

Kubernetes metrics report

Auto generated

18 October, 2019

Introduction

This report compares the metrics between multiple sets of data generated from the [cloud-native-setup report generation scripts](#).

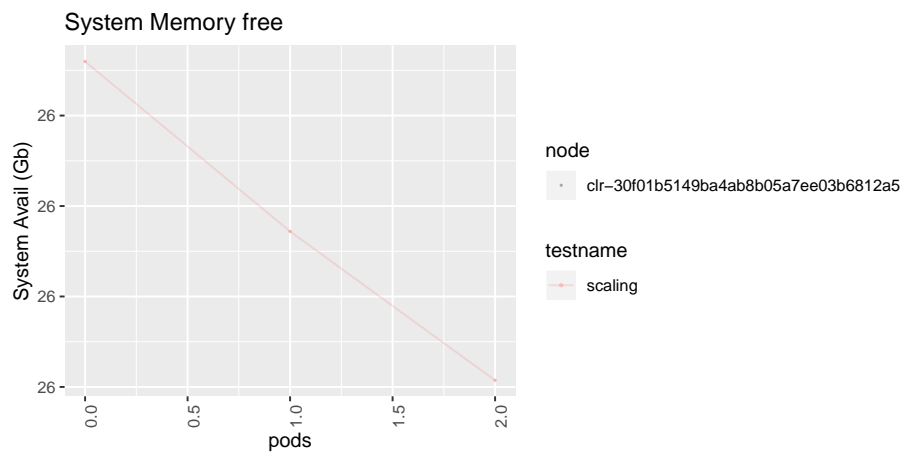
This report was generated using the data from the **scaling/**, **scaling2/** results directories.

Runtime scaling

This [test](#) measures the system memory 'free' reduction, CPU idle %, free inodes, and pod boot time as it launches more and more idle `busybox` pods on a Kubernetes cluster.

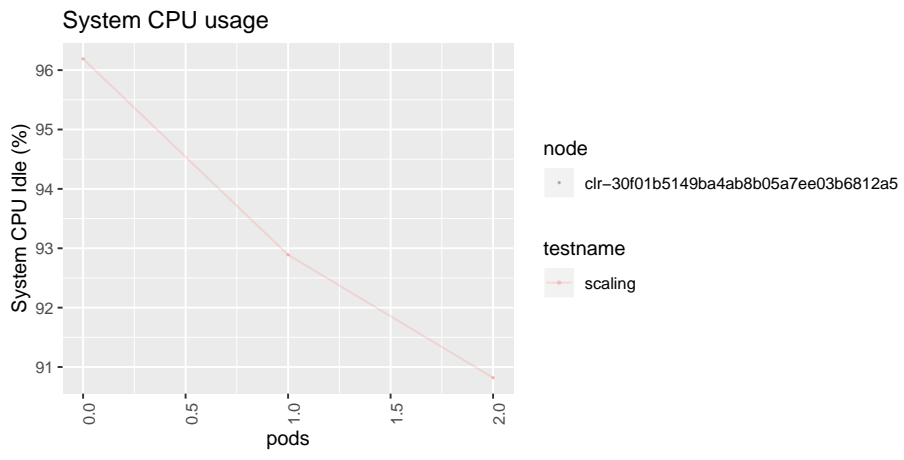
Note: CPU % is measured as a system whole - 100% represents *all* CPUs on the node.

```
## Warning in eval(ei, envir): Result file name does not match with test name:  
## k8s-scaling2
```



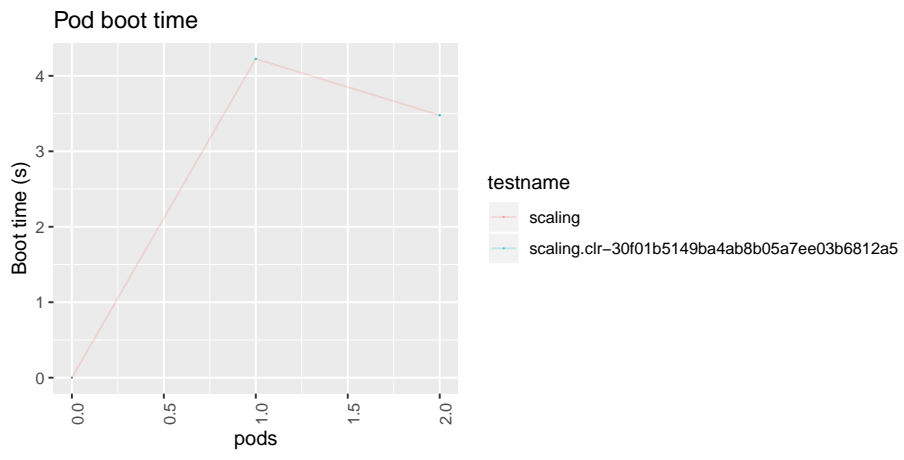
Test	n	Tot_Gb	avg_Gb	n_per_Gb
scaling	2	0.035	0.0176	56.74

