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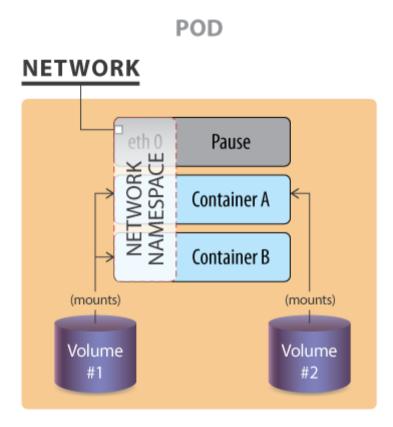
⌂ KUBERNETES FUNDAMENTALS (LFS258)

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KUBERNETES ARCHITECTURE

Kubernetes Architecture

Single IP per Pod

A pod represents a group of co-located containers with some associated data volumes. All containers in a pod share the same network namespace.

Pod Network

The graphic shows a pod with two containers, A and B, and two data volumes, 1 and 2. Containers A and B share the network namespace of a third container, known as the *pause container*. The pause container is used to get an IP address, then all the containers in the pod will use its network namespace. Volumes 1 and 2 are shown for completeness.

To communicate with each other, containers within pods can use the loopback interface, write to files on a common filesystem, or via inter-process communication (IPC). There is now a network plugin from HPE Labs which allows multiple IP addresses per pod, but this feature has not grown past this new plugin.

Starting as an alpha feature in 1.16 is the ability to use IPv4 and IPv6 for pods and services. In the current version, when creating a service, you need to create the network for each address family separately.