

Deploying and Managing Azure Kubernetes Service (AKS) Clusters

AKS Fundamentals



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Overview



AKS Architecture
Deployment Considerations
Multi Tenancy and Cluster Isolation



What You Should Know First



Kubernetes



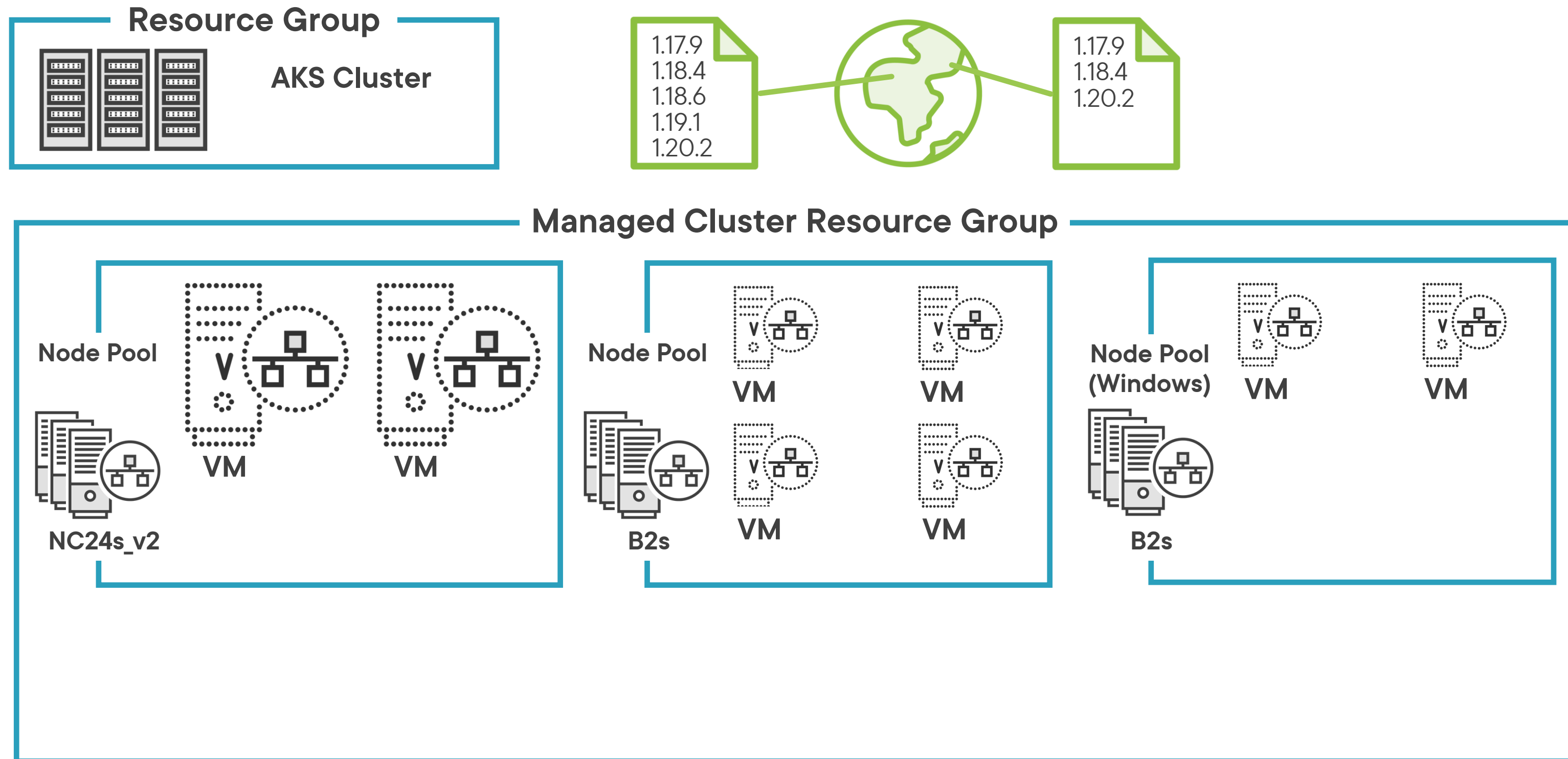
