Ops Manager - Wavefront Configuration in PKS Tile

1 **Wavefront URL:** URL of your Wavefront Subscription, e.g. https://vmware.wavefront.com/api
2 **Wavefront Access Token:** API token for your Wavefront Subscription (User Profile > API Access)
3 **Wavefront Alert Recipient:** Comma-separated list of e-mail addresses and/or Wavefront target IDs to which triggered alerts will be sent.

Ops Manager - Wavefront Errand Configuration in PKS Tile

Wavefront - Pre-defined Alerts (by Post-Deploy Errand)

Name	Severity	resolveAfterMinutes
Node Memory Usage high	WARN	10
Node Memory Usage too high	SEVERE	10
Node CPU Usage high	WARN	5
Node CPU Usage too high	SEVERE	5
Node Storage Usage high	WARN	10
Node Storage Usage too high	SEVERE	10
Too many Pods crashing	SEVERE	5
Too many Containers not running	SEVERE	5
Node unhealthy	SEVERE	5

Wavefront - Pre-defined Alert Examples

```json
{
  "name": "node memory usage high",
  "target": "user@example.com",
  "condition": "(ts(pks.heapster.node.memory.usage)-ts(pks.heapster.node.memory.cache)) /
    ts(pks.heapster.node.memory.node_allocatable) > 0.7",
  "displayExpression": "(ts(pks.heapster.node.memory.usage) –
    ts(pks.heapster.node.memory.cache)) / ts(pks.heapster.node.memory.node_allocatable)",
  "minutes": 10,
  "resolveAfterMinutes": 10,
  "severity": "WARN"
}
```

```json
{
  "name": "node CPU usage too high",
  "target": "user@example.com",
  "condition": "ts(heapster.node.cpu.node_utilization) > 0.9",
  "displayExpression": "ts(heapster.node.cpu.node_utilization)",
  "minutes": 5,
  "resolveAfterMinutes": 5,
  "severity": "SEVERE"
}
```

Check Wavefront API Access

Check API Access:

```
curl -s 'https://vmware.wavefront.com/api/v2/source' \
    -H 'Authorization: Bearer 1d23d456-XXXX-XXXX-XXXX-f123f12b1c21'| jq .
```

Containers inside `wavefront-proxy` Pod

pod	container	Pod Containers - Running Running ▾	
kube-dns-64d5ccd66-cnbfz	dnsmasq	1	🟪
kube-dns-64d5ccd66-cnbfz	kubedns	1	⬛
kube-dns-64d5ccd66-cnbfz	sidecar	1	🟨
kubernetes-dashboard-c7d7b78b5-n6vks	kubernetes-dashboard	1	🟦
monitoring-influxdb-bc594c557-hwl94	influxdb	1	🟦
wavefront-proxy-6c689b9544-xgf9m	heapster	1	🟧
wavefront-proxy-6c689b9544-xgf9m	kube-state-metrics	1	🟩
wavefront-proxy-6c689b9544-xgf9m	telegraf	1	🟥
wavefront-proxy-6c689b9544-xgf9m	wavefront-proxy	1	🟪 ⓘ
heapster-59444c7f9b-n4wvk	heapster	1	🟫

