



State of Checkpoint/Restore in Kubernetes

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Checkpoint/Restore in Userspace

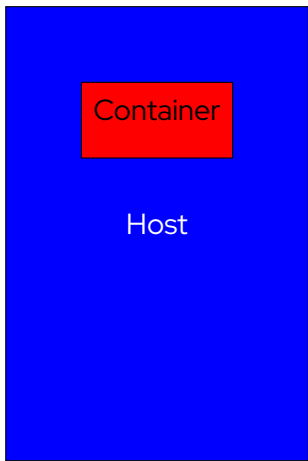
CRIU

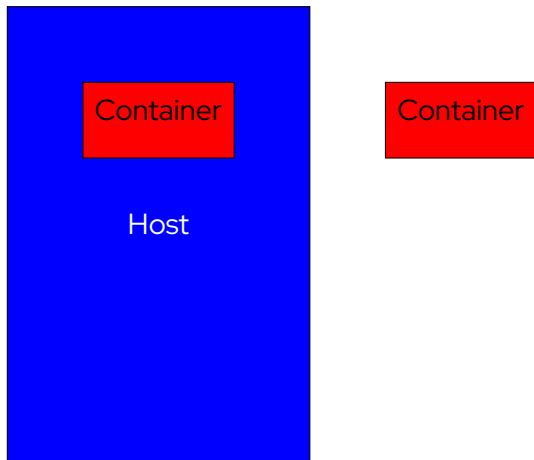
2015: Kubernetes

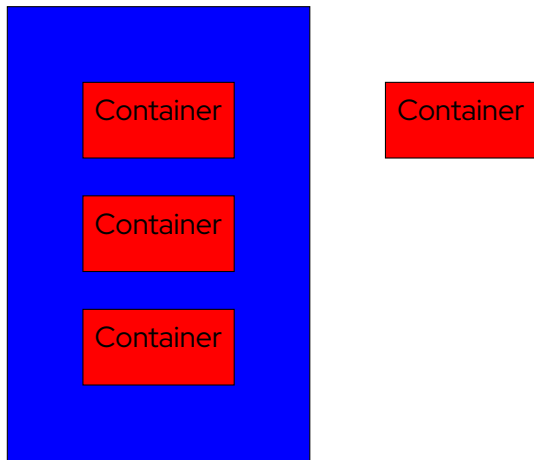
Ticket discussing container
migration

Use Cases

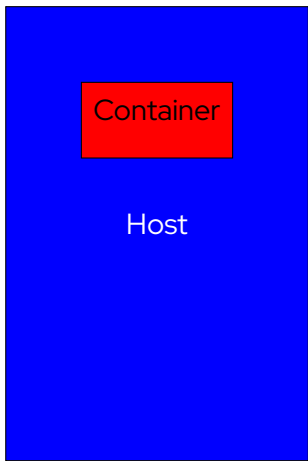
Quick Startup

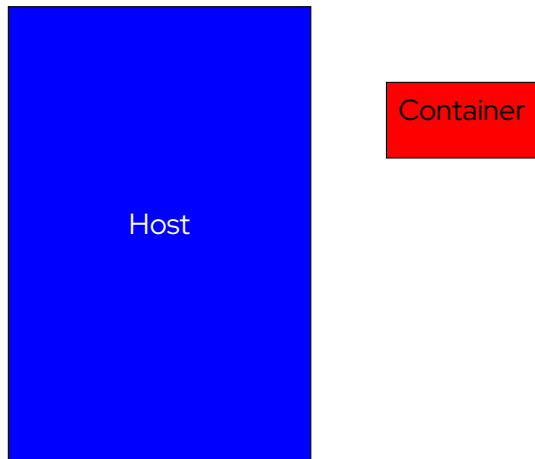




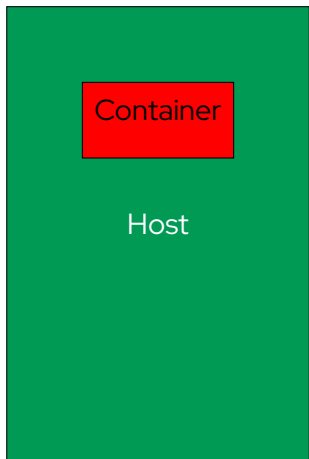


Reboot and Save State

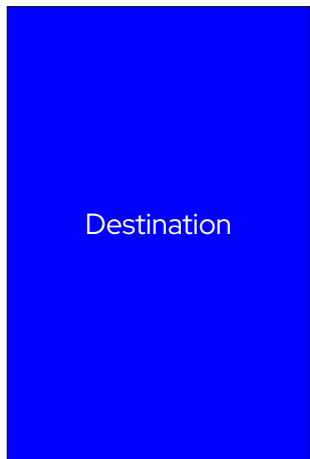
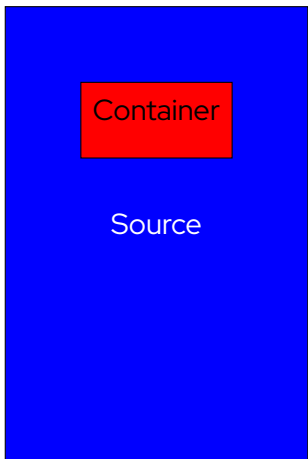