Azure



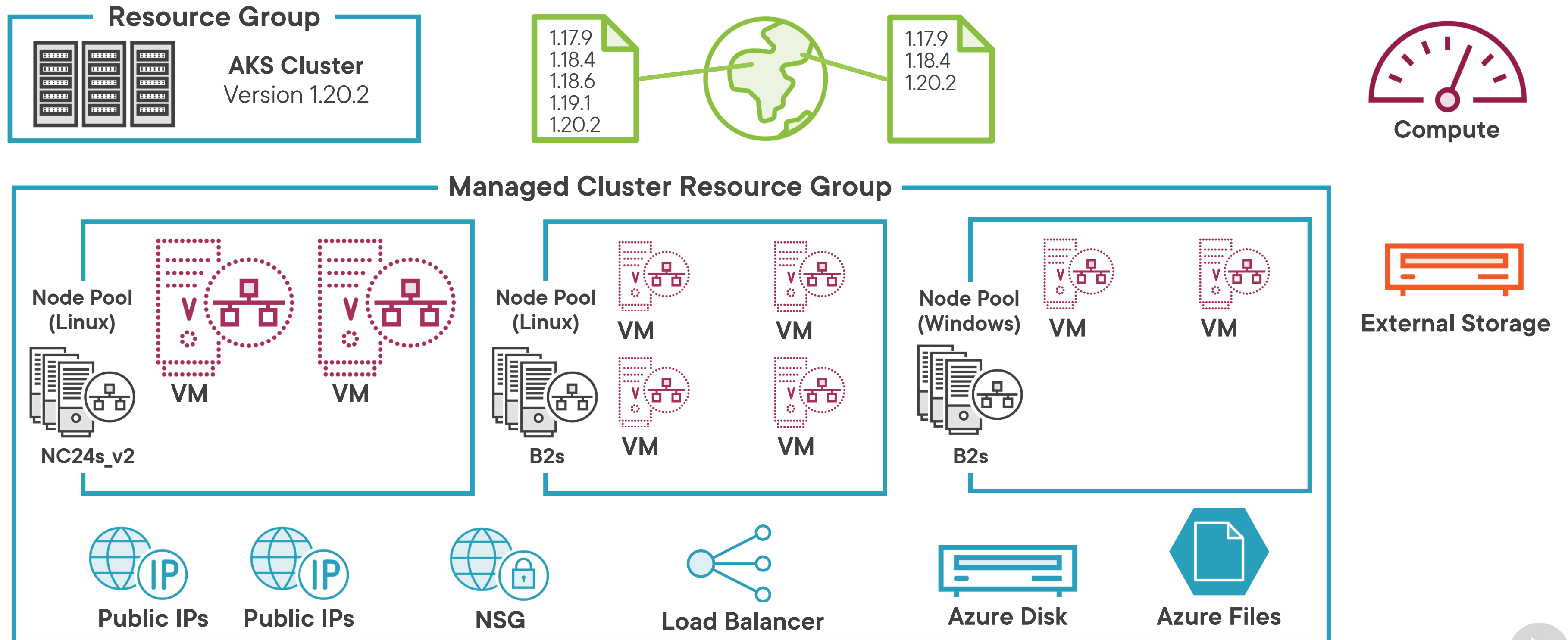
PowerShell, Azure CLI or Azure Portal



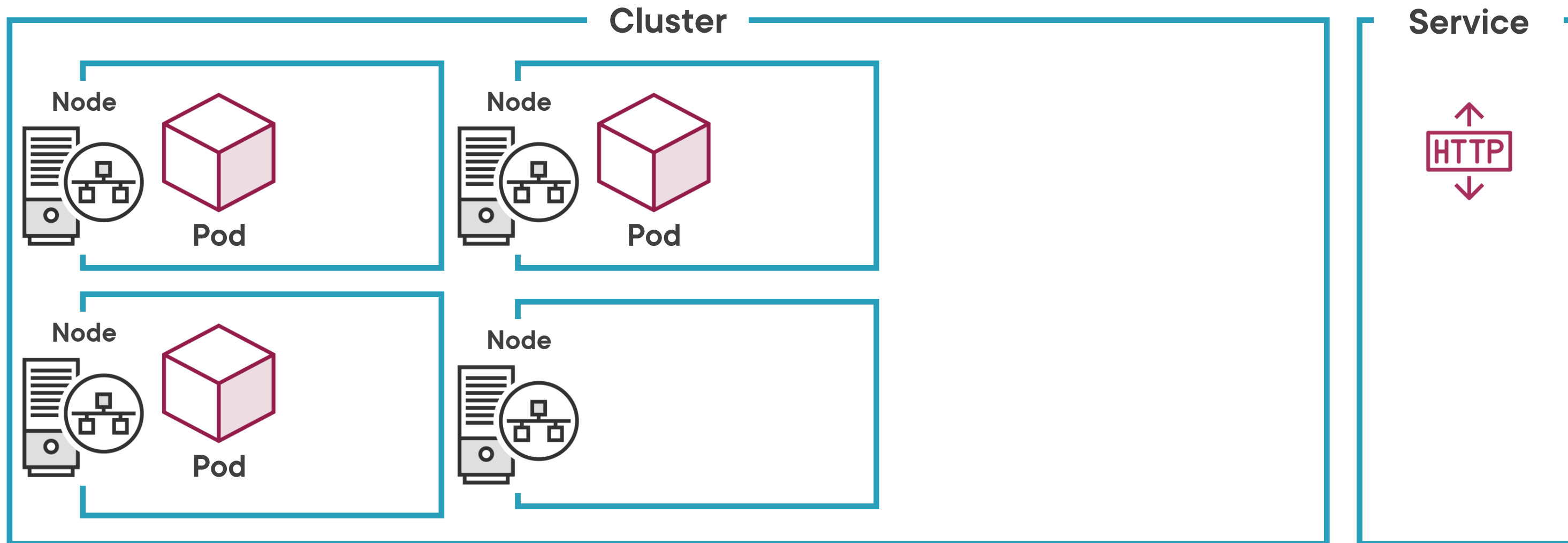
AKS Architecture



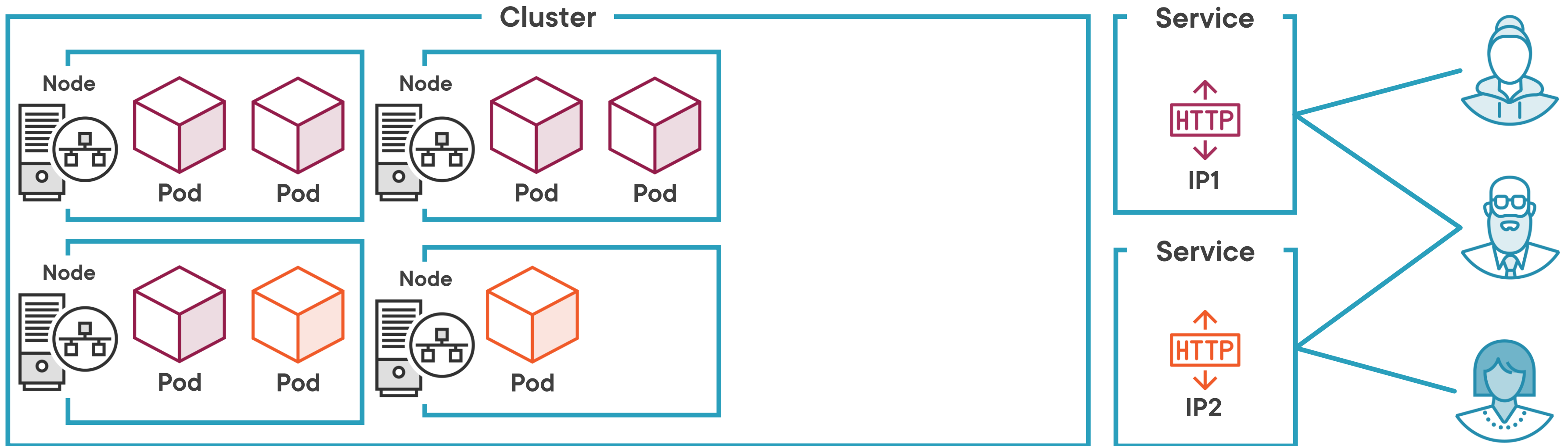
AKS Architecture



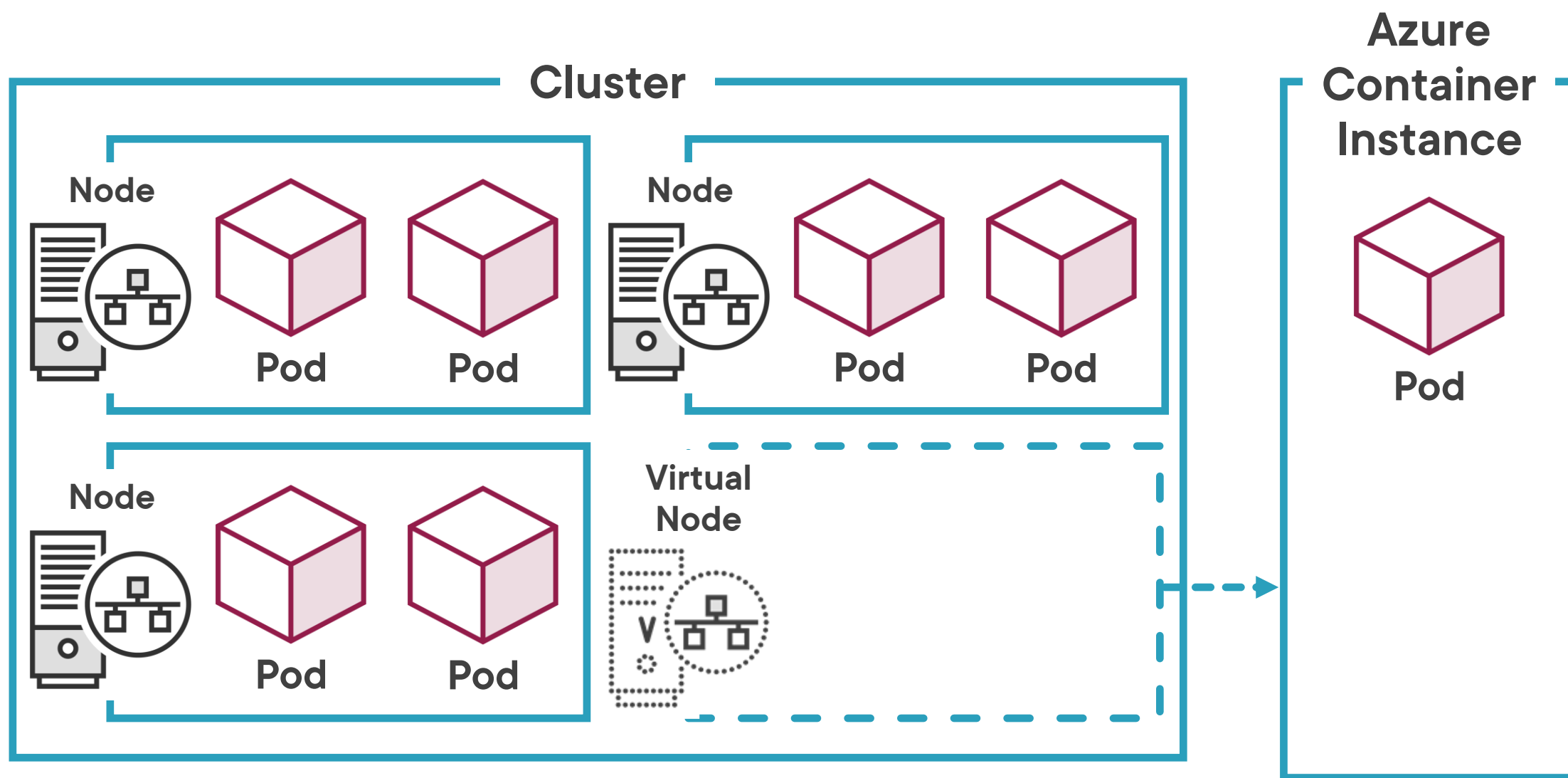
Load Balancers



Load Balancers



Virtual Nodes



Consumption based billing

Faster than deploying extra VMs

Linux Containers only

**Requires Advanced Networking
(Azure CNI)**

IPv4 only



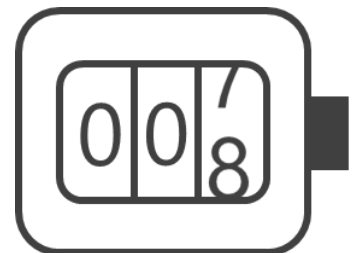
Subscription Limits



Service quota



VM families



Core count



AKS Limits



Restricted VM sizes

Do not use very small VM sizes, such as:

- Standard_A0/A1/A1_v2
- Standard_B1s/B1ms
- Standard_F1/F1s



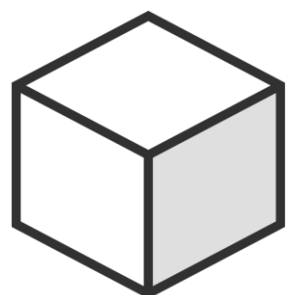
Maximum clusters per subscription

1,000



Maximum nodes per cluster

100 with Availability Sets
* Must be deployed through
1,000 with Scale Sets or ARM template
(100 per node pool)