Wavefront-sand box

Wavefront Integration Architecture
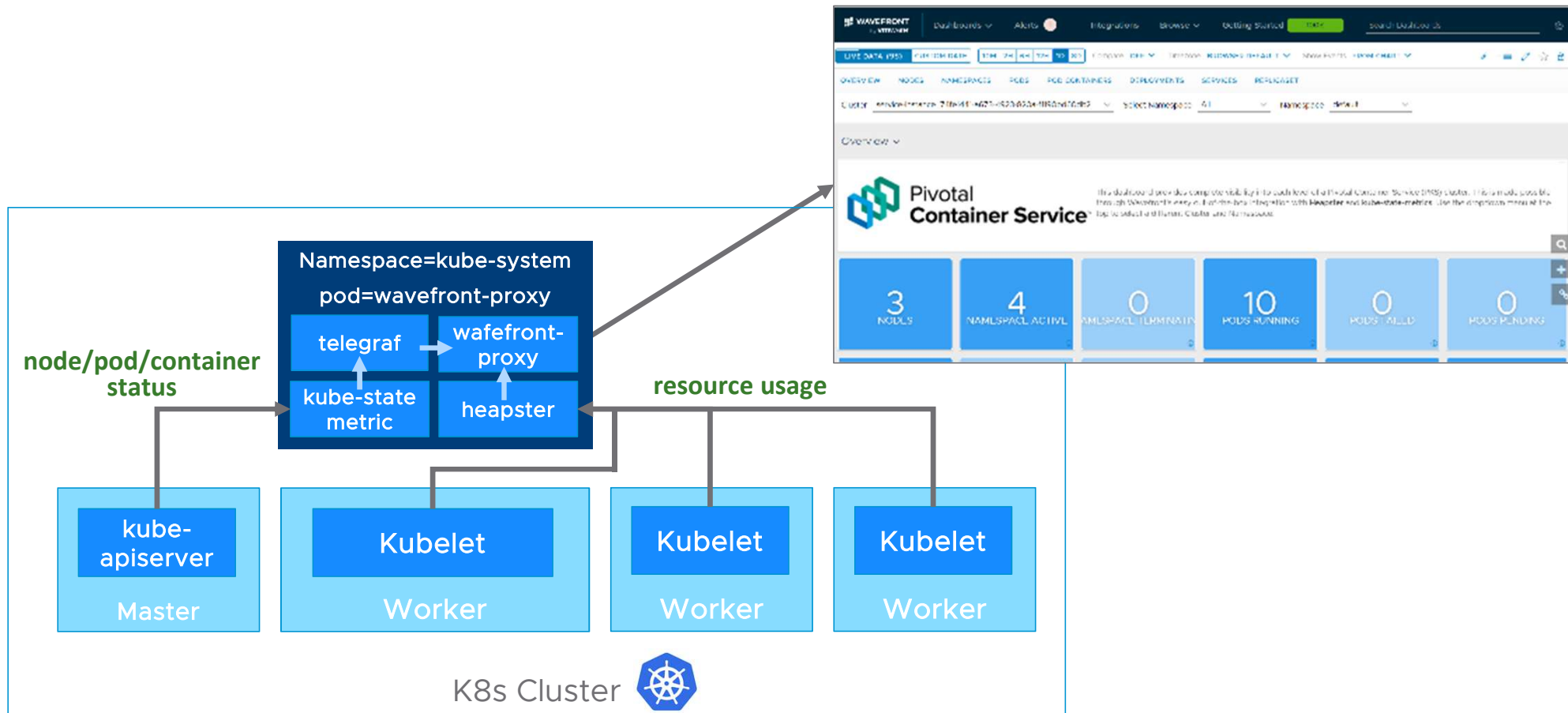
PKS & Wavefront - Dashboards

