A person wearing glasses and a dark shirt is standing in a server room, looking at a laptop. The room is filled with server racks, and the lighting is dim with some blue and green lights visible on the racks. The person is positioned in the center of the frame, looking towards the camera.

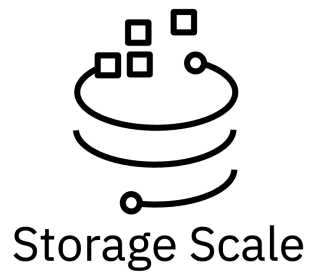
Cloudkit and Ansible Toolkit (Deep Dive)

IBM Storage Scale Days 2024

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Sasikanth Eda, Muthu Muthiah (IBM)

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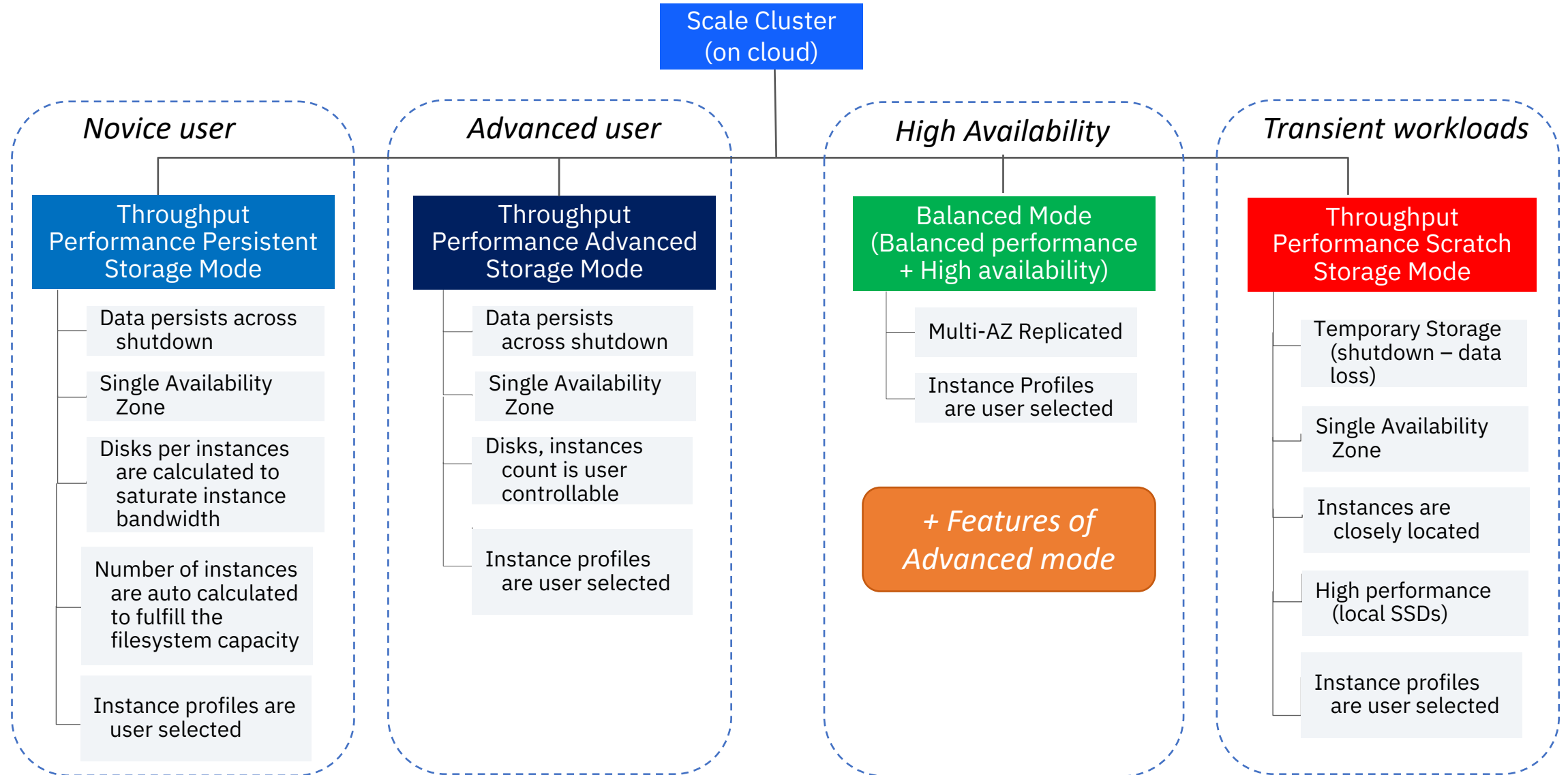
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Cloudkit Overview