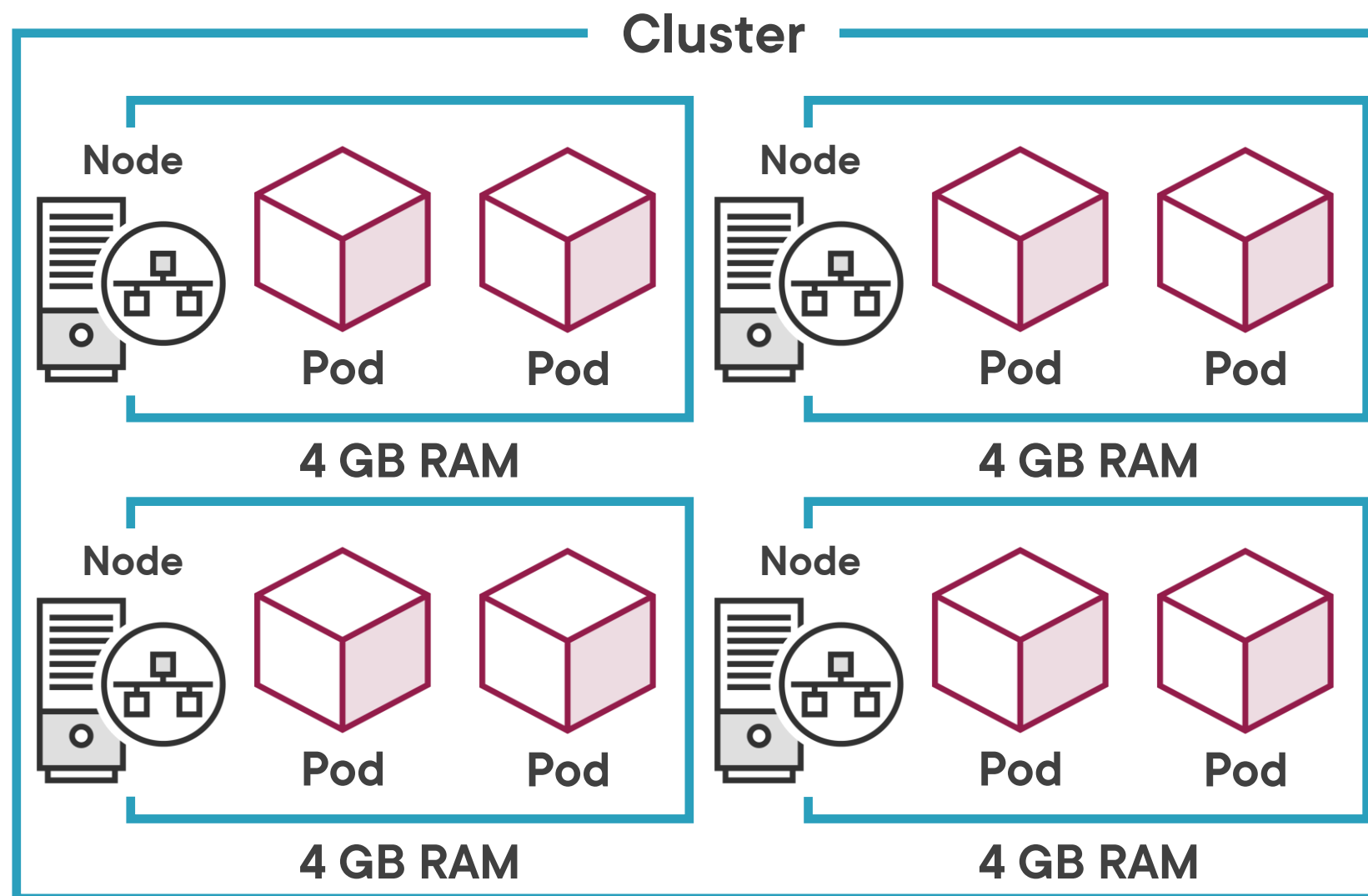
Maximum pods per node

110 with Basic Networking

250* with Advanced Networking



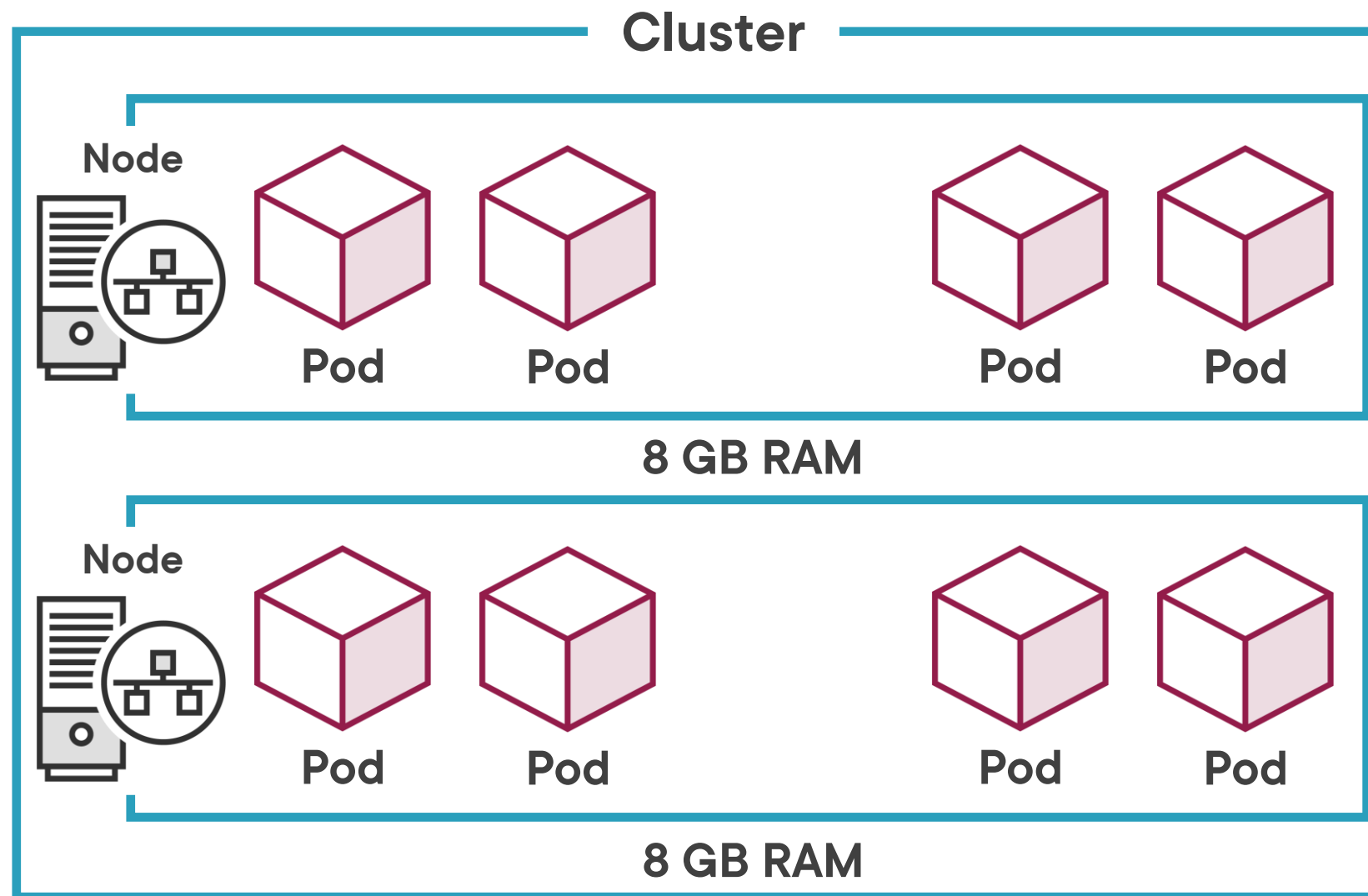
Sizing Considerations