Wavefront PKS Dashboard - Overview
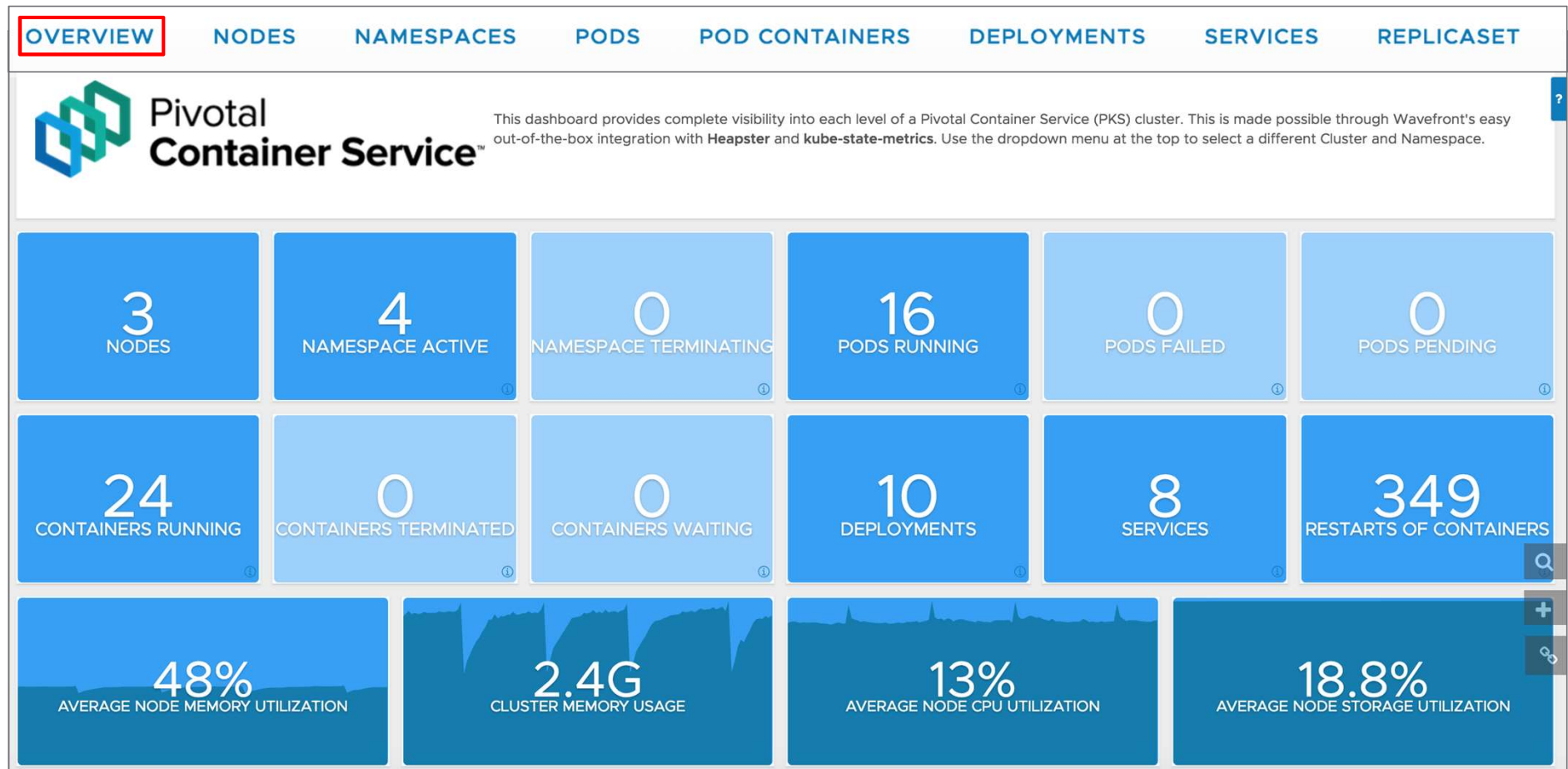
Wavefront PKS Dashboard - Nodes

