

# Cloud-Native Day 2020 Korea

*LIVE!*

5월29일(금) | 13:30pm



**Cloud-Native Day**  
**2020 Korea**  
*LIVE!*

**Run** | 마이크로 서비스를 위한 표준 인프라 구성

안승희 차장

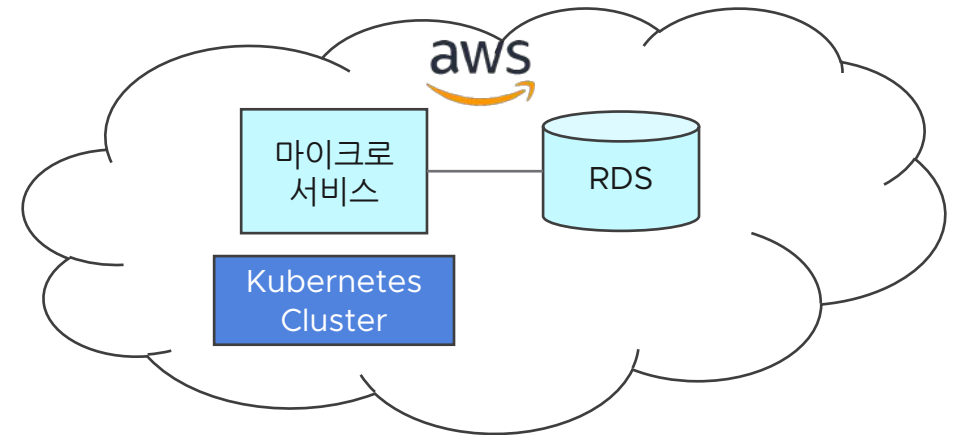
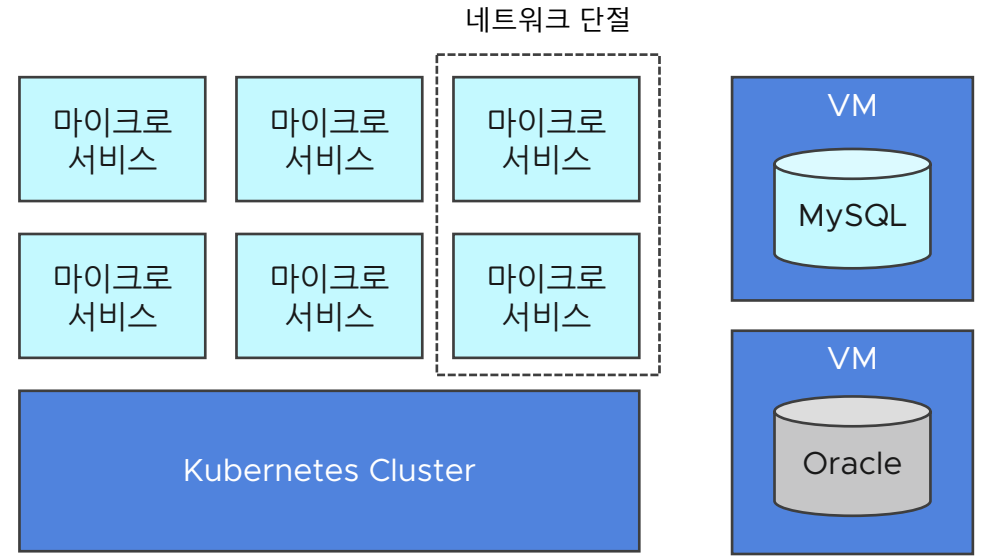
vmware®