- 1 Guided, Interactive Command Line Interface (CLI) to provision and configure IBM Storage Scale clusters on the cloud.
- 2 Support for all major public clouds (AWS, GCP, *Azure).
- 3 Same look and feel irrespective of operating cloud.
- 4 Composable architecture that fits into existing infrastructure management ecosystem.
- 5 Flexible deployment models (such as Storage-only, Compute-only, Combined-Storage-Compute etc.).
- 6 Expand and Contract infrastructure as per workload requirement.
- 7 Out of the box “Cloud Best practices” and “Scale best practises” configuration.

Let us build Scale cluster on
Cloud

Cloud Deployment Modes



Cloudkit Components

Cloud API's:

- Used for real time filtering and guided configuration.

IaC/OpenTofu:

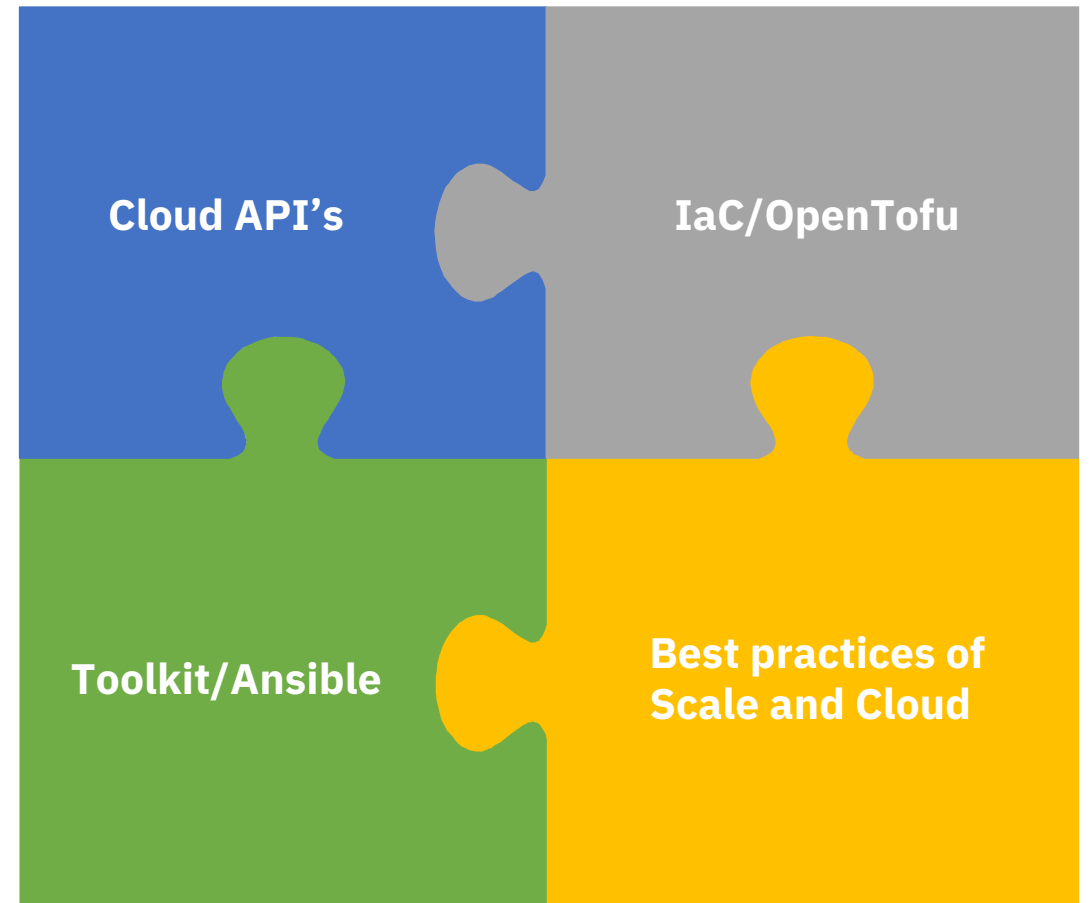
- OpenTofu (infrastructure as a code tool) is a fork of Terraform, used for provisioning infrastructure required for Scale configuration.