Wavefront PKS Dashboard - Namespaces & Deployments
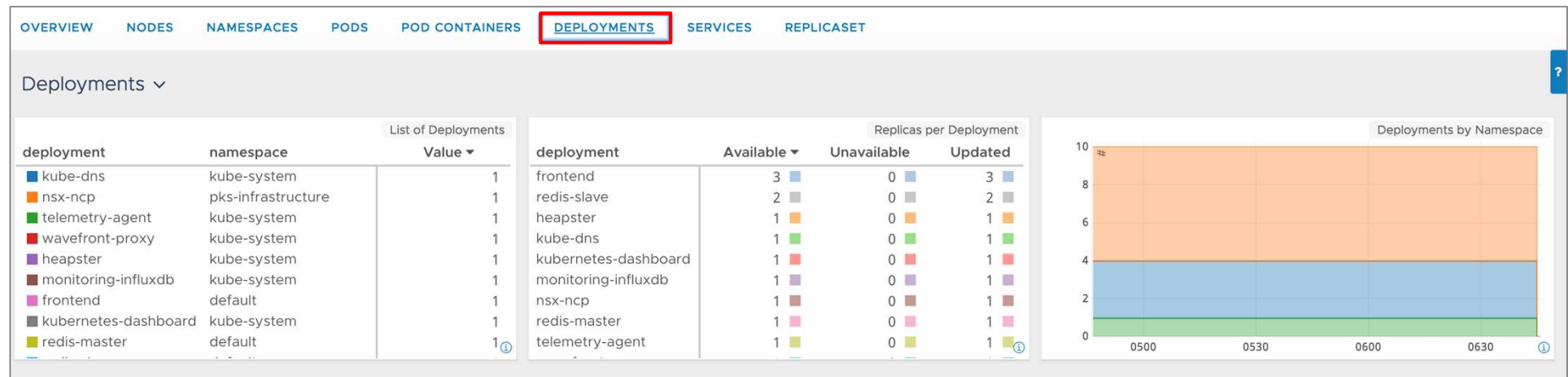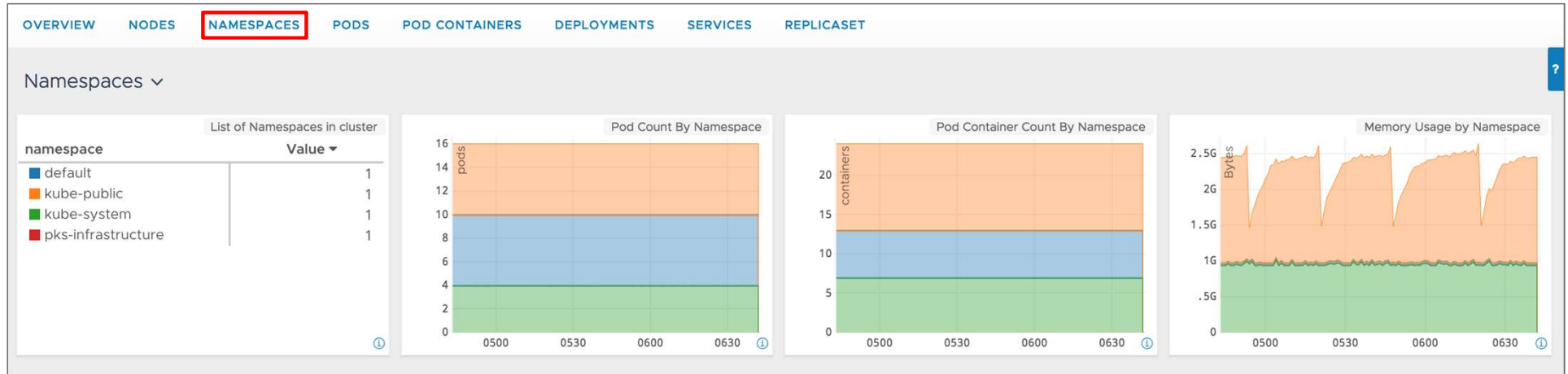
Wavefront PKS Dashboard - Pods

