

# Auto Continuous Deployment via Jenkins and Kibana

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In collaboration with the [ONAP Operations Manager project](#) at ONAP - our current RI.

The goal of this page is to provide an E2E infrastructure for testing an hourly or triggered master/tagged build for the purposes of declaring it ready in terms of health check and use case functionality. CD functionality includes providing real-time and historical analytics of build health via stored/indexed logs from the deployment jobs in our [ELK](#) stack that sits outside of ONAP.

Amazon AWS is currently hosting our RI for ONAP Continuous Deployment on my private account for now - I have requested a grant specific to the jenkins, kibana and cd instances.

see [Cloud Native Deployment#AmazonAWS](#)

see

TSC 2019-01-03

[TSC-25](#) - Getting issue details...

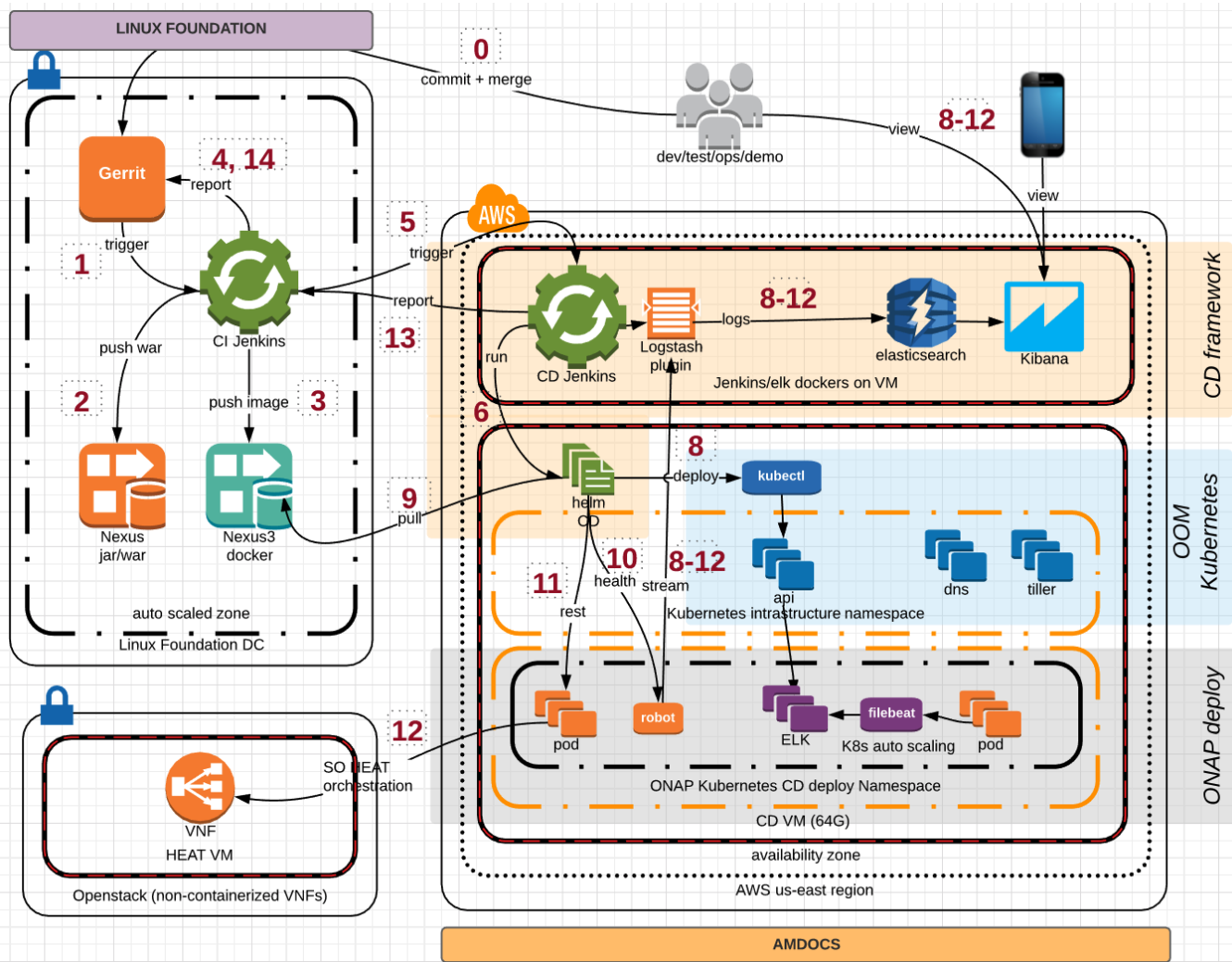
STATUS

[https://lists.onap.org/g/onap-discuss/topic/cd\\_task\\_force\\_tsc\\_25\\_meetings/29001640?p=,,20,0,0,0::recentpostdate%2Fsticky,,,20,2,0,29001640](https://lists.onap.org/g/onap-discuss/topic/cd_task_force_tsc_25_meetings/29001640?p=,,20,0,0,0::recentpostdate%2Fsticky,,,20,2,0,29001640)

