

# What's New in Kubernetes

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# Kubernetes 1.16

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- **31 enhancements**

- 8 moving to Stable
- 8 in Beta
- 15 in Alpha

- **Highlights**

- CSI enhancements
- CRDs reach GA
- Admission webhooks reach GA
- Metrics overhaul

# CSI Enhancements

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- Resizing support graduates to Beta
- Specify another PVC as a “DataSource” so the new volume becomes a clone of the source volume
- Inline volume support graduates to Beta

```
apiVersion: v1
kind: Pod
metadata:
  name: some-pod
spec:
  containers:
    ...
  volumes:
    - name: vol
      csi:
        driver: some-csi-driver.example.com
        # Passed as NodePublishVolumeRequest.volume_context,
        # valid options depend on the driver.
        volumeAttributes:
          foo: bar
```

# Windows Support

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- **kubeadm support added for Windows**
- **Windows nodes can now use existing CSI plugins**
- **Active Directory Group Managed Service Account (GMSA) support is graduating to Beta**
- **RunAsUserName support**

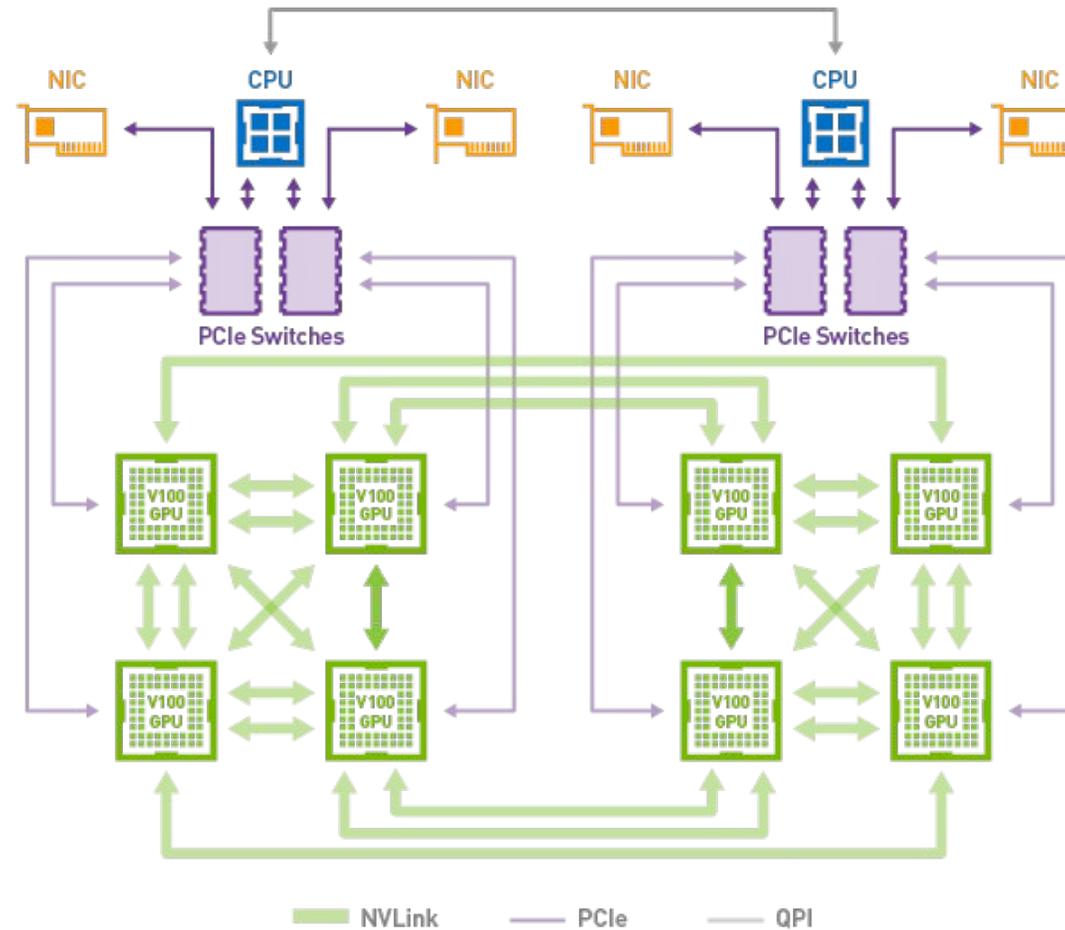
# Ephemeral Containers

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- **Pods are immutable but you can attach an ephemeral container to a running pod!**
- **When `kubectl exec` isn't enough**
- **Useful to combine with process namespace sharing**
- **Can use a kubectl plugin to do something like:**  
`kubectl debug my-debug-container --image debian --attach`

# Node Topology Manager

Useful for high performance computing and machine learning workloads!



# Cloud Providers

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- **Cloud providers are moving out-of-tree to enable faster iteration cycles**
- **Finalizer protection for service LoadBalancers graduates to Beta, preventing orphaned resources**
- **Azure availability zones support graduates to Stable, with topology awareness for disk provisioning**

# Other Notable Features

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- **IPv4/IPv6 dual-stack support!**
- **More scalable endpoints API**
- **Pod topology spread constraints**

# Thank You Contributors!

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- **Release Team**

Led by **Lachlan Evenson**

32 individuals

- **32,000 individual contributors to date**

1,147 different companies and over 3,149 individuals each month

# Kubernetes Bootstrap Steering Committee

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