



O-Cloud and SMO Deployment

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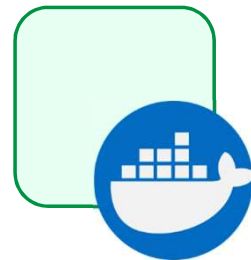
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O-RAN Deployment Container

- Prepare an O-RAN Deployment Container to
 - Provide a Portable Deployment Environment and Toolkit
 - Reduce Helm chart building time
 - Provide custom deployment scripts for
 - A single entry-point
 - Storage class binding (with/without Ceph)
 - OSC SMO deployment for multiple K8s nodes

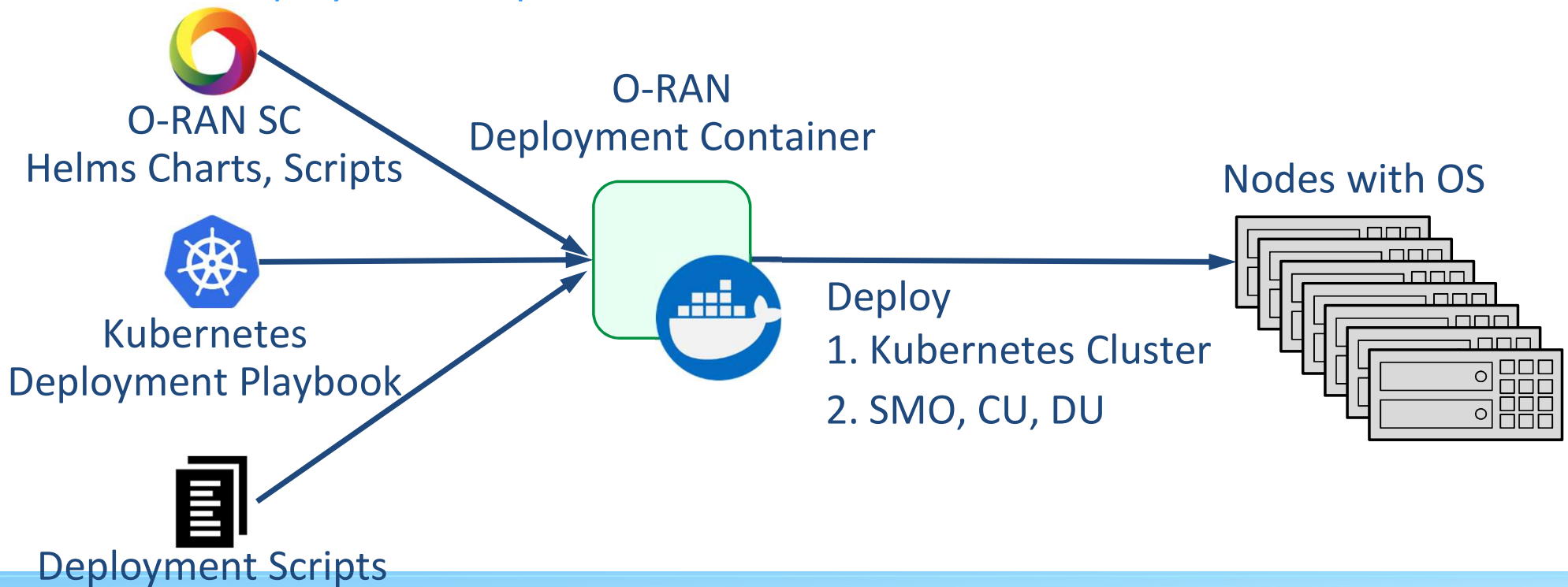
O-RAN
Deployment Container





What is O-RAN Deployment Container?

- A **container image** for **Kubernetes Cluster**, **OSC SMO**, and **CU/DU** deployment, with
 - Ansible playbooks for Kubernetes deployment
 - Helm charts, and scripts, from OSC IT/Dep, for SMO, and CU/DU deployment
 - Custom deployment scripts





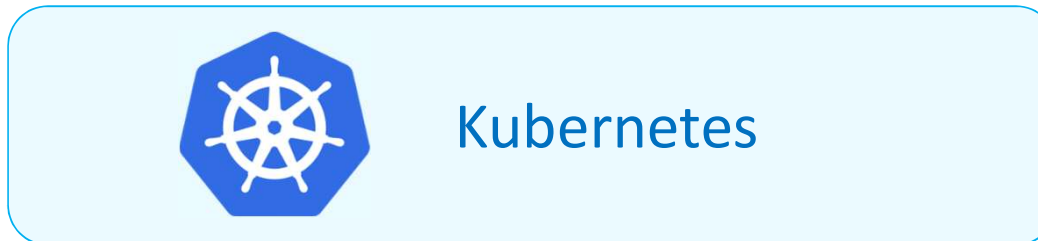
Case 1. Deployment with O-RAN Deployment Container

- On OS-ready machines
- For SMO with default host path persistent volume.

