Kubernetes Pod Life Cycle Cheat Sheet

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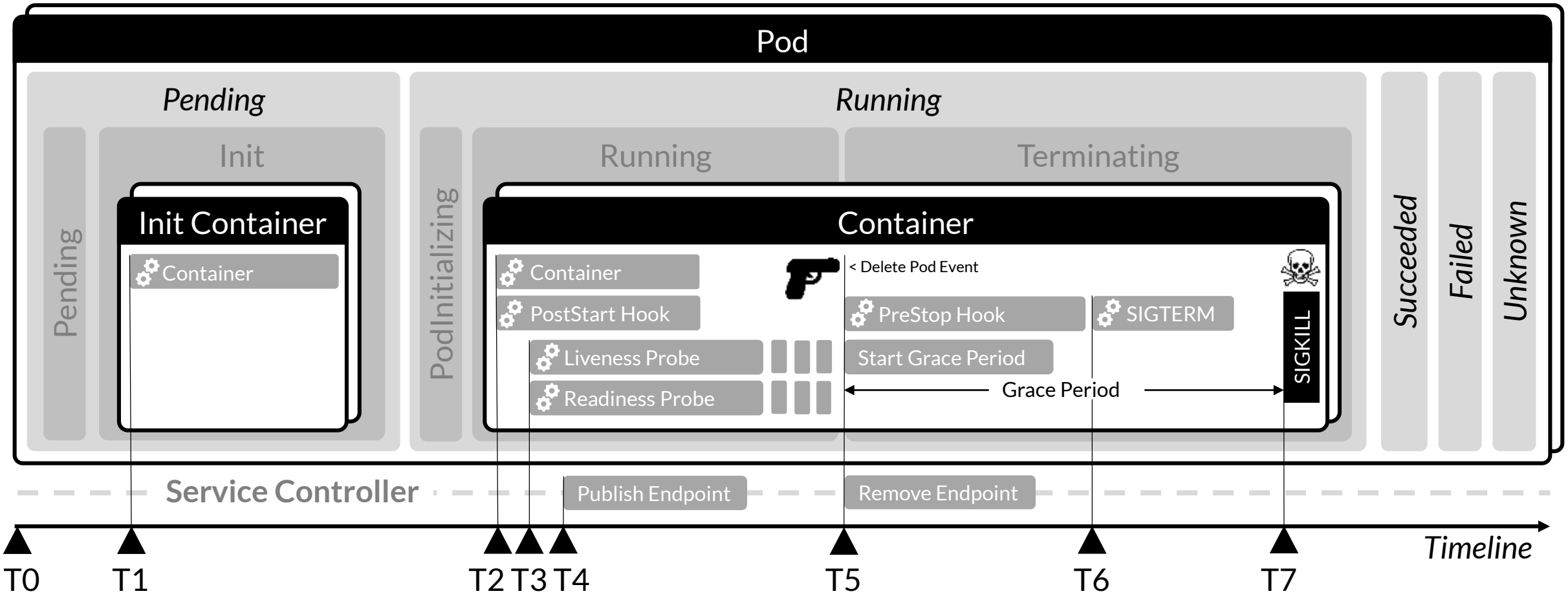
Guarantees when running a Container

- Volumes will be mounted first
- The *env* variable **$HOSTNAME** contains the Pod's hostname



T0: Pod is created directly or by a controller such as ReplicaSet or StatefulSet.

T1: The container(s) declared at **pod.spec.initContainers** are run.

T2: The regular container(s) declared at **pod.spec.containers** are run in parallel with the command declared at **pod.spec.containers.lifecycle.postStart**

T3: The commands defined for the liveness and readiness probes at **pod.spec.containers.livenessProbe**, and **pod.spec.containers.readinessProbe**, respectively, are run at regular intervals (see **.periodSeconds**)

T4: The Service Controller publishes the pod's endpoint as witnessed by **kubectl get endpoints/service-name**

T5: A scaling or deletion event starts the grace period (see **pod.spec.terminationGracePeriodSeconds**) counter and the command declared at **pod.spec.containers.lifecycle.preStop** is run.

T6: The container's first process receives the **SIGTERM** Linux signal which may be caught using the signal library (**signal.h**) in C or its equivalent in another language. Note that **/bin/sh** *does not* propagate it down.

T7: The container is terminated abruptly with no further means to catch the termination event or run mitigating code elsewhere.

Event

A formal event declared by the **pod.status.phase** attribute.

Event

An indicative event observed using **kubectl get pod/name -w**