Wavefront PKS Dashboard - Pod Containers
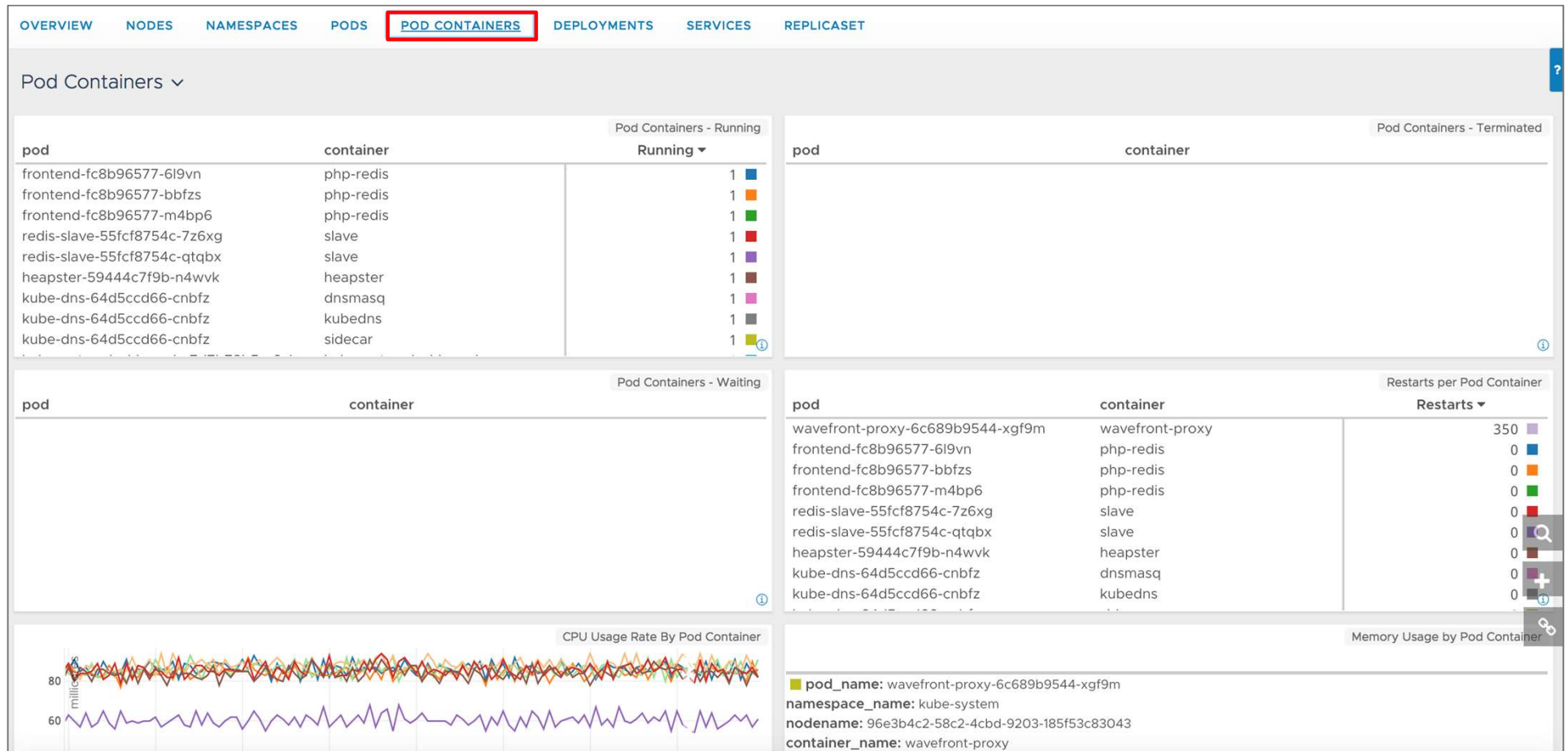
Wavefront PKS Dashboard - Services & ReplicaSets

OVERVIEW NODES NAMESPACES PODS POD CONTAINERS DEPLOYMENTS SERVICES REPLICASET

Services ⌄

| | | | Service Info |
service	namespace	cluster_ip	Value ▾
■ kubernetes	default	10.100.200.1	1
■ kube-dns	kube-system	10.100.200.10	1
■ kubernetes-dashboard	kube-system	10.100.200.211	1
■ redis-master	default	10.100.200.217	1
■ frontend	default	10.100.200.49	1
■ monitoring-influxdb	kube-system	10.100.200.86	1
■ heapster	kube-system	10.100.200.94	1
■ redis-slave	default	10.100.200.95	1

| | | | Service Spec Type |
service	namespace	type	Value ▾
■ kubernetes	default	ClusterIP	1
■ redis-master	default	ClusterIP	1
■ redis-slave	default	ClusterIP	1
■ heapster	kube-system	ClusterIP	1
■ kube-dns	kube-system	ClusterIP	1
■ monitoring-influxdb	kube-system	ClusterIP	1
■ frontend	default	LoadBalancer	1
■ kubernetes-dashboard	kube-system	NodePort	1

Replicaset ⌄

| | Replicas / Replicaset |
replicaset	Value ▾
■ frontend-fc8b96577	3
■ redis-slave-55fcf8754c	2
■ heapster-59444c7f9b	1
■ kube-dns-64d5ccd66	1
■ kubernetes-dashboard-c7d7b78b5	1
■ monitoring-influxdb-bc594c557	1
■ nsx-ncp-6849b5f564	1
■ redis-master-56f7c5fb69	1
■ telemetry-agent-76b9bb7db9	1

| | Desired Pods / Replicaset |
replicaset	Value ▾
■ frontend-fc8b96577	3
■ redis-slave-55fcf8754c	2
■ heapster-59444c7f9b	1
■ kube-dns-64d5ccd66	1
■ kubernetes-dashboard-c7d7b78b5	1
■ monitoring-influxdb-bc594c557	1
■ nsx-ncp-6849b5f564	1
■ redis-master-56f7c5fb69	1
■ telemetry-agent-76b9bb7db9	1