Figure 1: K8S scaling



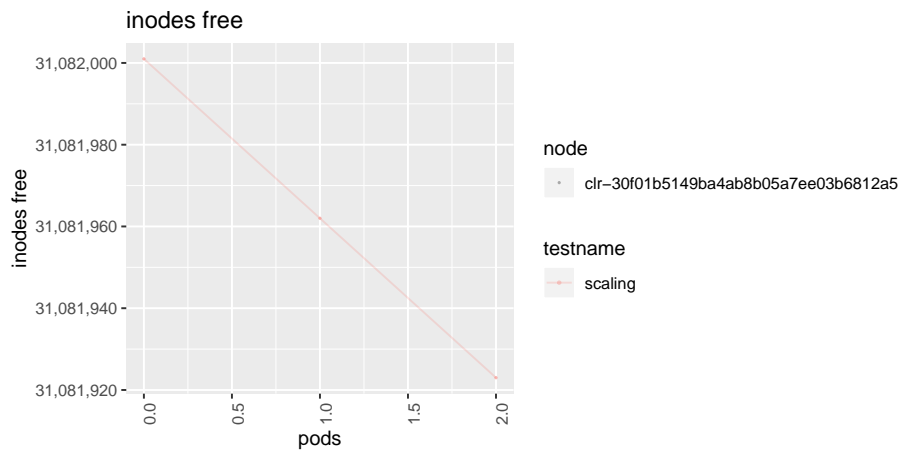
Test	n	Tot_CPU	avg_CPU
scaling	2	5.37	2.685

Figure 2: K8S scaling



Test	n	median	min	max	sd
scaling	2	3.851	3.477	4.225	0.5289

Figure 3: K8S scaling



Test	n	Tot_inode	avg_inode
scaling	2	78	39

Figure 4: K8S scaling

Runtime parallel scaling

This [test](#) measures the time taken to launch and delete pods in parallel using a deployment. The times are how long it takes for the whole deployment operation to complete.

```
## Error in FUN(X[[i]], ...): object 'npod' not found
```

Runtime scaling rapid

This [test](#) uses collectd to asynchronously measure CPU idle %, free memory, pod boot time, free inodes, and interface stats as it launches more and more idle busybox pods on a Kubernetes cluster.

Note: CPU % is measured as a system whole - 100% represents *all* CPUs on the node.

```
## Error in rbind(cpuidledata, cpu_idle_data): object 'cpu_idle_data' not found
```


Test setup details

This table describes the test system details, as derived from the information contained in the test results files.

```
## Warning in eval(ei, envir): No valid data found for directory scaling2/
```

What	scaling
Client Ver	v1.16.1
Server Ver	v1.15.4
No. nodes	1
- Node0 name	clr-30f01b5149ba4ab8b05a7ee03b6812a
Have Kata	true
CPUs	4
Memory	32831928Ki
MaxPods	110
PodCIDR	10.244.0.0/24
runtime	containerd://1.3.0
kernel	5.3.5-847.native
kubeProxy	v1.15.3
Kubelet	v1.15.3
OS	Clear Linux OS

Figure 5: System configuration details

Test setup node details

This table describes node details within the Kubernetes cluster that have been used for test.

Node name	CPUs	Memory	Max Pods	Count sockets	Have hypervisor	kernel	OS	Test
clr-30f01b5149ba4a	4	32831928Ki	110	1	false	5.3.5-847.native	Clear Linux OS	scaling

Figure 6: Node information within Kubernetes cluster