2. SMO
CU, DU



1. Kubernetes
Cluster



Nodes with OS



Case 2. Deployment with StarlingX and O-RAN Deployment Container

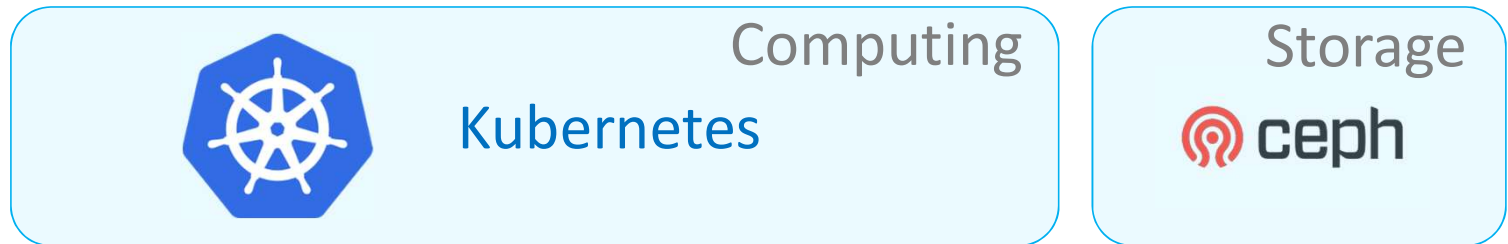
- Leverage StarlingX to deploy on **bare-metal** machines
 - a StarlingX cluster and
 - a **virtualized infrastructure** with Kubernetes and Ceph
- Run O-RAN Deployment Container to deploy SMO, Persistent Volume, CU, and DU