Toolkit/Ansible:

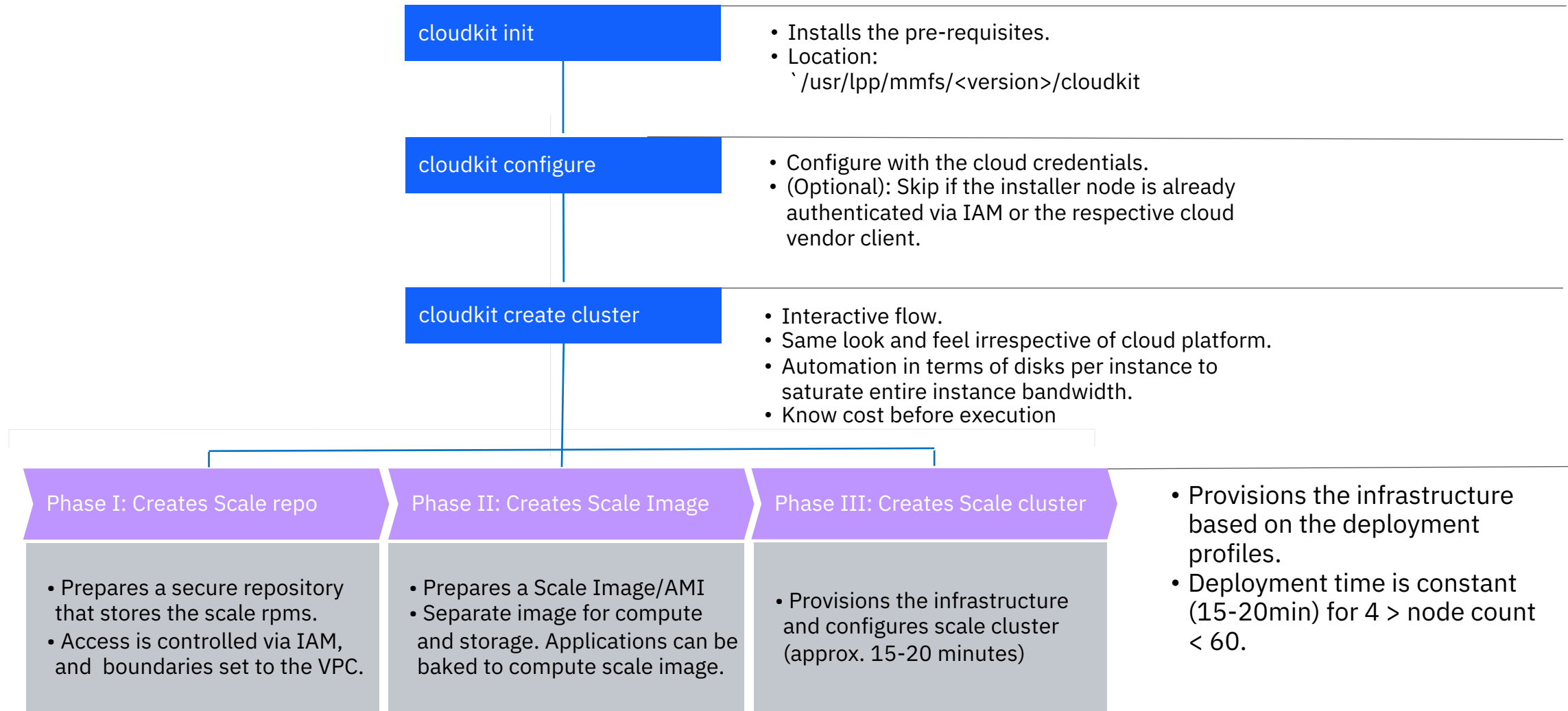
- Scale install toolkit/ansible playbooks that helps in scale configuration.

