

Kubernetes metrics report

Auto generated

03 December, 2019

Introduction

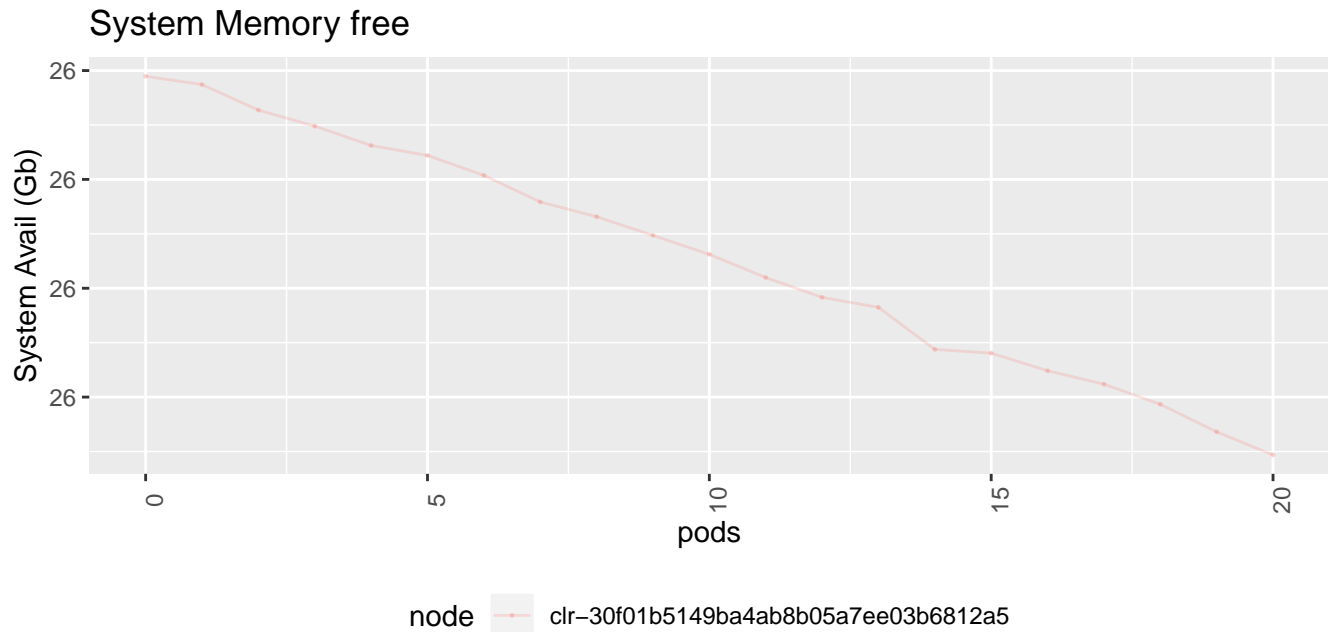
This report compares the metrics between multiple sets of data generated from the [cloud-native-setup report generation scripts](#).

This report was generated using the data from the **test-PR271/** results directories.