3. SMO

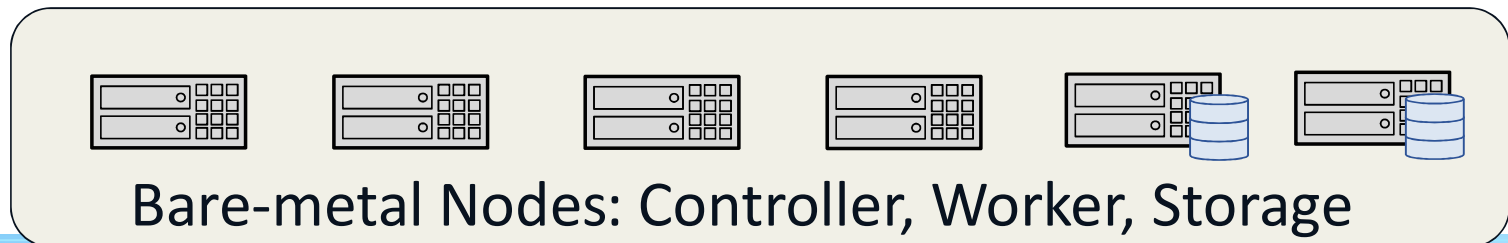
Volume
CU, DU



2. Virtualized Infrastructure



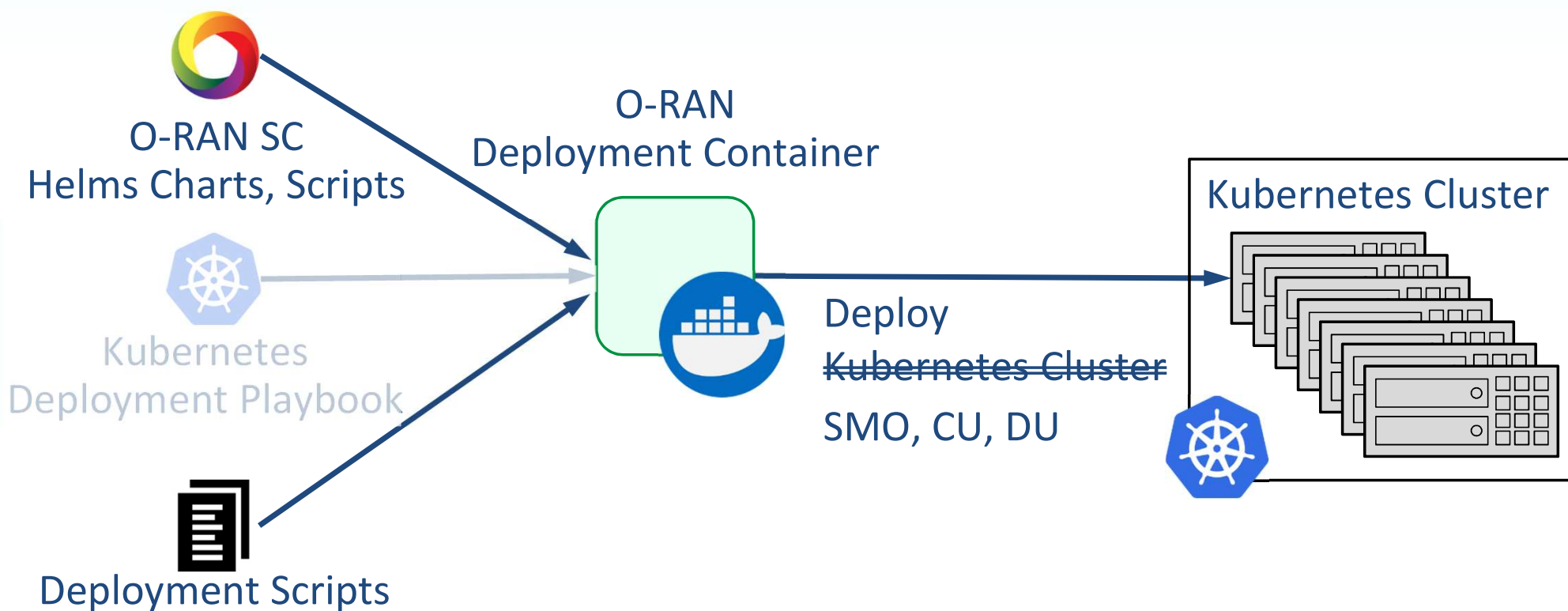
1. StarlingX Cluster





O-RAN Deployment Container with StarlingX

- StarlingX created a Kubernetes cluster
- O-RAN Deployment Container can optionally skip Kubernetes Cluster creation





Demo

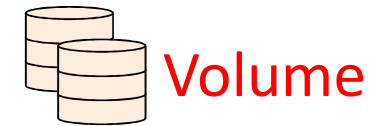
O-Cloud and SMO Deployment
with StarlingX and O-RAN Deployment Container