Best practices of Scale and Cloud:

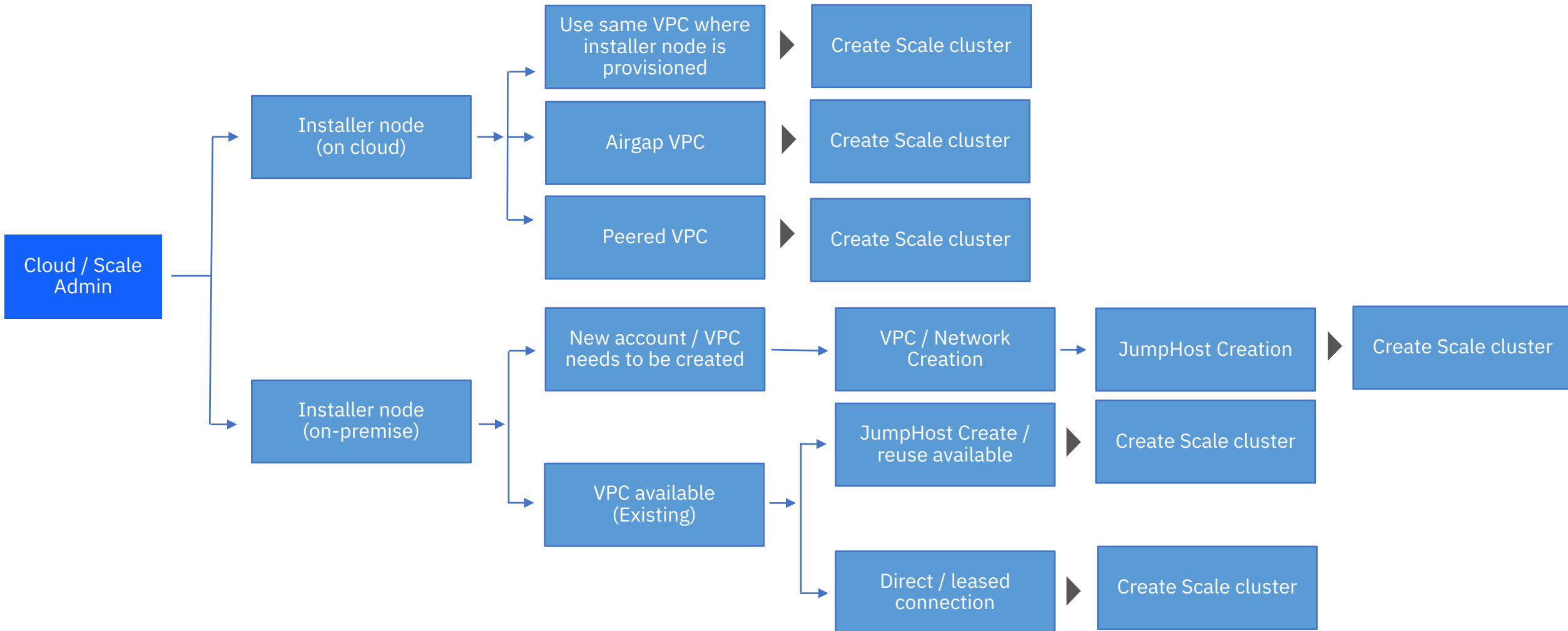
- Includes Cloud well architected framework guidelines (Operational, Performance, Security, Reliability, Cost).
- Scale best practices, tuning parameters via toolkit.