## ONAP Live AWS CD Servers

Server	URL	Notes
Live Cassablanca/master server	<a href="http://master.onap.info:8880">http://master.onap.info:8880</a>	Login to Rancher/Kubernetes only in the last 45 min of the hour  Use the system only in the last 10 min of the hour  Currently off until the account resets to the next bill on 2nd Jan
Jenkins server	<a href="http://jenkins.onap.info/job/oom-cd/">http://jenkins.onap.info/job/oom-cd/</a>	view deployment status, deployment (pod up status)  Paused until 2 Jan 2018
Kibana server	<a href="http://kibana.onap.info:5601">http://kibana.onap.info:5601</a>	query "message" logs or view the dashboard

## CD Architecture



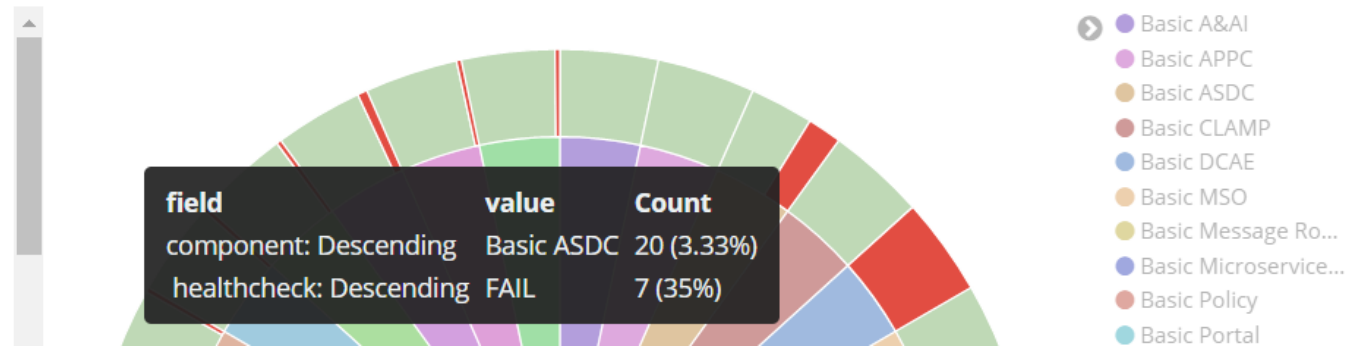
## CD Demo Videos

<p>20171210 showing a full CD job on the jenkins server</p>	<div data-bbox="613 1591 711 1690" data-label="Image"> </div> <p>20171210_f2f3_..._amsterdam.mp4</p>
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# Kibana Dashboard of CD system diagnosing health check issues in an Hourly ONAP OOM Deploy

In the combined ELK and Kibana CD system below we can see that SDC is failing healthcheck on average about 35% of the time - this may be due to a gap between healthcheck using a 200 HTTP return, the SDC rest call timing out when Spring is still coming up on the servlet container or a dependency check in SDC itself on another component where a particular startup order or timing of calls exposes an issue - anyway the ELK system that consumes logs from the hourly build can identify issues like this or the 1 hour healthcheck failure in MSB below that for 14 components that was transient.