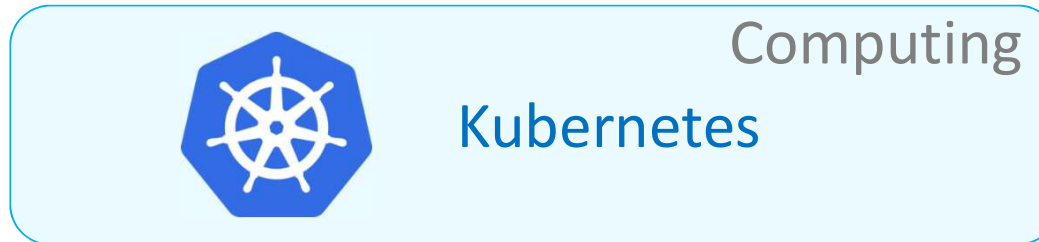
Deployment Overview

- An O-Cloud for SMO with **six bare-metal** nodes

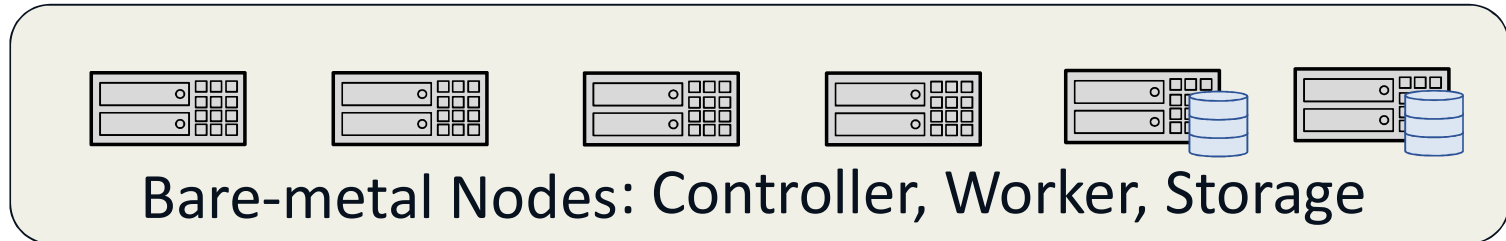
3. SMO
Volume
CU/DU



2. Virtualized
Infrastructure