Runtime scaling

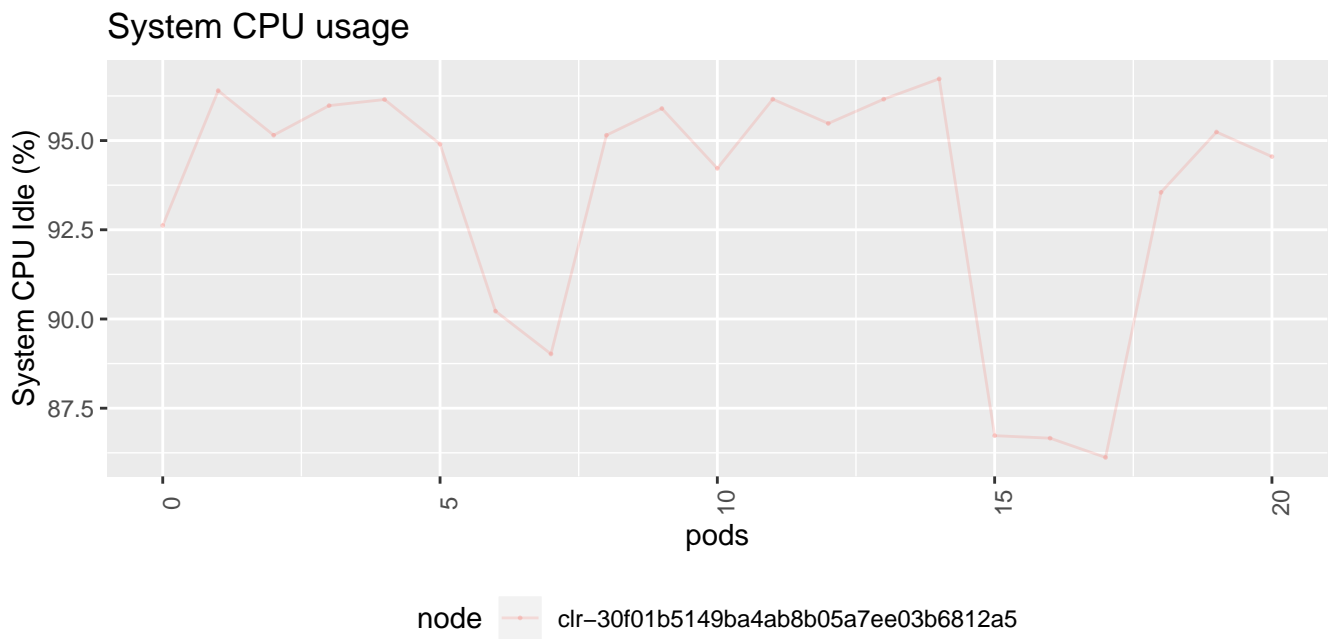
This [test](#) measures the system memory 'free' reduction, CPU idle %, free inodes, and pod boot time as it launches more and more idle busybox pods on a Kubernetes cluster.

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



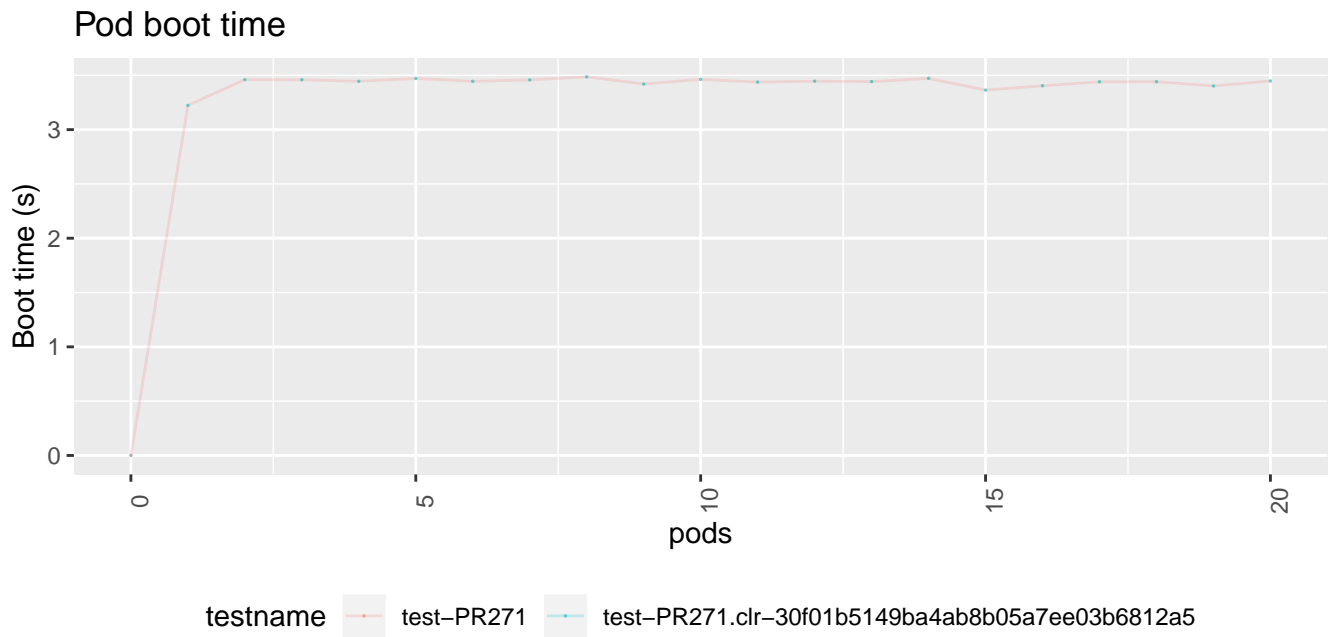
Test	n	Tot_Gb	avg_Gb	n_per_Gb
test-PR271	20	0.348	0.0174	57.5