## Health Check PASS/FAIL Distribution by Component



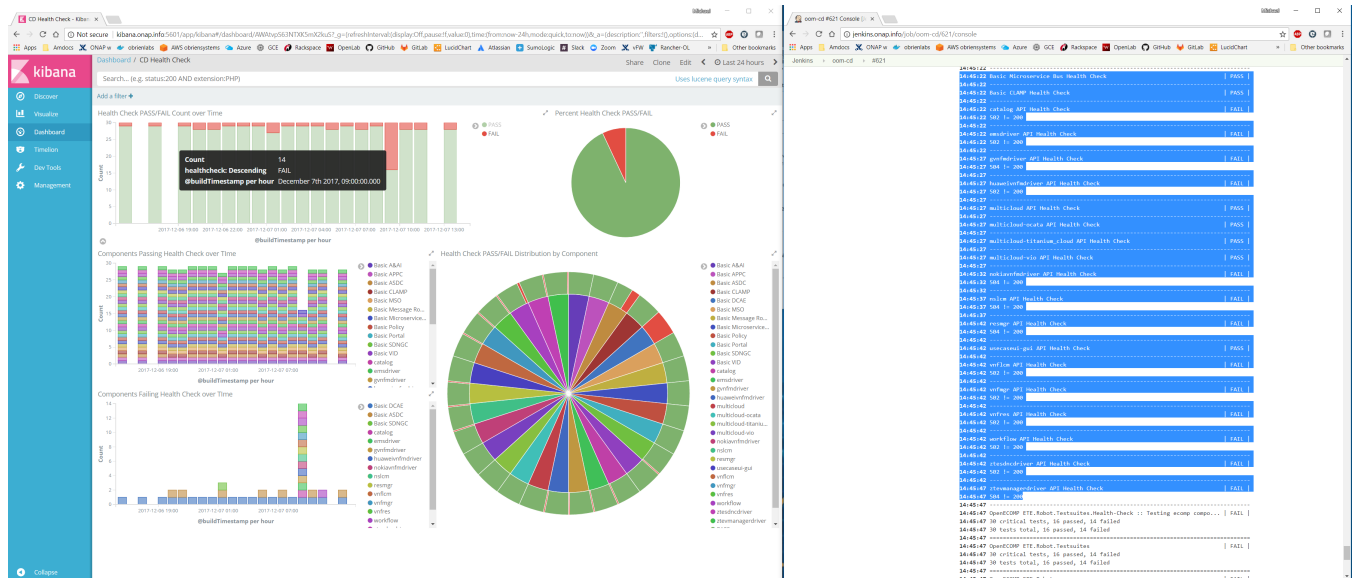
SDC-739 - Getting issue details...

STATUS

OOM-496 - Getting issue details...

STATUS

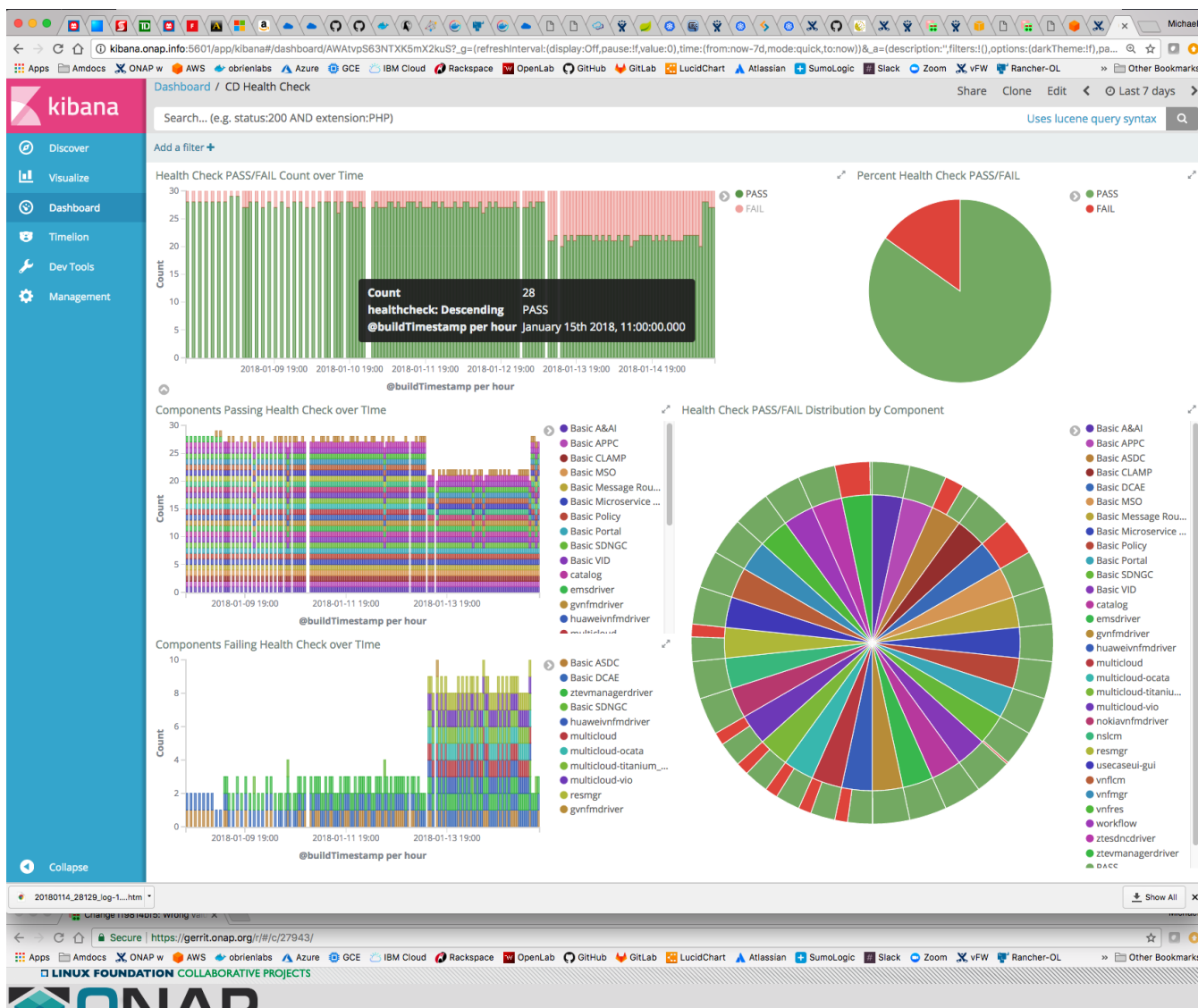
Shane Daniel has created a dashboard on our AWS POC that can be used to diagnose the health of the current hourly build based on logs generated by the health check running in robot off an hourly deploy of ONAP OOM (CI triggers are pending)