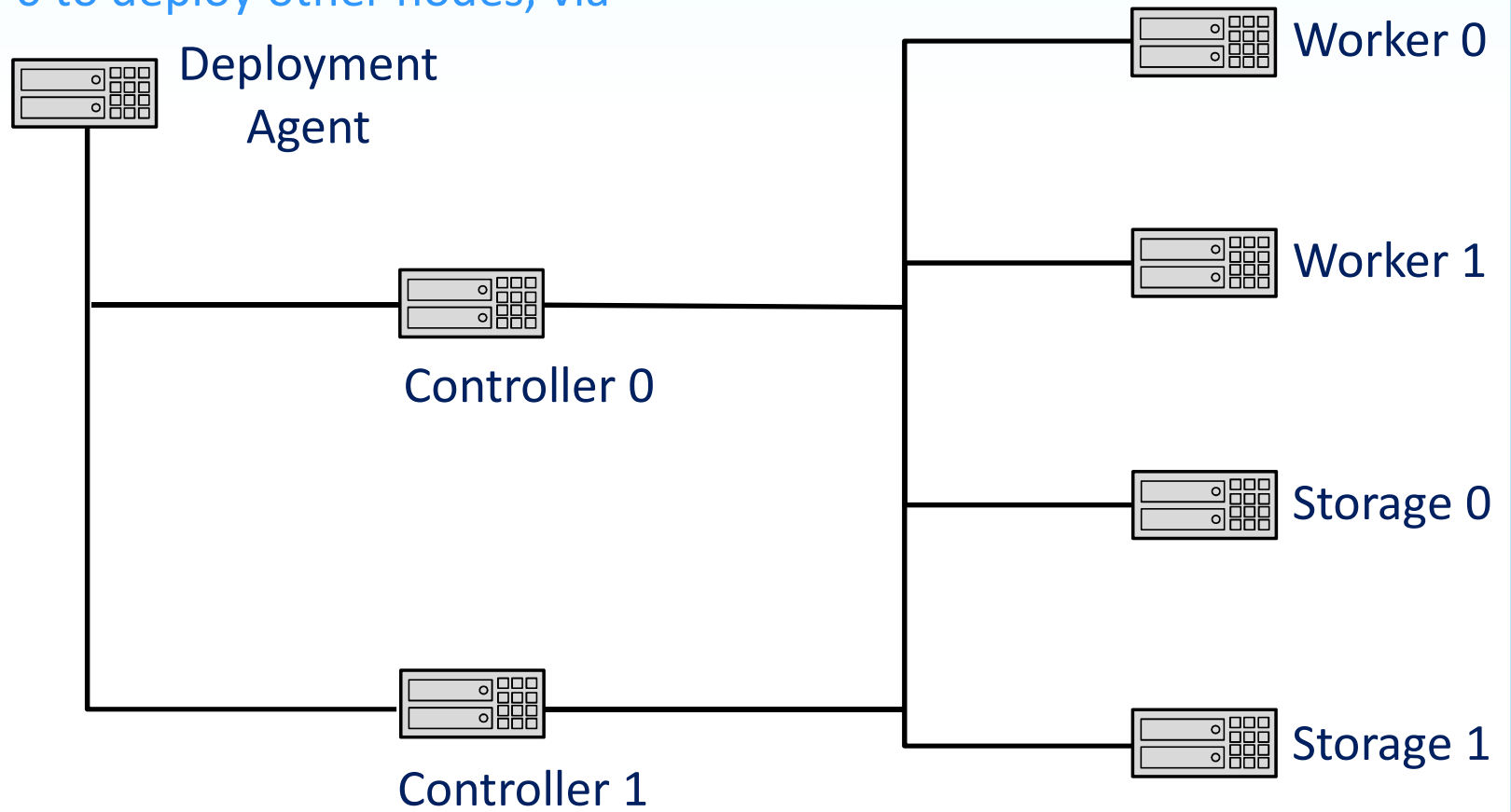
1. StarlingX
Cluster





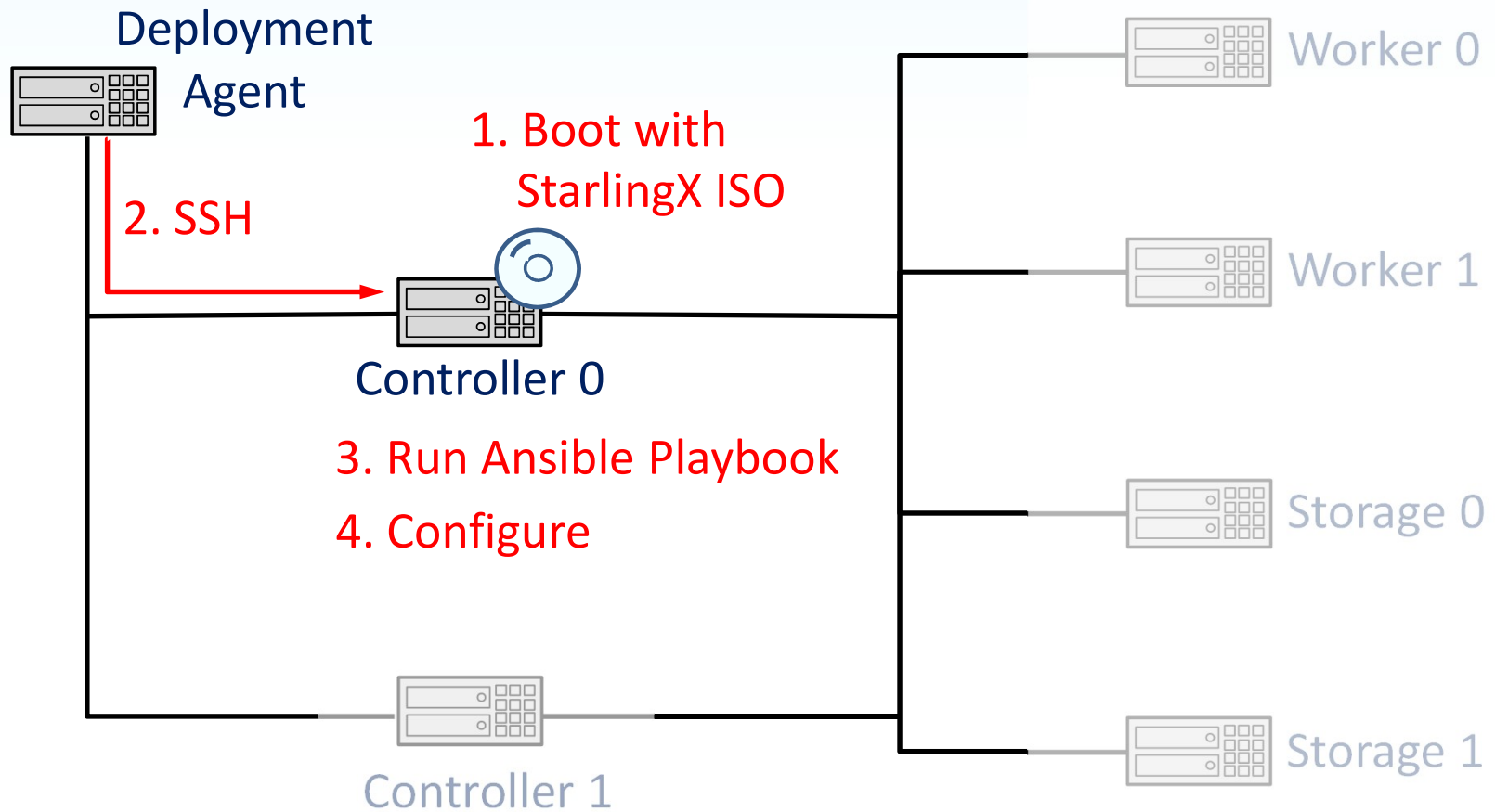
O-Cloud Topology

- Deploy Controller 0 first
- Use Controller 0 to deploy other nodes, via
 - DHCP
 - PXE