Cloudkit Workflow



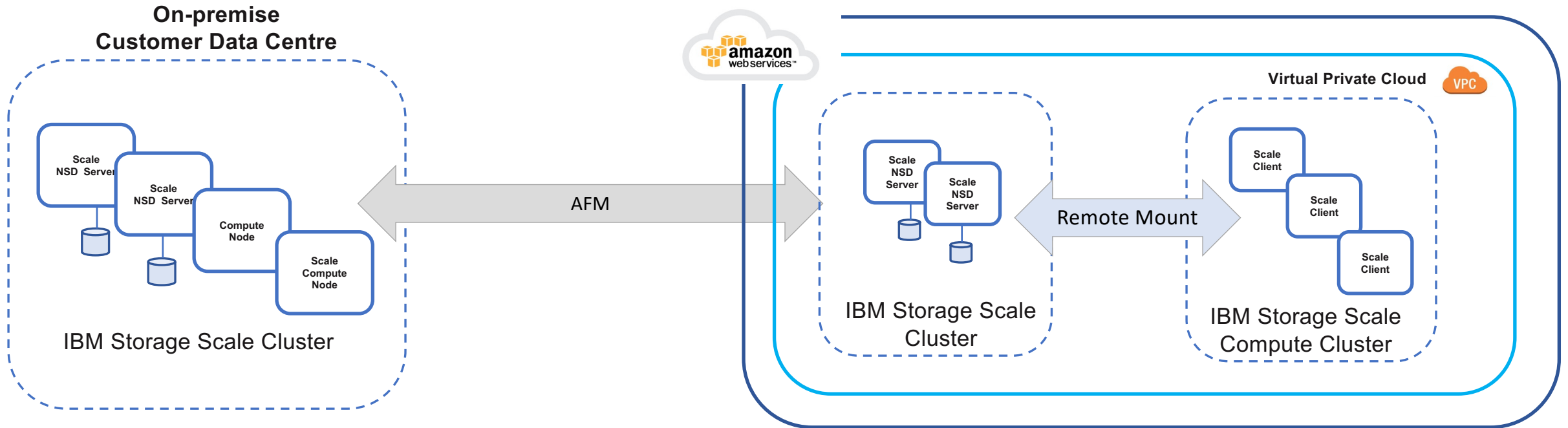
Cloudkit Planning



Cloudkit Capabilities

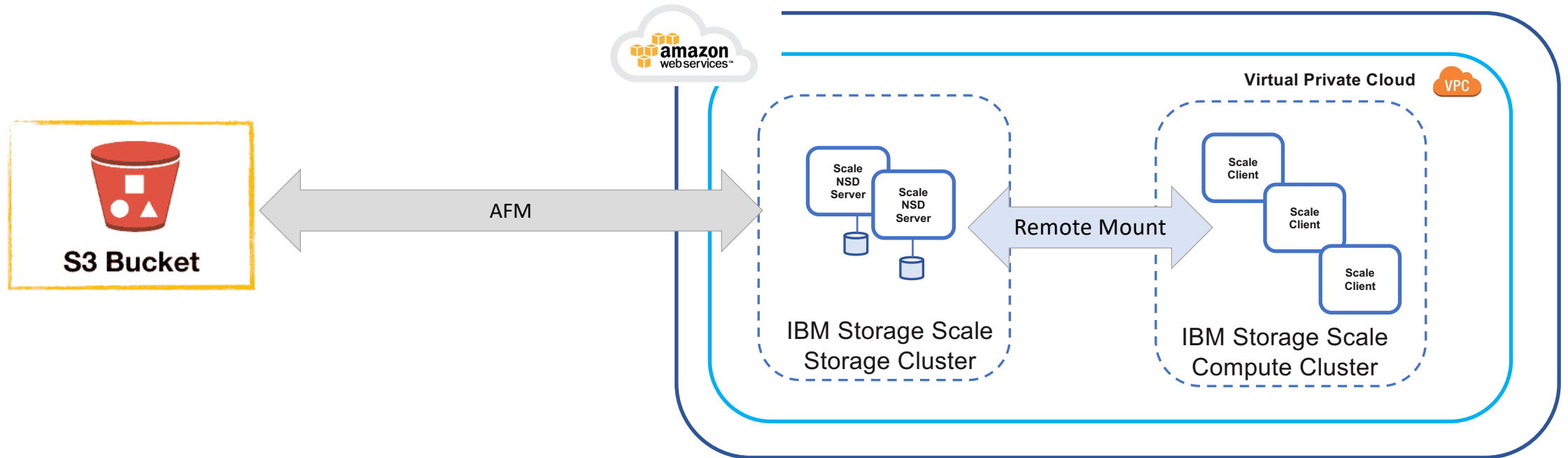
- 1 Expand the compute, storage clusters.
- 2 Supports Cloud Disk/volume encryption.
- 3 Remote mount (i.e., remote mount storage cluster to compute clusters).
- 4 Support for ROSA (Red Hat OpenShift Service on AWS) and IBM Storage Fusion.
- 5 Support for Global Data Platform.
- 6 (Tech preview) Compute Fleet aka. Rapid expansion and contraction.