Application
7 GB RAM



Sizing Considerations




Application
7 GB RAM

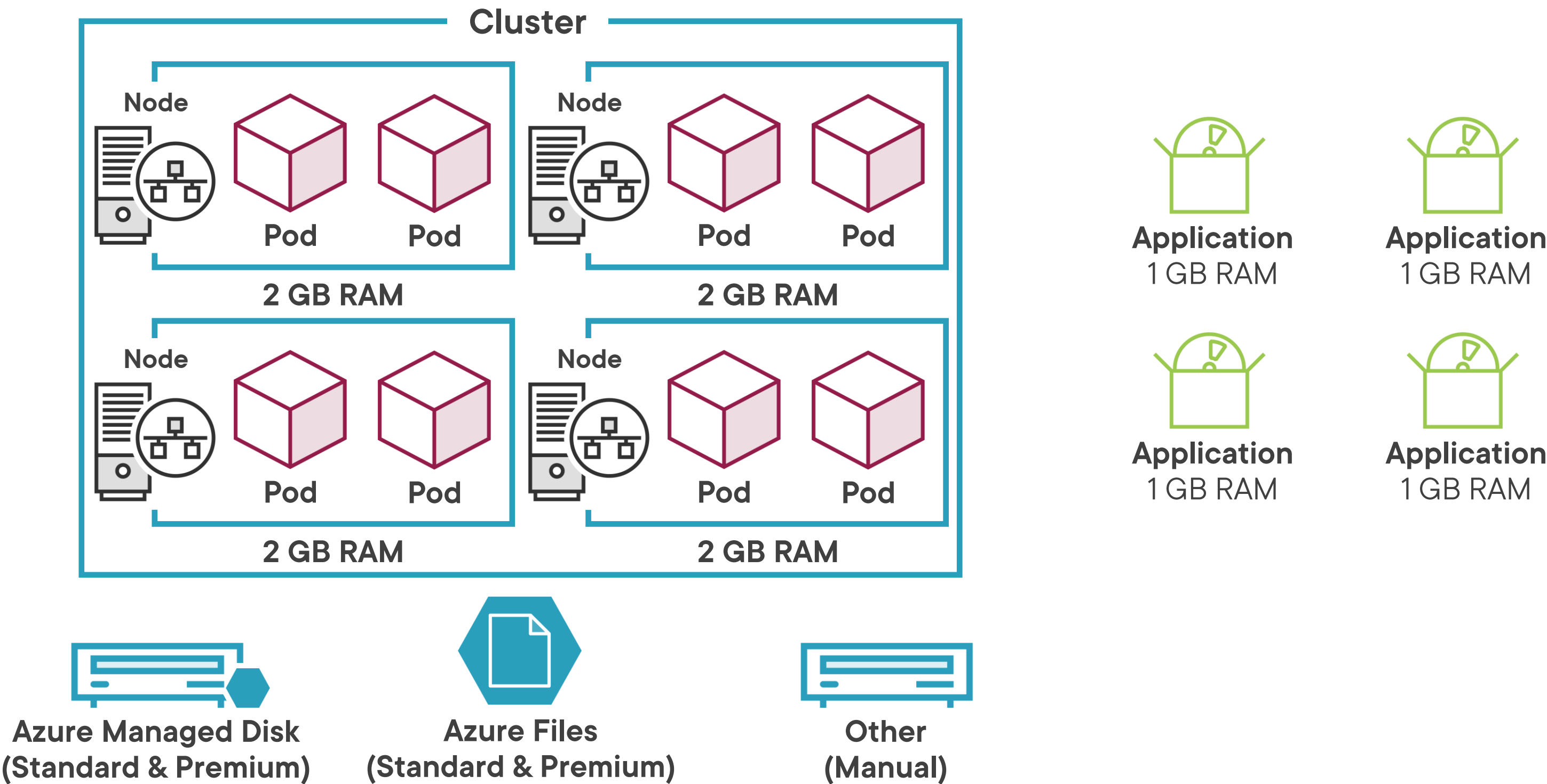

Application
1 GB RAM


Application
1 GB RAM


Application
1 GB RAM

