

1.11升级1.12

Subtitle

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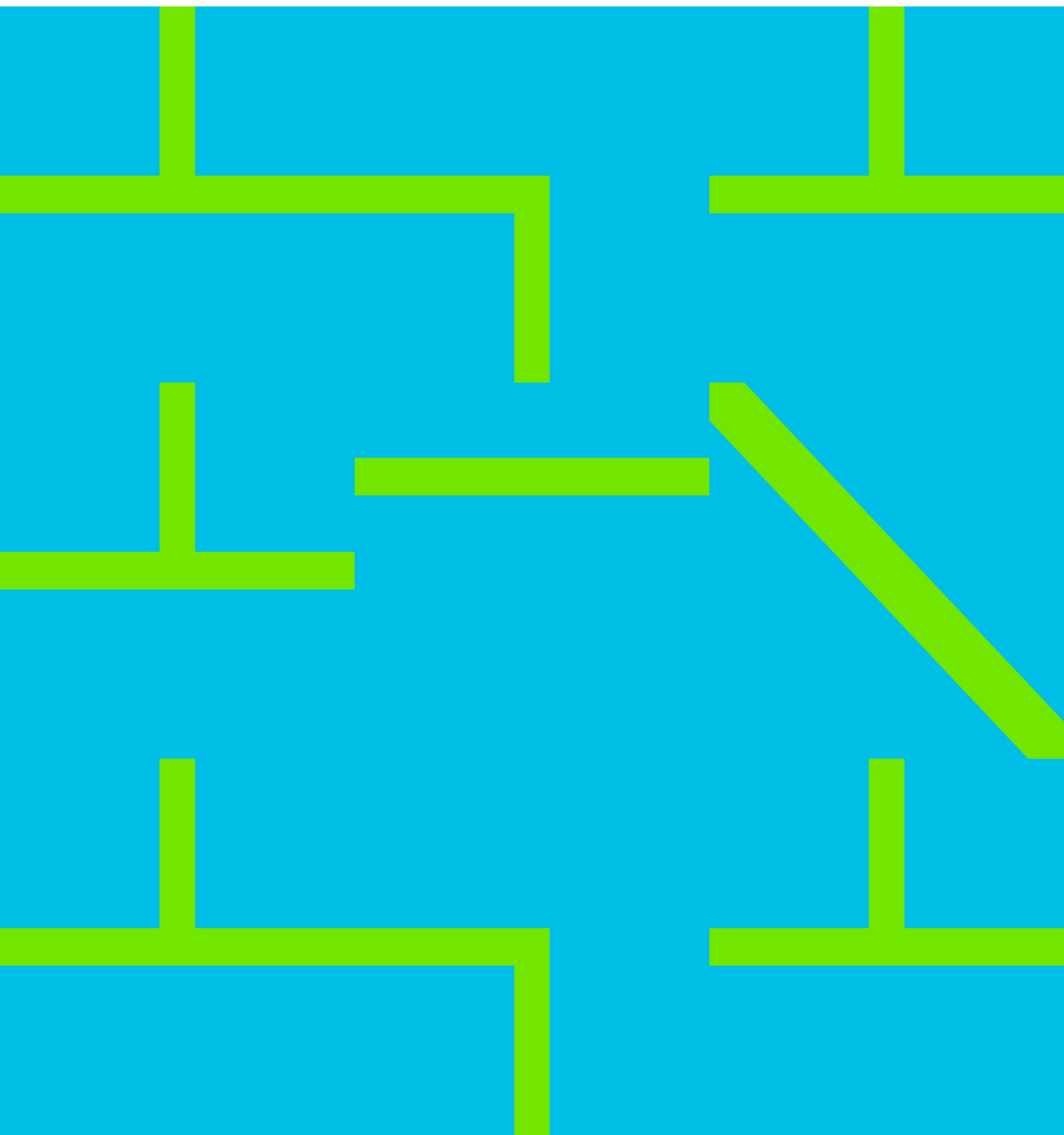


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1.11升级1.12



2018.11.23: 已单独回滚kube-proxy到1.11.4, 观察几天。1.12.2及1.13.0感觉不稳定, rs不能正常更新, 有时候又会删除正常的rs, 导致流量异常