Figure 1: K8S scaling



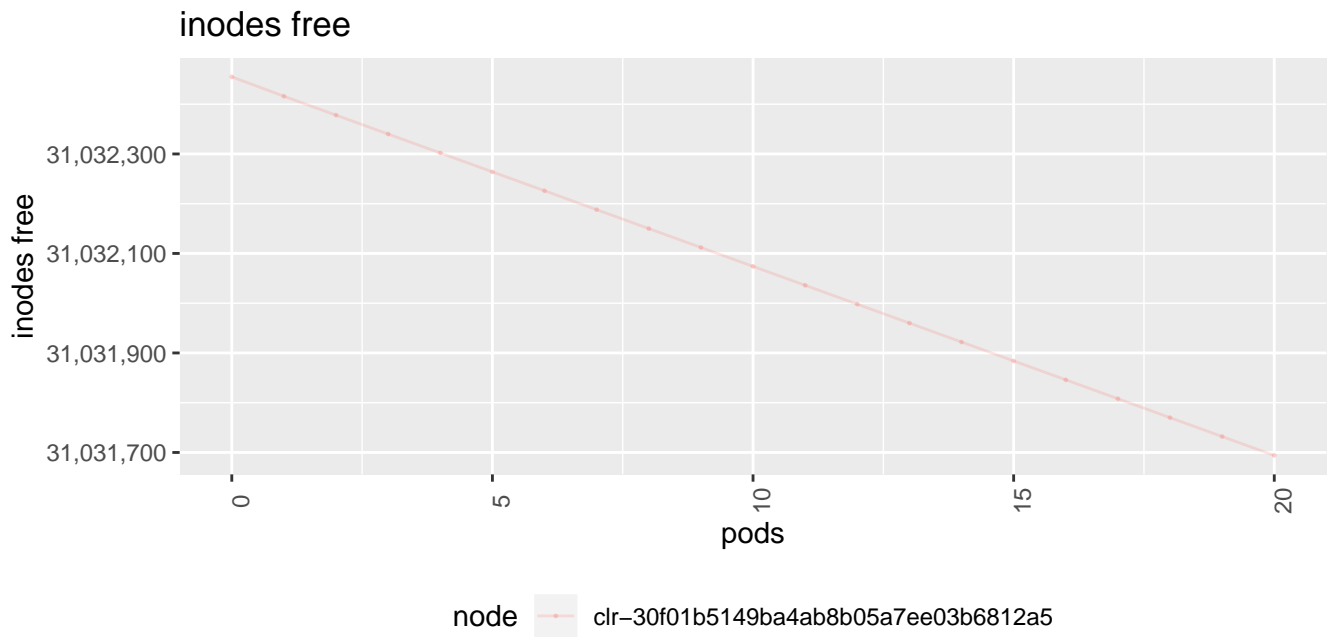
Test	n	Tot_CPU	avg_CPU
test-PR271	20	-1.93	-0.0965