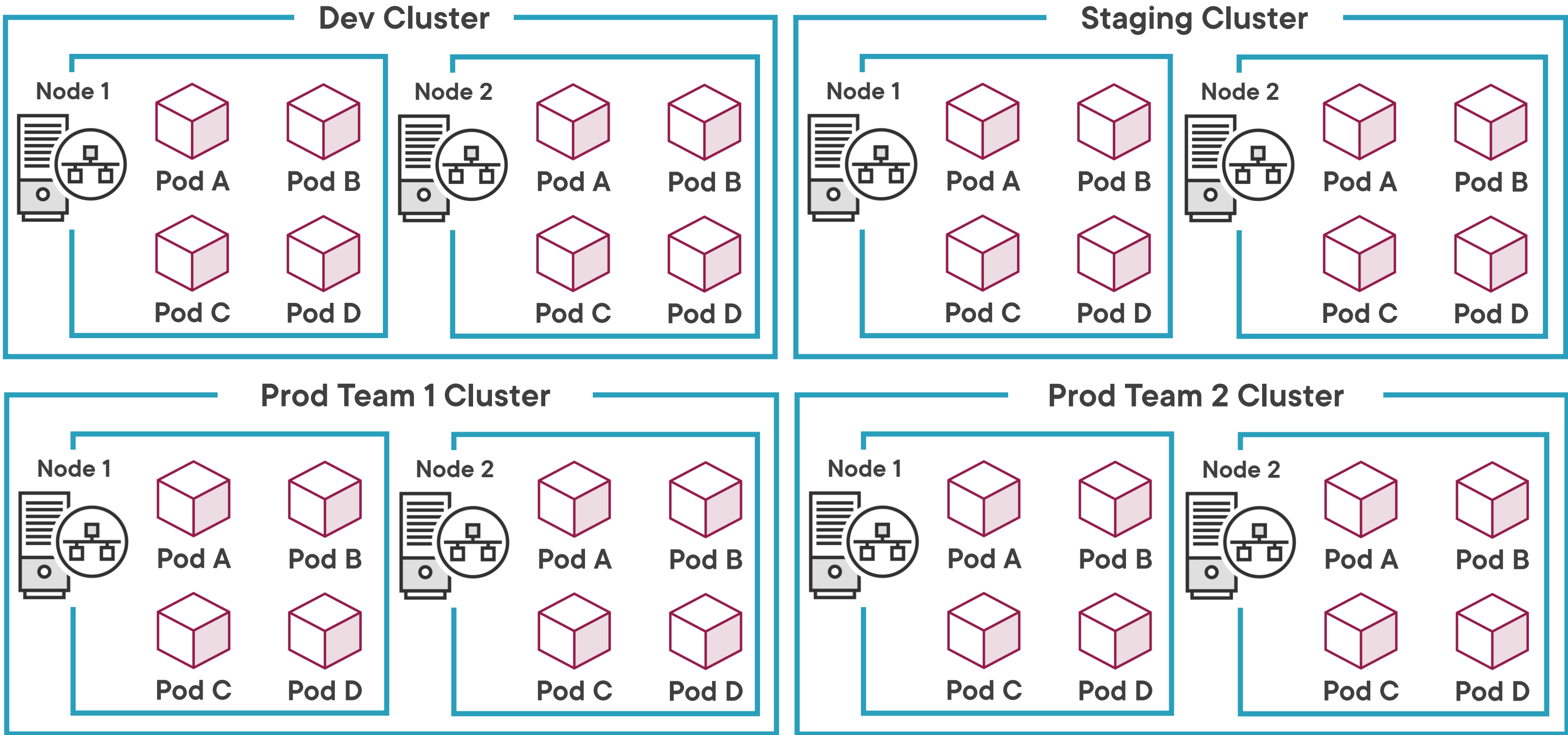


Sizing Considerations



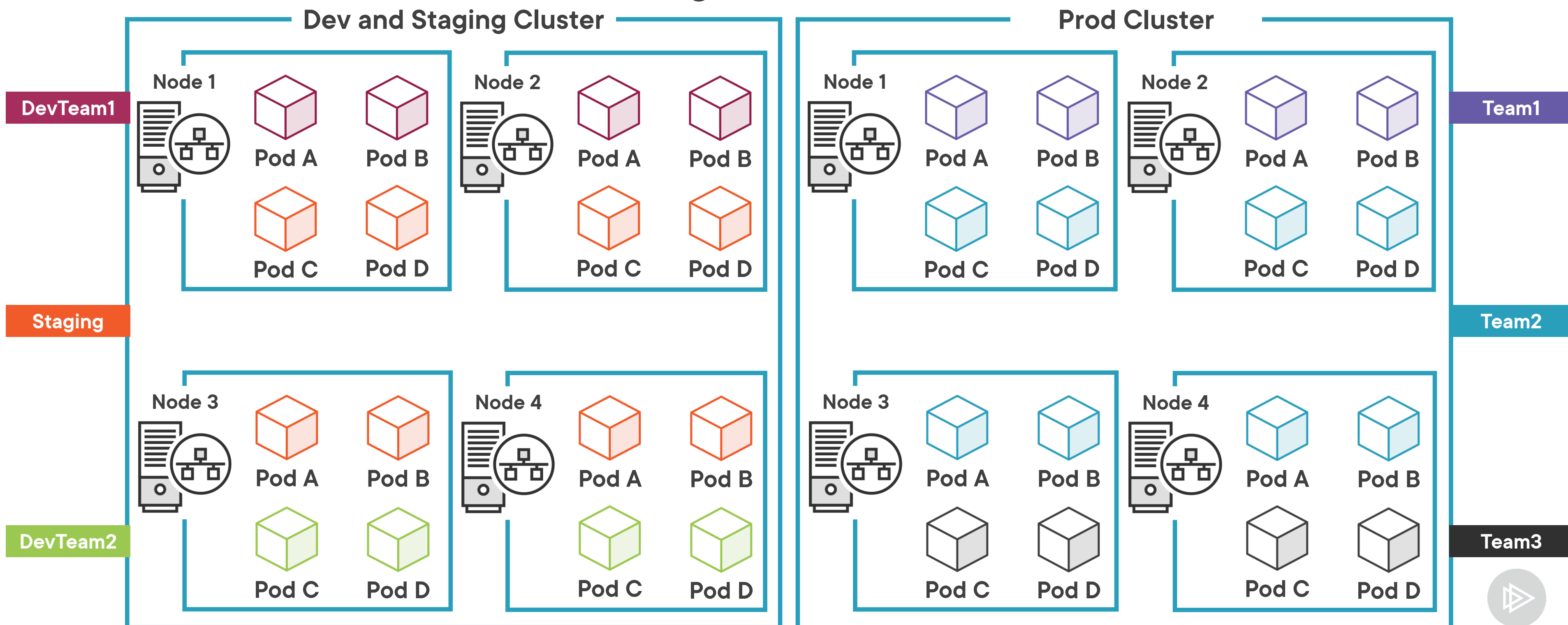
Multitenancy and Cluster Isolation

Physical Isolation



Multitenancy and Cluster Isolation

Logical Isolation



Summary



AKS Is a Fully Managed Kubernetes Cluster
Consider Subscription and AKS Limits
Design and Size Before Deployment
Prefer Logical Over Physical Isolation