For example there was a hard coded token in kube2msb that was causing some healthcheck failures - notice the drop in failures 3 hours ago within an hour after the submit to the OOM framework (Immediate because the config is not currently part of the daily-only docker builds)

<https://gerri.onap.org/r/#/c/27943/> for

<https://jira.onap.org/browse/OOM-570>



## Automated POC ONAP CD Infrastructure

Tracking JIRAS

[INT-120](#) - Getting issue details...

STATUS

[OOM-150](#) - Getting issue details...

STATUS

[OOM-393](#) - Getting issue details...

STATUS

A custom Jenkins job that runs a full deployment of ONAP OOM on another 64G VM is currently in progress. There are pending design issues under vFirewall automation, reporting results and general resiliency.

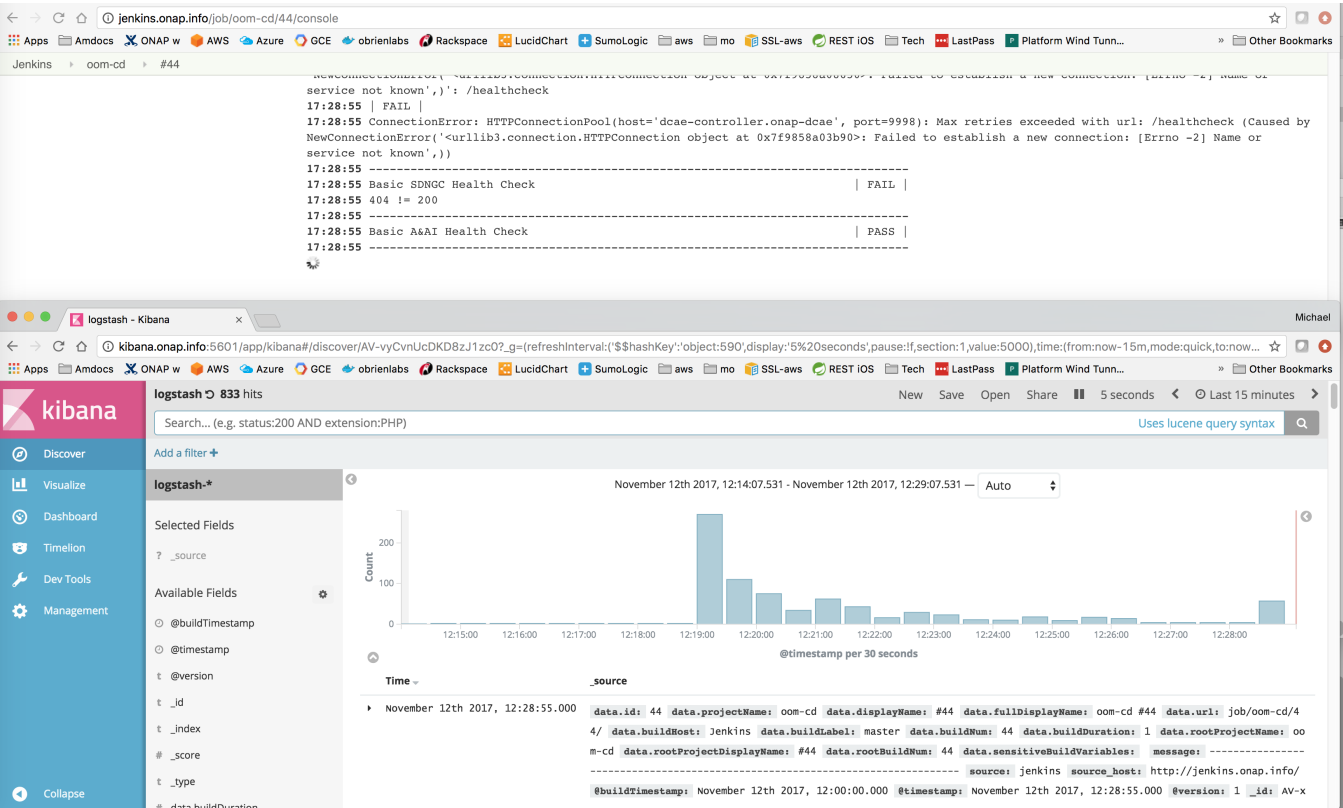
## OOM Jenkins Automated Continuous Deployment Results