Figure 2: K8S scaling



Test	n	median	min	max	sd
test-PR271	20	3.445	3.223	3.486	0.0564

Figure 3: K&S scaling



Test	n	Tot_inode	avg_inode
test-PR271	20	761	38.05

Figure 4: K&S scaling

Runtime parallel scaling

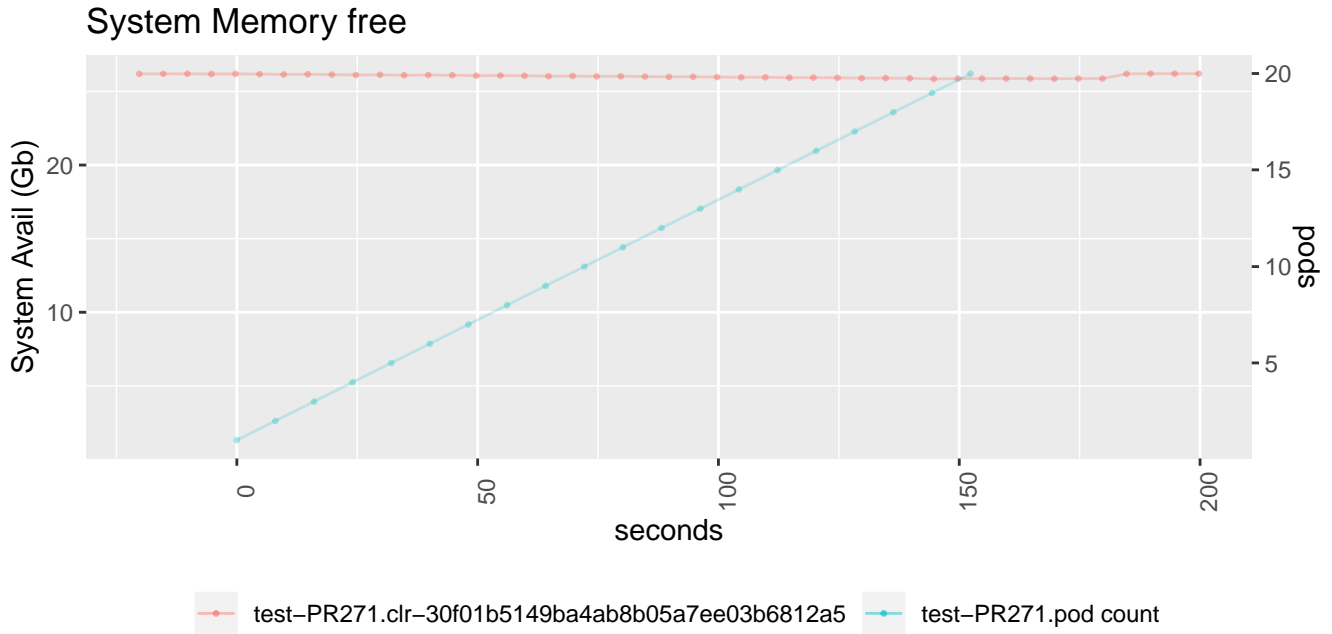
This [test](#) measures the time taken to launch and delete pods in parallel using a deployment. The times are how long it takes for the whole deployment operation to complete.

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

Runtime scaling rapid

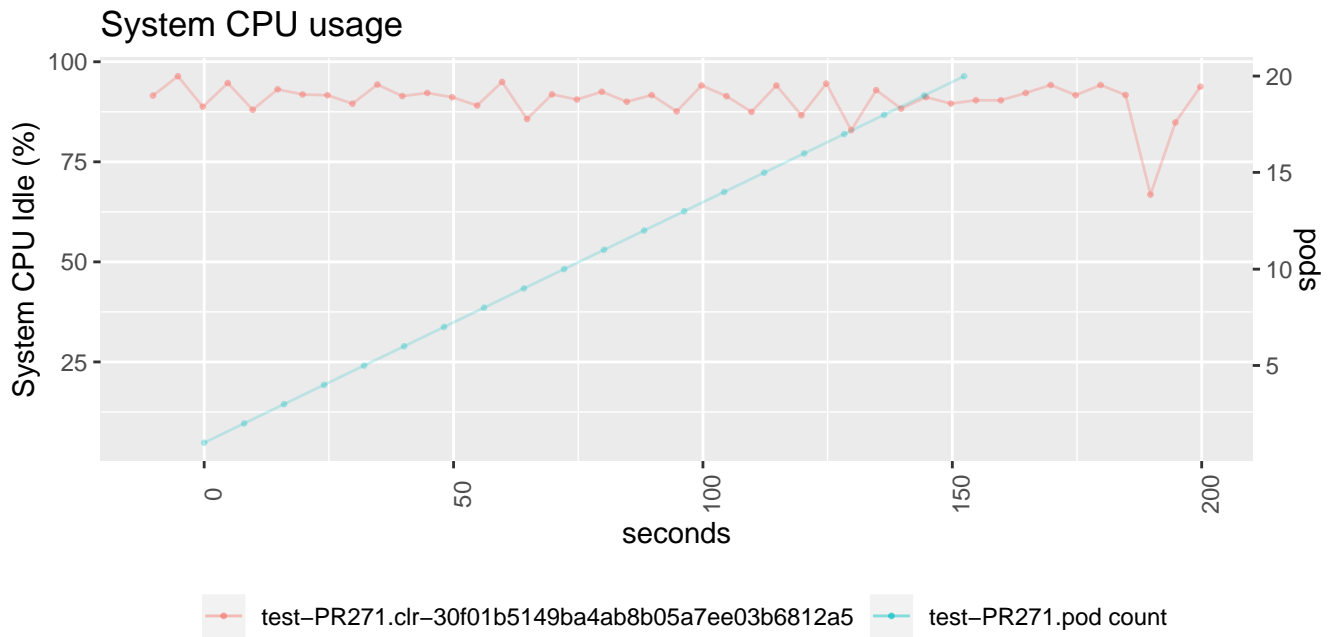
This [test](#) uses collectd to asynchronously measure CPU idle %, free memory, pod boot time, free inodes, and interface stats as it launches more and more idle `busybox` pods on a Kubernetes cluster.