1.11.1升级至1.12.2

升级过程

- puppet 执行git checkout -b k8s-v1.12 创建新分支
- 复制master新二进制文件覆盖旧文件
- git push master执行puppet同步, 验证master升级情况
- 复制node新二进制文件覆盖旧文件
- git push, 等待node同步, 通过kubectl get node验证node版本

问题

metrics-server报错

dashboard hpa报错

```
failed to get memory utilization: unable to get metrics for resource memory: unable to fetch metrics from resource metrics API: the server is currently unable to handle the request (get pods.metrics.k8s.io)
```

kube-apiserver日志

```
E1113 10:26:35.987606 17967 available_controller.go:311] v1beta1.metrics.k8s.io failed with: Operation cannot be fulfilled on apiservices.apiregistration.k8s.io "v1beta1.metrics.k8s.io": the object has been modified; please apply your changes to the latest version and try again
E1113 10:28:41.530862 17967 available_controller.go:311] v1beta1.metrics.k8s.io failed with: Operation cannot be fulfilled on apiservices.apiregistration.k8s.io "v1beta1.metrics.k8s.io": the object has been modified; please apply your changes to the latest version and try again
```

- <https://github.com/kubernetes-incubator/metrics-server/issues/159>

间歇性的访问不到metrics-server

```
E1113 15:11:25.457824 25356 available_controller.go:311] v1beta1.metrics.k8s.io failed with: Get https://169.169.197.26:443: net/http: request canceled (Client.Timeout exceeded while awaiting headers)
E1113 15:11:48.635492 25356 memcache.go:134] couldn't get resource list for metrics.k8s.io/v1beta1: the server is currently unable to handle the request
```

通过curl手动测试, 间歇性的响应非常慢(接近1分钟)

通过kubectl get apiservice v1beta1.metrics.k8s.io -o yaml 可以看到

```
status:
conditions:
- lastTransitionTime: 2018-11-13T06:29:47Z
  message: 'no response from https://169.169.197.26:443: Get https://169.169.197.26:443:
    net/http: request canceled (Client.Timeout exceeded while awaiting headers)'
  reason: FailedDiscoveryCheck
  status: "False"
  type: Available
```

变更配置后重部解决（不确定是否是root cause）

```
rules:
- apiGroups:
+ - "/"
+ resources:
+ - pods
+ - nodes
+ - namespaces
+ verbs:
+ - get
+ - list
+ - watch
+- apiGroups:
```

ipvs rs未更新

部分节点calico node更新失败，日志显示calico无法连接到typha。ipvsadm -ln 查看，typha 的rs更新。

重启kube-proxy

报错日志

```
E1113 11:43:24.447691 8117 graceful_termination.go:89] Try delete rs
"169.169.67.83:5473/TCP/10.112.35.111:5473" err: invalid argument
E1113 11:43:24.447811 8117 proxier.go:1496] Failed to list IPVS destinations, error: device or
resource busy
E1113 11:43:24.447852 8117 proxier.go:809] Failed to sync endpoint for service:
169.169.135.125:8140/TCP, err: device or resource busy
E1113 11:43:24.448195 8117 proxier.go:1455] Failed to add IPVS service "kube-system/kube-
dns:dns-tcp": file exists
E1113 11:43:24.448219 8117 proxier.go:812] Failed to sync service: 169.169.0.2:53/TCP, err: file
exists
```

缩容之后rs未更新

- <https://github.com/kubernetes/kubernetes/issues/70997>
- **Fixed** by <https://github.com/kubernetes/kubernetes/pull/69268>



ipvs 优雅关闭引入了一个bug，pull 69268已修复，1.12.2
二进制中未加入该fix，更新kube-proxy二进制到1.13-



beta版本即可。

无请求节点更新正常

TCP 169.169.218.191:80 rr

```
-> 172.20.2.81:80      Masq  1    0    0
-> 172.20.10.73:80     Masq  1    0    0
-> 172.20.31.175:80    Masq  1    0    0
-> 172.20.37.54:80     Masq  1    0    0
-> 172.20.38.80:80     Masq  1    0    0
-> 172.20.41.86:80     Masq  1    0    0
-> 172.20.49.11:80     Masq  1    0    0
-> 172.20.60.11:80     Masq  1    0    0
-> 172.20.61.16:80     Masq  1    0    0
```