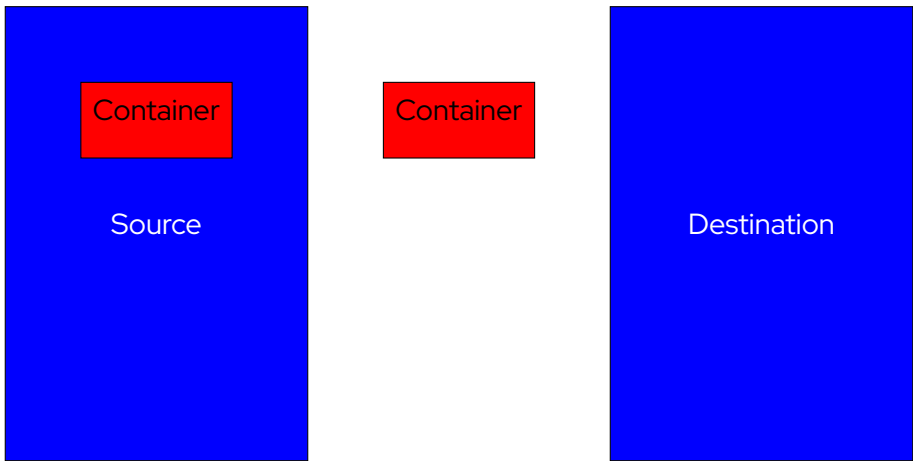


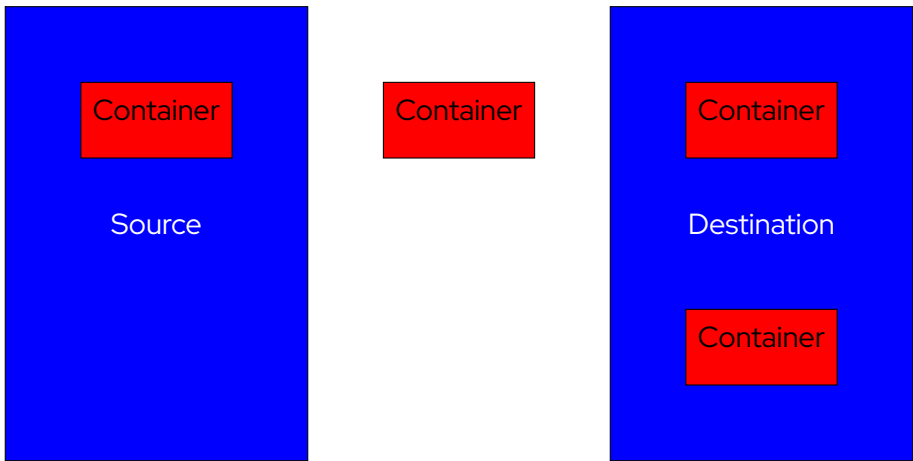
Container



Container Live Migration







Spot instances

GPU usage optimization

Kubernetes

Forensic Container Checkpointing

Kubernetes 1.25 (2022)

Alpha: Forensic Container Checkpointing

Kubernetes 1.30 (2024)

Beta: Forensic Container Checkpointing

Kubernetes Container Restore

Demo

Next Steps

Declare checkpointing Stable/GA

Next Steps

kubectl support

Summary

- First mentioned 2015
- Alpha in 2022
- Beta in 2024
- Stable maybe 2025
- Discussion around kubectl support started