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



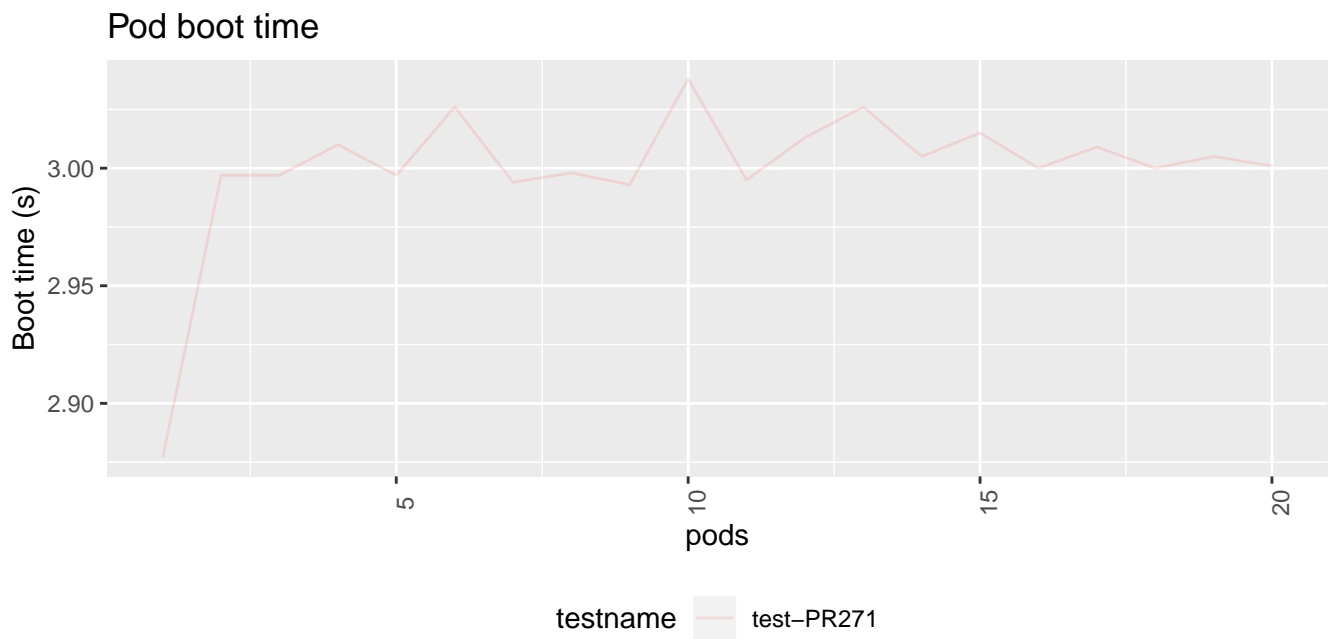
Test	n	Tot_Gb	avg_Gb	n_per_Gb
test-PR271	20	0.318	0.0159	62.97

