github.io/>

<https://jobs.netflix.com/>

@brendangregg, next:

Broken Linux Performance Tools

Ballroom H - 13:30 to 14:30

Service Traffic Map

Filter + Display +

US-WEST-2



US-EAST-1



EU-WEST-3