There are several methods of communicating the current deployment status being worked out. Currently raw Jenkins build pages and POC dashboards in Kibana are being worked out.

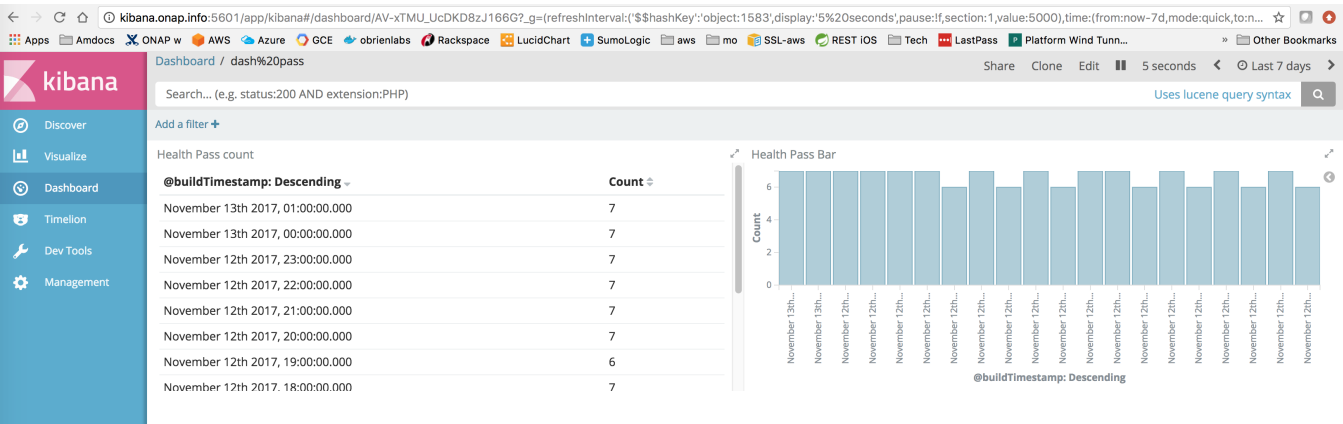
Hourly Deployment Results	
Jenkins Jobs	<a href="http://jenkins.onap.info/job/oom-cd/">http://jenkins.onap.info/job/oom-cd/</a>

Live Kibana Dashboards	<a href="#">24 hour Dashboard - filtered on "message: PASS"</a> <a href="#">24 hour live deployment logs</a>
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The following is a split screen on an hourly build of OOM and the logs generated by the deployment process.



The following shows a rudimentary kibana dashboard of the current PASS numbers for ONAP OOM health check.



## Design Issues

### DI 1: 20171112: dockerdata-nfs mounted as root conflicts with Ubuntu or Jenkins user

[OOM-422 - Getting issue details...](#) [STATUS](#)

### DI 2: 20171112: Reference ELK stack outside of ONAP for CD infrastructure

[LOG-50](#) - Getting issue details...