Figure 5: K8S scaling collectd



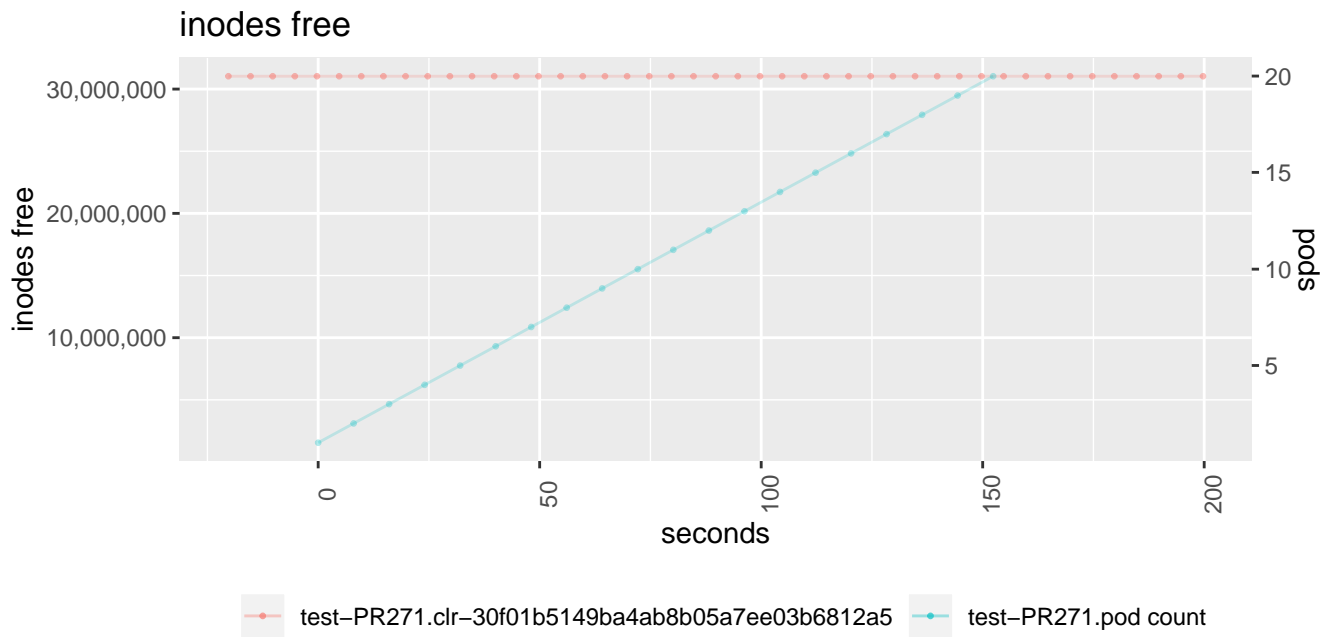
Test	n	Tot_CPU	avg_CPU
test-PR271	20	-0.788	-0.0394