PKS & Wavefront - Troubleshooting

PKS Wavefront Proxy - Trouble-Shooting (1)

PKS tile deployment fails at running `wavefront-alert-creation` errand
- 401 Unauthorized
  - Invalid `wavefront-access-token`
  - Check with Wavefront team: Wavefront auth service may be down
- No such host / no route to host
  - Check network connectivity to the Internet (`wavefront-api-server`)

PKS Wavefront Proxy - Trouble-Shooting (2)

No metrics on Wavefront Web UI

- Check `wavefront-proxy` pod status

  kubectl get pods --all-namespaces

```
root@pks-client-routed-topo:~# kubectl get pods -n kube-system
NAME                                     READY    STATUS     RESTARTS    AGE
heapster-59444c7f9b-n4wvk                1/1      Running    0           7d
kube-dns-64d5ccd66-cnbfz                 3/3      Running    0           7d
kubernetes-dashboard-c7d7b78b5-n6vks     1/1      Running    0           7d
monitoring-influxdb-bc594c557-hwl94      1/1      Running    0           7d
telemetry-agent-76b9bb7db9-dvzhk         1/1      Running    0           7d
wavefront-proxy-6c689b9544-xgf9m         4/4      Running    351         7d
root@pks-client-routed-topo:~#
```

PKS Wavefront Proxy - Trouble-Shooting (3)

No metrics on Wavefront Web UI

- Check `wavefront-proxy` pod status

  `kubectl describe pod wavefront-proxy-pod-name -n kube-system`

```
root@pks-client-routed-topo:~# kubectl describe pod wavefront-proxy-6c689b9544-xgf9m -n kube-system
Name:           wavefront-proxy-6c689b9544-xgf9m
Namespace:      kube-system
Node:           96e3b4c2-58c2-4cbd-9203-185f53c83043/10.40.14.5
Start Time:     Mon, 02 Jul 2018 15:06:10 -0700
Labels:         app=wavefront-proxy
                pod-template-hash=2724565100
                version=v1
Annotations:    <none>
Status:         Running
IP:             172.16.2.6
Controlled By:  ReplicaSet/wavefront-proxy-6c689b9544
Containers:
  wavefront-proxy:
    Container ID:   docker://daf3b439e33959289f6ddb97c4cca1f1aabca779df908c0913308452a6277b43
    Image:          wavefronthq/proxy:4.26
```

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PKS Wavefront Proxy - Trouble-Shooting (4)

No metrics on Wavefront Web UI

- Check `wavefront-proxy` pod logs

  kubectl logs wavefront-proxy-pod-name -n kube-system -c wavefront-proxy

  kubectl logs wavefront-proxy-pod-name -n kube-system -c heapster

  kubectl logs wavefront-proxy-pod-name -n kube-system -c kube-state-metrics

- Possible causes

  - 401 unauthorized: check wavefront-access-token validity
  - Network connectivity to wavefront-api-server

```
root@pks-client-routed-topo:~# kubectl logs wavefront-proxy-6c689b9544-xgf9m -n kube-system -c wavefront-proxy | tail -n 5
2018-07-10 06:01:33,025 WARN  [PostSourceTagTimedTask:createAgentPostBatch] [2878] (SUMMARY): sourceTags attempted: 0; blocked: 0
2018-07-10 06:01:33,036 WARN  [PostSourceTagTimedTask:createAgentPostBatch] [2878] (SUMMARY): sourceTags attempted: 0; blocked: 0
2018-07-10 06:01:33,036 WARN  [PostSourceTagTimedTask:createAgentPostBatch] [2878] (SUMMARY): sourceTags attempted: 0; blocked: 0
2018-07-10 06:01:33,069 WARN  [PostSourceTagTimedTask:createAgentPostBatch] [2878] (SUMMARY): sourceTags attempted: 0; blocked: 0
2018-07-10 06:01:49,294 INFO  [agent:fetchConfig] fetching configuration from server at: https://vmware.wavefront.com/api
root@pks-client-routed-topo:~#
```

Sample wavefront-proxy log