[STATUS](#)

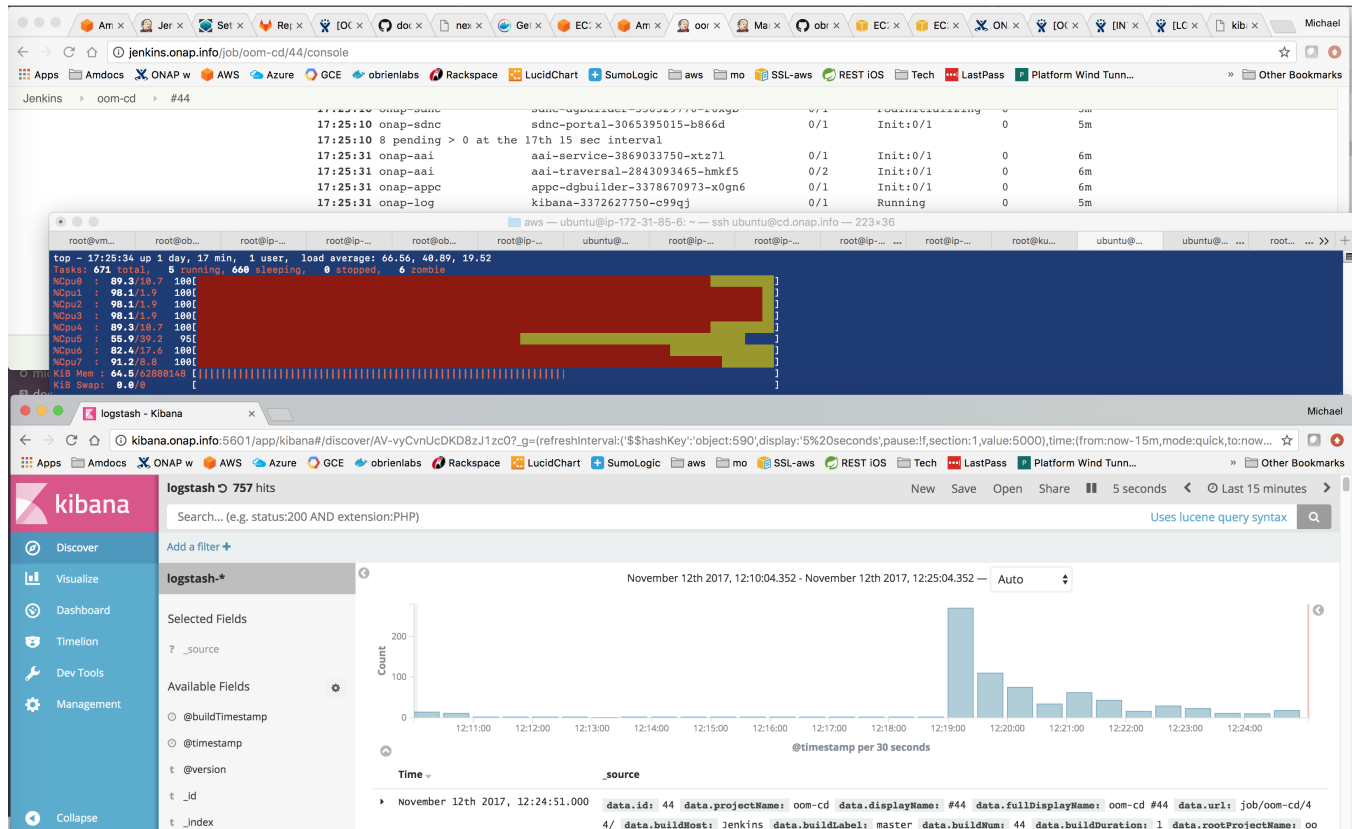
### DI 3: 20171112: DevOps Jenkins and CD Docker Infrastructure

On AWS as EC2 instances running docker versions of Jenkins, Nexus and Gitlab

[OOM-417](#) - Getting issue details...

[STATUS](#)

CD instance is currently static until Rancher 2.0 is finished acceptance testing at ONAP



### DI 4: 20171112: OOM Docker Image preload - to speed up pods to 8 min

[OOM-328](#) - Getting issue details...

[STATUS](#)

### DI 5: 20171112: Strategy for Manual Config of Rancher 1.6 for Auto Create/Delete of CD VM

[ONAP on Kubernetes on Amazon EC2#AWSCLIEC2CreationandDeployment](#)

```
#20171029 POC working on EC2 Spot using AMI preconfigured with Rancher 1.6 server/client
aws ec2 request-spot-instances --spot-price "0.25" --instance-count 1 --type "one-time" --launch-specification
file://aws_ec2_spot_cli.json
aws ec2 associate-address --instance-id i-048637ed92da66bf6 --allocation-id eipalloc-375cld02
# DNS record set type A changes take 20 sec to propagate the internet - for a dig command to see them
aws ec2 reboot-instances --instance-ids i-048637ed92da66bf6

root@ip-172-31-68-153:~# kubectl cluster-info
Kubernetes master is running at https://url.onap.info:8880/r/projects/1a7/kubernetes:6
```

### DI 6: 20171112: Migrate Jenkins job to ONAP sandbox

Cannot get creation access to <https://jenkins.onap.org/sandbox/> via [Jenkins -> Configuring Jenkins Jobs](#)

current ssh config

`/var/jenkins_home/workspace/shared_aws_201801.pem`

`/var/jenkins_home/workspace/shared_aws_201801.pem obr..._aws_20141115.pem`

# Automated ONAP CD Infrastructure

We need sufficient resources to run two (amsterdam and beijing/master) deployments either hourly or on commit-trigger demand.