Figure 6: K8S scaling collectd



Test	n	median	min	max	sd
test-PR271	20	3.0005	2.877	3.038	0.0314

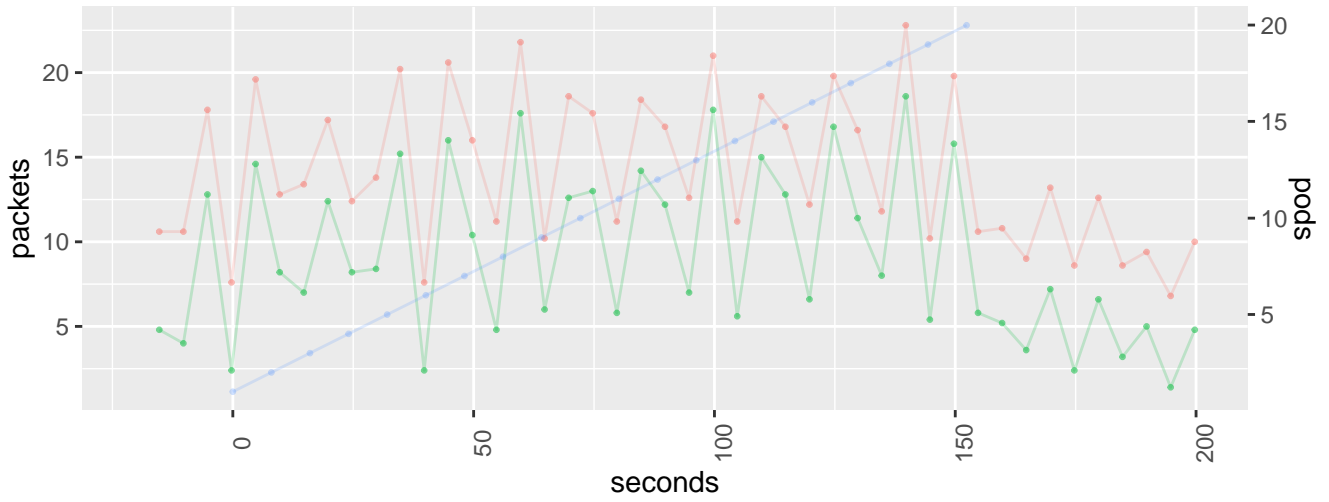
Figure 7: K8S scaling collectd



Test	n	Tot_inode	avg_inode
test-PR271	20	722	36.1

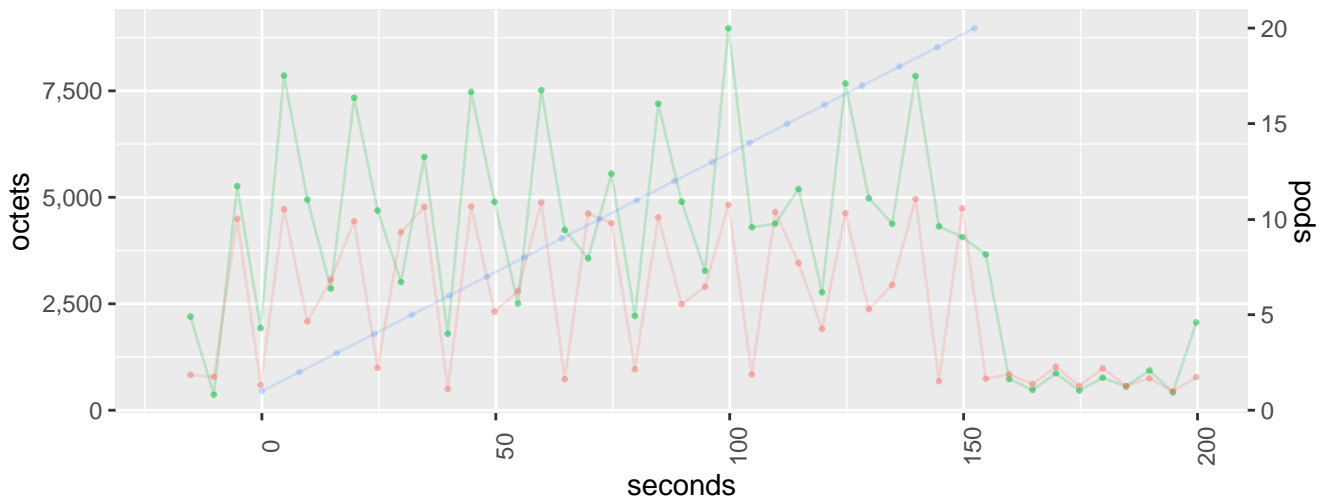
Figure 8: K8S scaling collectd

interface packets



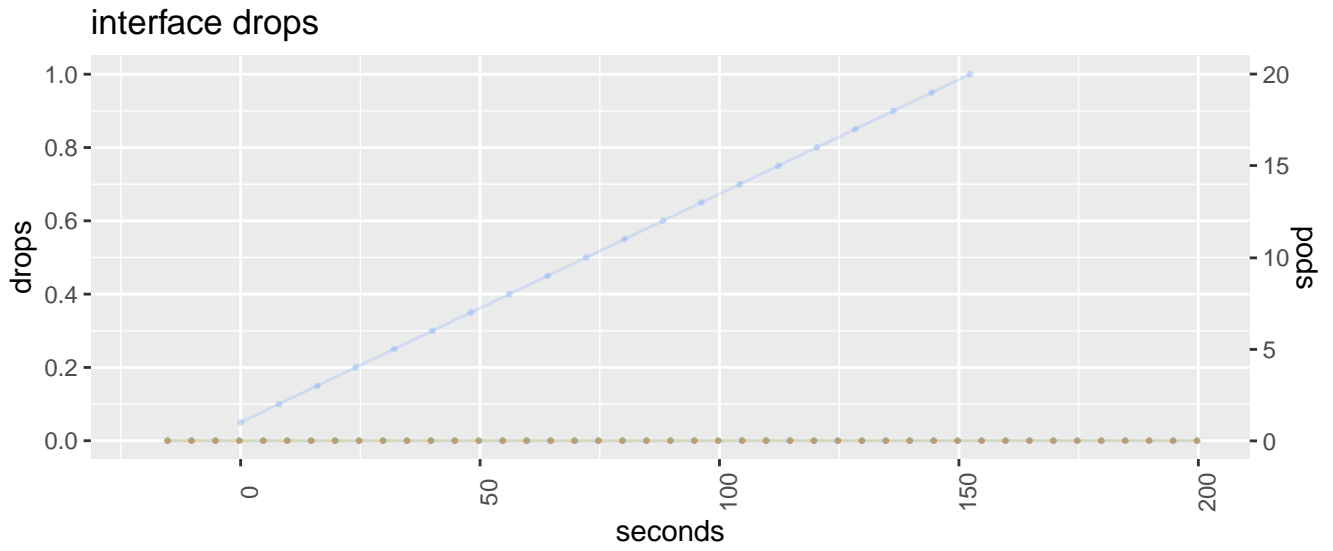
-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.rx test-PR271.clr-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.tx speed