有请求节点未更新

TCP 169.169.218.191:80 rr

```
-> 172.20.2.81:80      Masq  1    0    1515
-> 172.20.10.73:80     Masq  1    0    1523
-> 172.20.16.74:80     Masq  1    0    709
-> 172.20.21.86:80     Masq  1    0    694
-> 172.20.31.175:80    Masq  1    0    1521
-> 172.20.37.54:80     Masq  1    0    1536
-> 172.20.38.80:80     Masq  1    1    1519
-> 172.20.39.111:80    Masq  1    0    693
-> 172.20.40.85:80     Masq  1    0    706
-> 172.20.41.86:80     Masq  1    0    1517
-> 172.20.42.129:80    Masq  1    0    686
-> 172.20.44.101:80    Masq  1    0    690
-> 172.20.49.11:80     Masq  1    1    1540
-> 172.20.57.14:80     Masq  1    0    693
-> 172.20.59.9:80      Masq  1    0    703
-> 172.20.60.11:80     Masq  1    1    1507
```

日志

```
E1113 18:46:44.008235 9987 graceful_termination.go:89] Try delete rs
"169.169.218.191:80/TCP/172.20.42.128:80" err: Failed to delete rs
"169.169.218.191:80/TCP/172.20.42.128:80", can't find the real server
E1113 18:47:44.008842 9987 graceful_termination.go:89] Try delete rs
"169.169.218.191:80/TCP/172.20.42.128:80" err: Failed to delete rs
"169.169.218.191:80/TCP/172.20.42.128:80", can't find the real server
E1113 18:48:44.010713 9987 graceful_termination.go:89] Try delete rs
"169.169.218.191:80/TCP/172.20.42.128:80" err: Failed to delete rs
"169.169.218.191:80/TCP/172.20.42.128:80", can't find the real server
E1113 18:49:44.011275 9987 graceful_termination.go:89] Try delete rs
"169.169.218.191:80/TCP/172.20.42.128:80" err: Failed to delete rs
"169.169.218.191:80/TCP/172.20.42.128:80", can't find the real server
```

```
E1113 18:49:44.011584 9987 graceful_termination.go:89] Try delete rs
"169.169.218.191:80/TCP/172.20.31.175:80" err: Failed to delete rs
"169.169.218.191:80/TCP/172.20.31.175:80", can't find the real server
```

好像只有部分节点更新失败

dashboard响应慢



最终结论应是kube-proxy 1.12.2版本及1.13.0-beta.1 ipvs mode不稳定，影响了容器网络，导致metric-server, dashboard, calico-node都不稳定，calico无法连接typha vip时，可能影响容器路由。回退到1.11.4之后一切正常。可以通过zabbix的dns监控来监控每个节点上169.169.0.2的可用性，以此反应出各节点容器网络的状态

可能是因为metric-server慢

```
I1122 15:28:23.535501 19814 round_tripper.go:386] curl -k -v -XGET -H "Accept: application/json, */*" -H "User-Agent: kubect/v1.12.2 (linux/amd64) kubernetes/17c77c7"
'https://10.0.9.8/apis/metrics.k8s.io/v1beta1/namespaces/public/pods'
I1122 15:29:00.775704 19814 round_tripper.go:405] GET
https://10.0.9.8/apis/metrics.k8s.io/v1beta1/namespaces/public/pods 200 OK in 37240 milliseconds
```

具体原因未知。更新到1.10.0之后（老版本为1.8.3）就好了。1.10.0 Role有变化

```
kind: Role
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: kubernetes-dashboard-minimal
  namespace: kube-system
rules:
  # Allow Dashboard to create 'kubernetes-dashboard-key-holder' secret.
- apiGroups: [""]
  resources: ["secrets"]
  verbs: ["create"]
  # Allow Dashboard to create 'kubernetes-dashboard-settings' config map.
- apiGroups: [""]
  resources: ["configmaps"]
  verbs: ["create"]
```


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