We also need devops infrastructure to provision the servers (an ARM DMZ jumbox), run the jenkins container and ELK containers (a single Kubernetes cluster)

## Resources

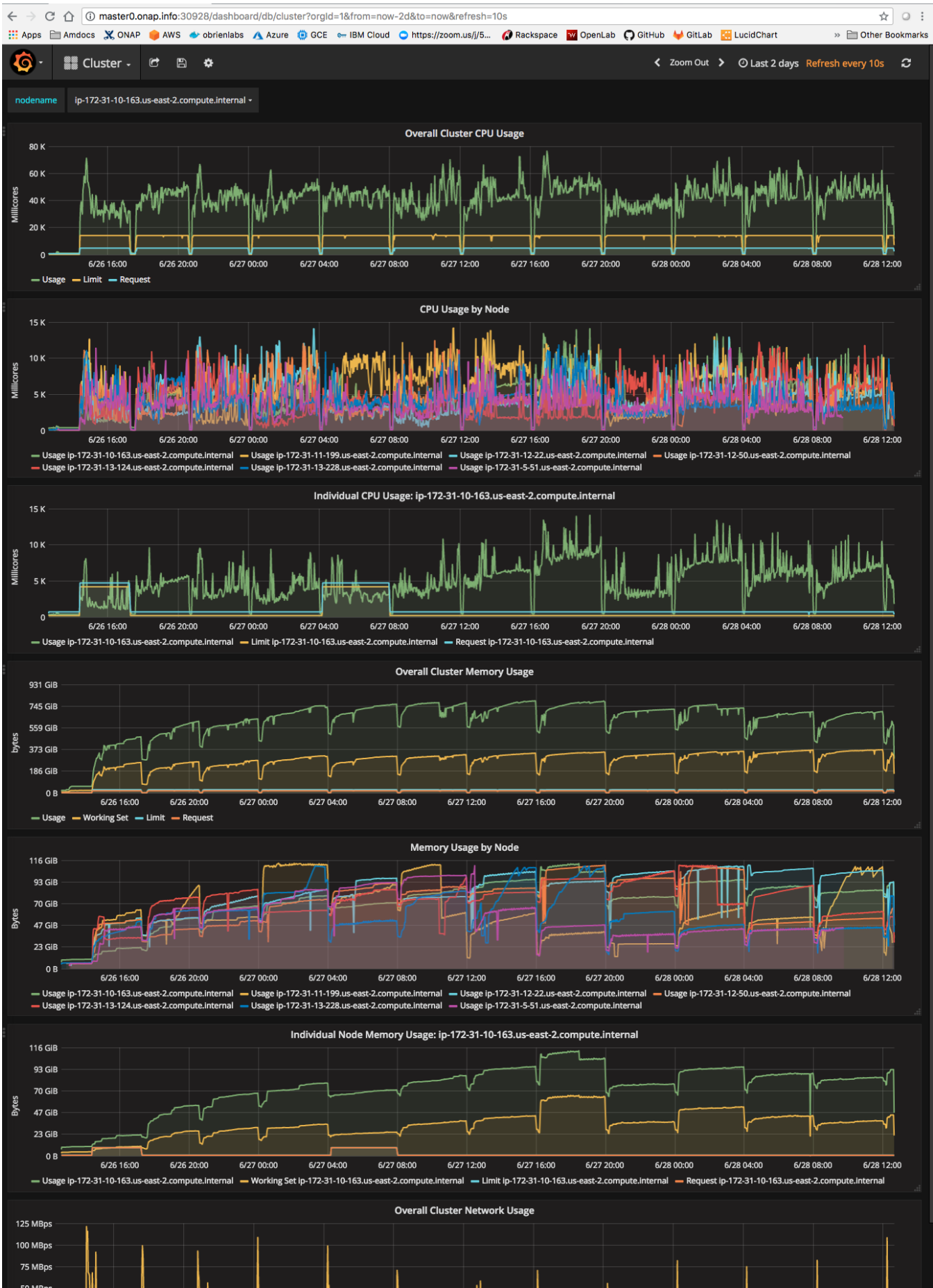
[ONAP Deployment Specification for Finance and Operations#AmazonAWS](#)