interface octets

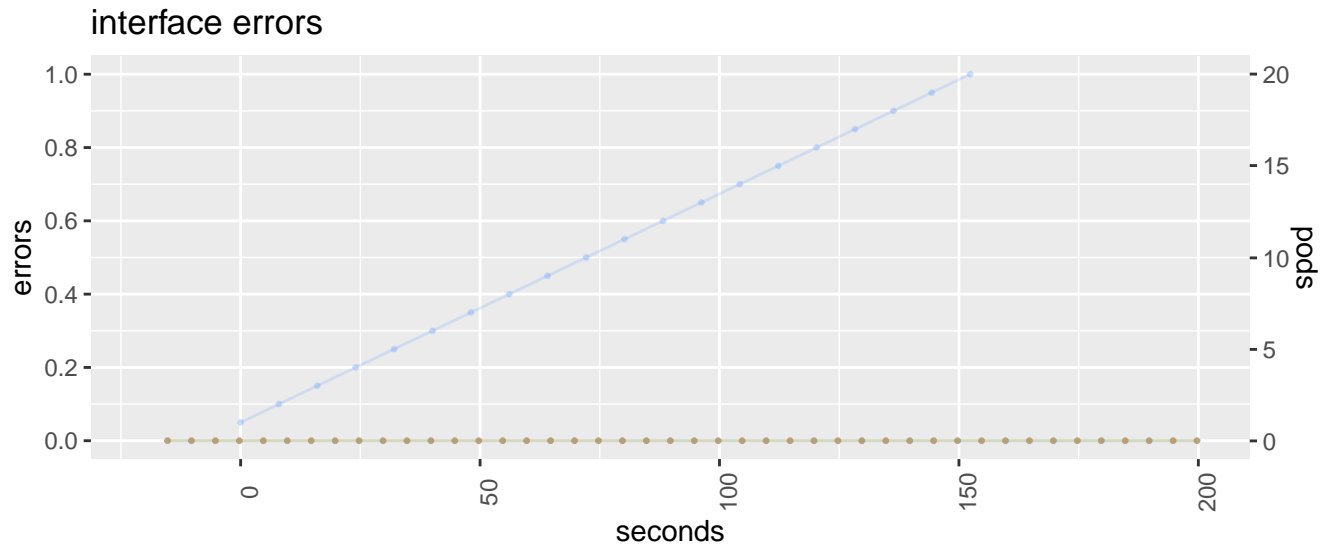


lr-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.rx test-PR271.clr-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.tx speed

Figure 9: K8S scaling collectd



-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.rx test-PR271.clr-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.tx



-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.rx test-PR271.clr-30f01b5149ba4ab8b05a7ee03b6812a5.eno1.tx

Figure 10: K8S scaling collectd

Test setup details

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

What	test-PR271
Client Ver	v1.16.3
Server Ver	v1.16.3
No. nodes	1
- Node0 name	clr-30f01b5149ba4ab8b05a7ee03b6812a
Have Kata	false
CPUs	4
Memory	32831924Ki
MaxPods	5k
PodCIDR	10.244.0.0/20
runtime	containerd://1.3.0
kernel	5.3.11-869.native
kubeProxy	v1.16.3
Kubelet	v1.16.3
OS	Clear Linux OS

Figure 11: 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	32831924Ki	5k	1	false	5.3.11-869.native	Clear Linux OS	test-PR271

Figure 12: Node information within Kubernetes cluster