Sample Scenario: Cloud Bursting



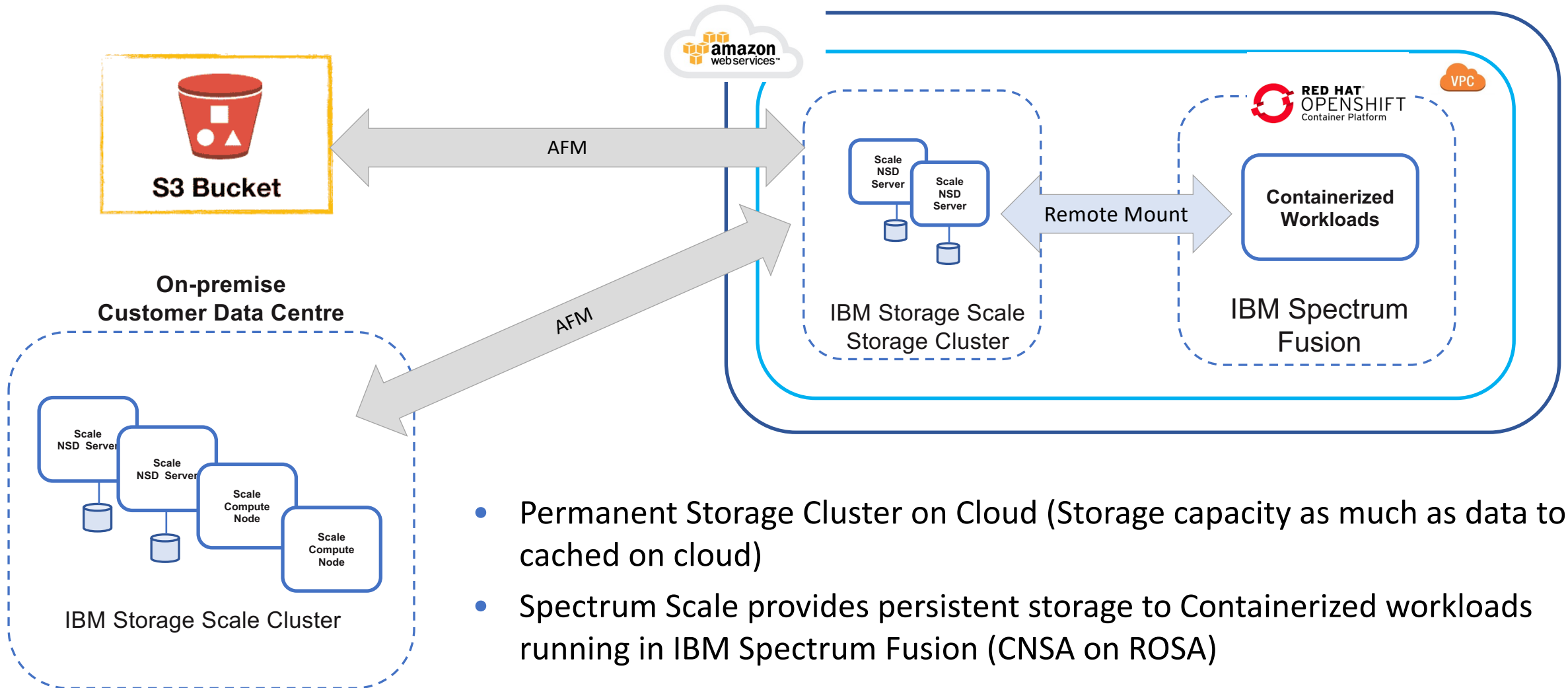
- Burst to cloud for excess capacity requirements
- Permanent Storage Cluster on Cloud (Storage capacity as much as data to be cached on cloud)
- Ephemeral Compute Cluster on Cloud (Rapid Deployment / Expansion / Contraction / Destruction)

Sample Scenario: High Performance Tier



- Data available in Cloud Object Storage (e.g. AWS S3)
- Permanent Storage Cluster on Cloud (Storage capacity as much as data to be cached on cloud)
- Ephemeral Compute Cluster on Cloud
(Rapid Deployment / Expansion / Contraction / Destruction)

Sample Scenario: Persistent Storage for Containerized workloads on Cloud

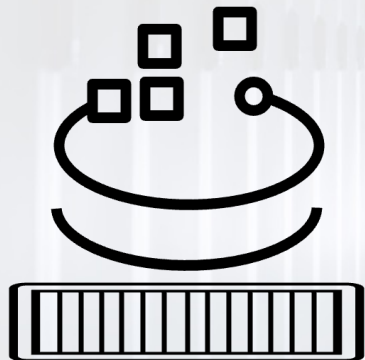


- Permanent Storage Cluster on Cloud (Storage capacity as much as data to be cached on cloud)
- Spectrum Scale provides persistent storage to Containerized workloads running in IBM Spectrum Fusion (CNSA on ROSA)

Thank you for using



Storage Scale



Storage Scale
System