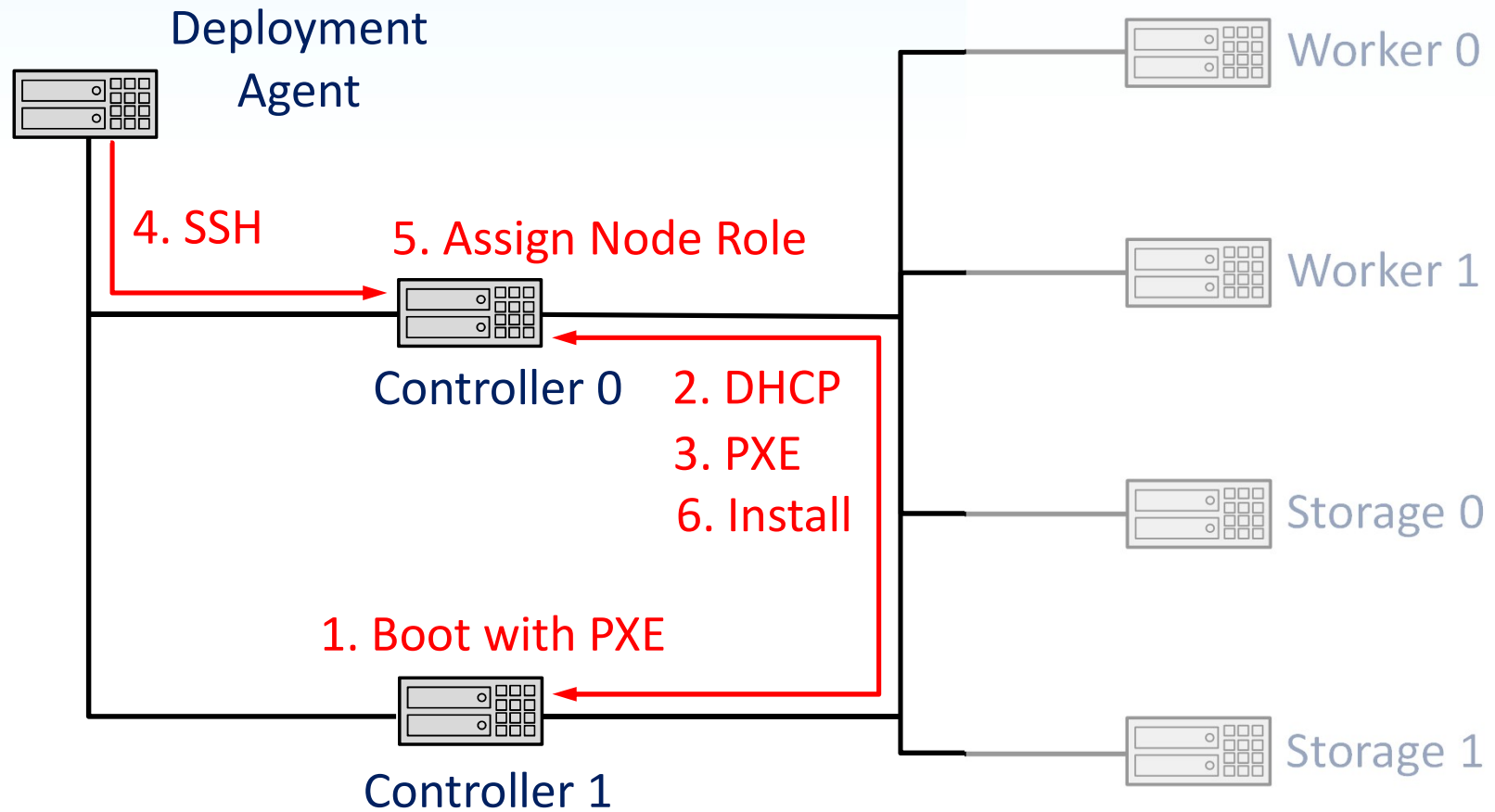


O-Cloud Deployment – Controller 0



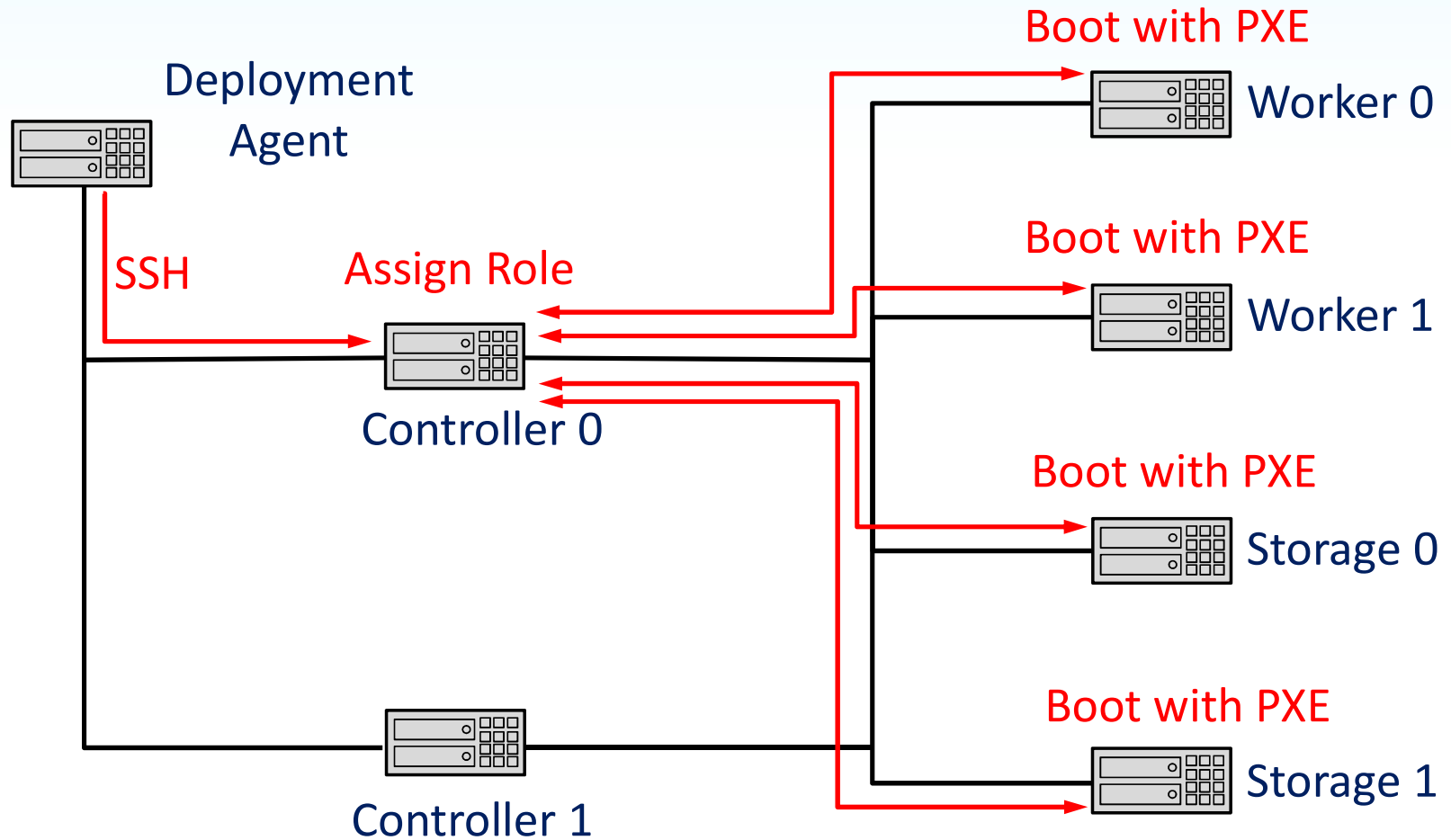