name	provider	server	IP/DNS	port	resource group	type	vpc /vn	sg	acl	cert /pass	subnet	hosting	template	purpose
ons-dmz	Azure	ons-dmz	ons-dmz.onap.cloud		ons-dmz	vm		bastion				Microsoft	dmz-jenkins	bastion /jumpbox
jenkins	Azure	ons-dmz-jenkins	jenkins.onap.cloud	80	ons-dmz-jenkins	dc						Microsoft	dmz-jenkins	jenkins
kibana	Azure	ons-dmz-kibana	kibana.onap.cloud	5601		dc						Microsoft	dmz-jenkins	kibana
amsterdam-hourly	Azure	onap-amsterdam	amsterdam.onap.cloud			k8s		k8s				Microsoft	s	
beijing-hourly	Azure	onap-beijing	beijing.onap.cloud			k8s		k8s				Microsoft		
chaos monkey b*	Azure		chaos.onap.cloud			k8s						Microsoft		hammer the system up /down
	AWS	ons-dmz						bastion						bastion /jumpbox
jenkins	AWS	ons-dmz-jenkins	jenkins.onap.info	80	ons-dmz	dc				admin m*n*		private		
kibana	AWS	ons-dmz-kibana	kibana.onap.info	5601	ons-dmz	dc						private		
amsterdam			amsterdam.onap.info			k8s		k8s				Amazon		
beijing		ons-brookhaven	beijing.onap.info			k8s		k8s				Amazon		

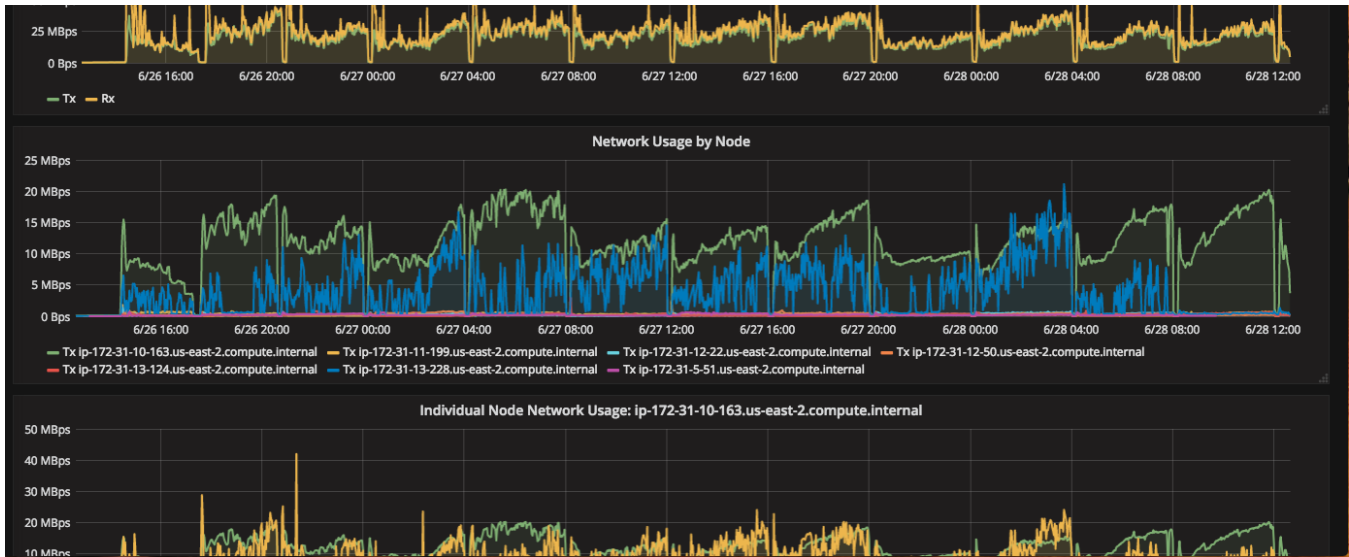
## Performance

Static Server 4 hour Deploy Frequency









## Resource Deployment Scripts

### Azure

```
# for recreation
ubuntu@ons-dmz:~$ sudo ./oom_deployment.sh -b amsterdam -s amsterdam.onap.cloud -e onap -r
a_ONAP_CD_amsterdam_nodelete -t _arm_deploy_onap_cd.json -p _arm_deploy_onap_cd_a_parameters.json
```

## Links

[OOM Deployment Status](#)

<https://github.com/obrienlabs/onap-ci/issues/1>

## Pending

[INT-332](#) - Getting issue details...

STATUS