O-Cloud Deployment – Controller 1



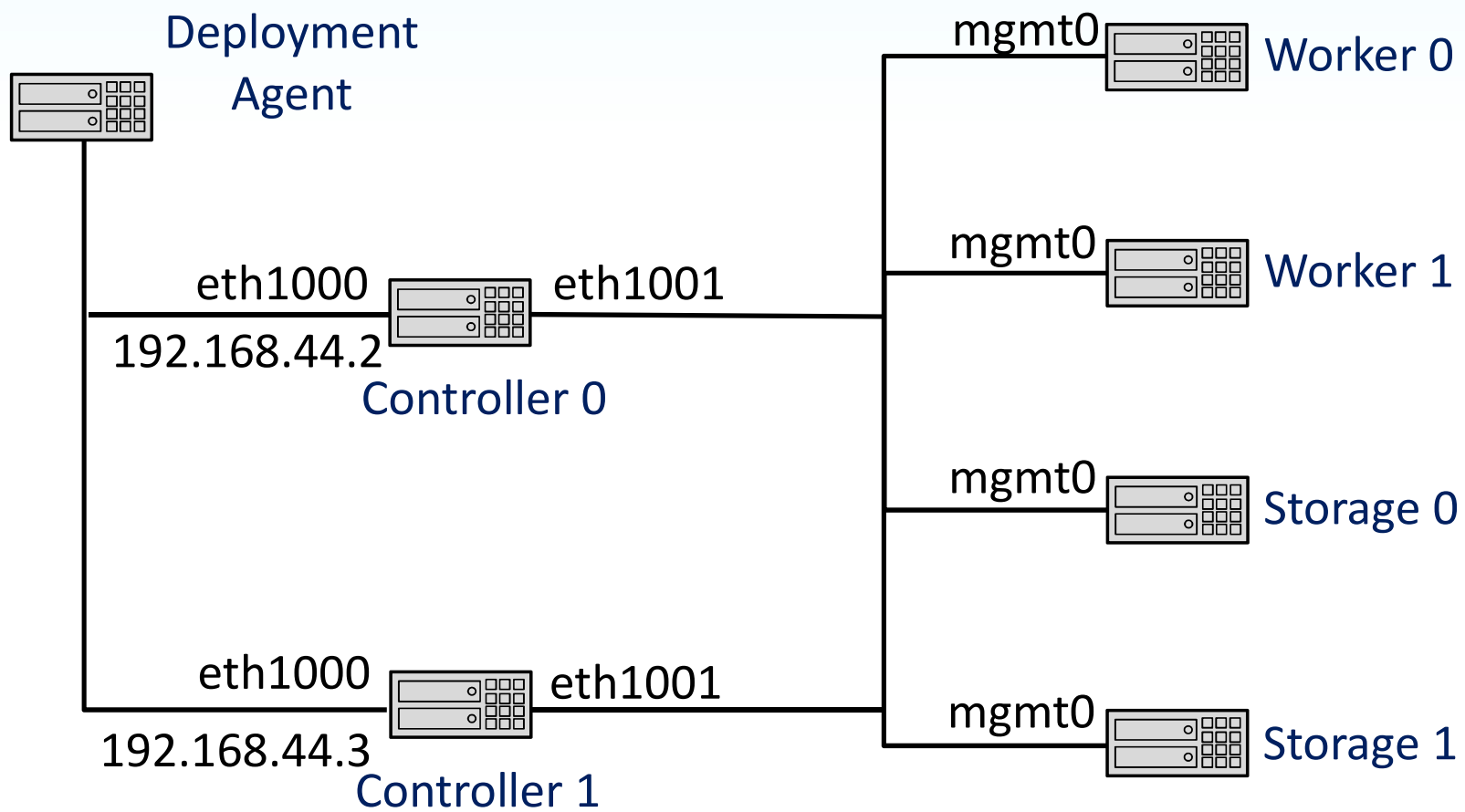


O-Cloud Deployment – Repeat for Other Nodes



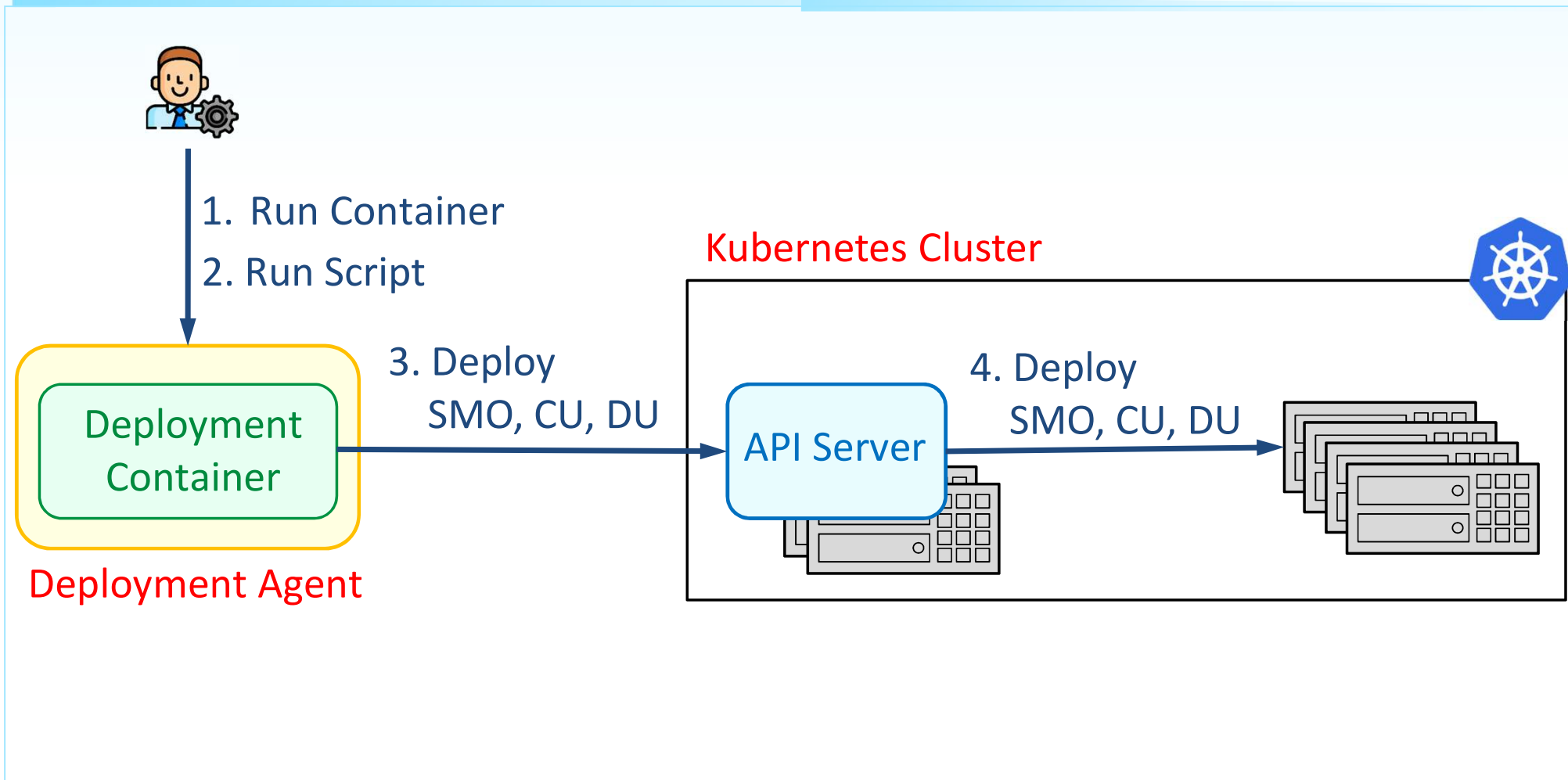


Topology





OSC SMO, CU, and DU Deployment





Thank You for Listening