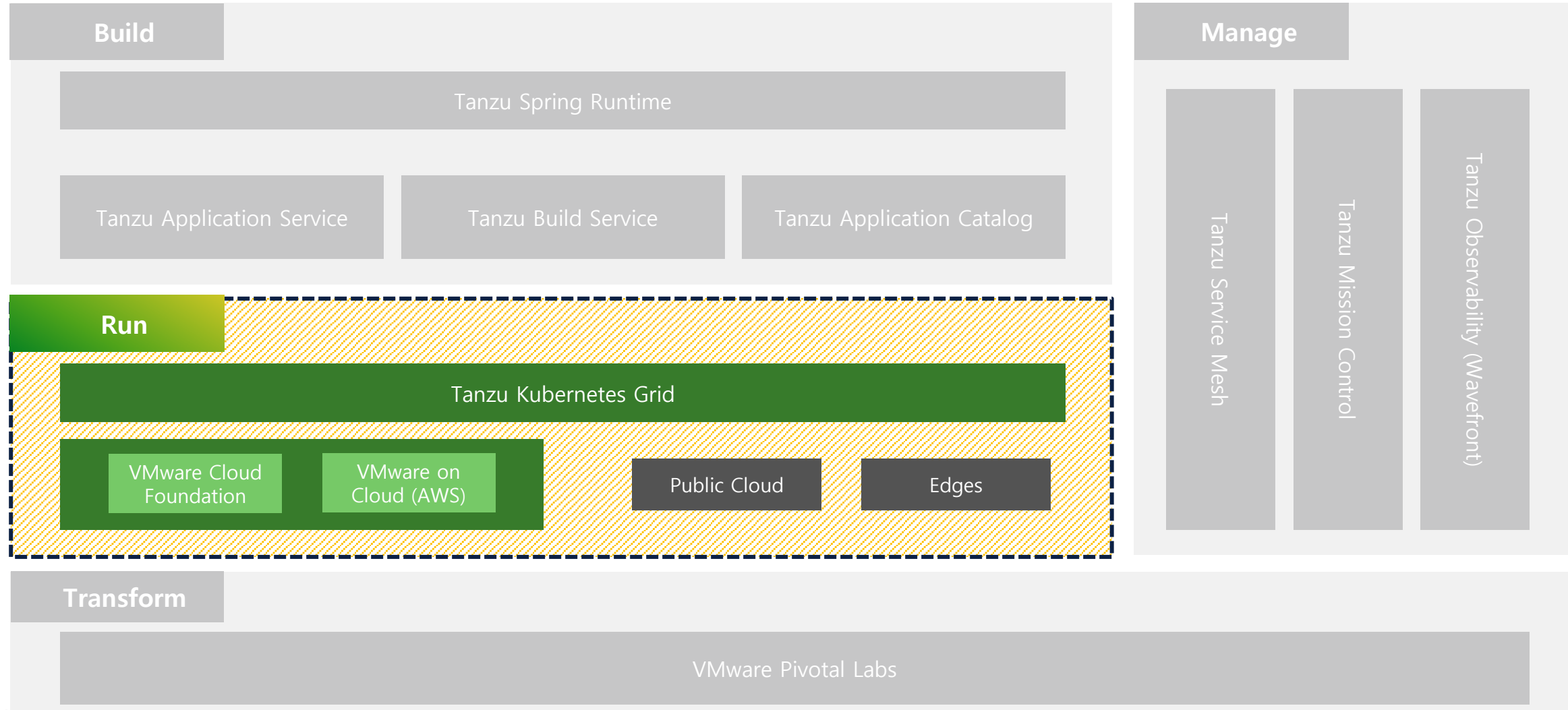


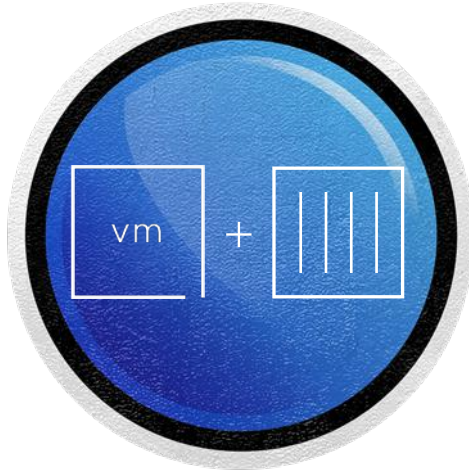
# Today's Sessions

1. 마이크로서비스 디자인
2. 마이크로서비스 구축
3. 마이크로서비스 런타임 & 네트워크
4. 마이크로서비스 모니터링 및 관리

- 기존 인프라 조직이 Kubernetes 환경을 설치, 운영할 수 있을까?
- DB는 VM으로 구동하고 싶은데 어떻게 애플리케이션 컨테이너들과 효율적으로 관리 하나?
- 멀티 클라우드 환경에서 동일한 마이크로서비스 런타임을 어떻게 구축하나?
- 컨테이너 간 네트워크 분리는 어떻게 하나?
- 컨테이너 네트워크 모니터링은 어떻게 하나?







## VM 및 컨테이너를 위한 Full-Stack HCI 플랫폼

최신 앱에 대한 민첩성과 유연성 및  
보안을 제공하는 최신 인프라



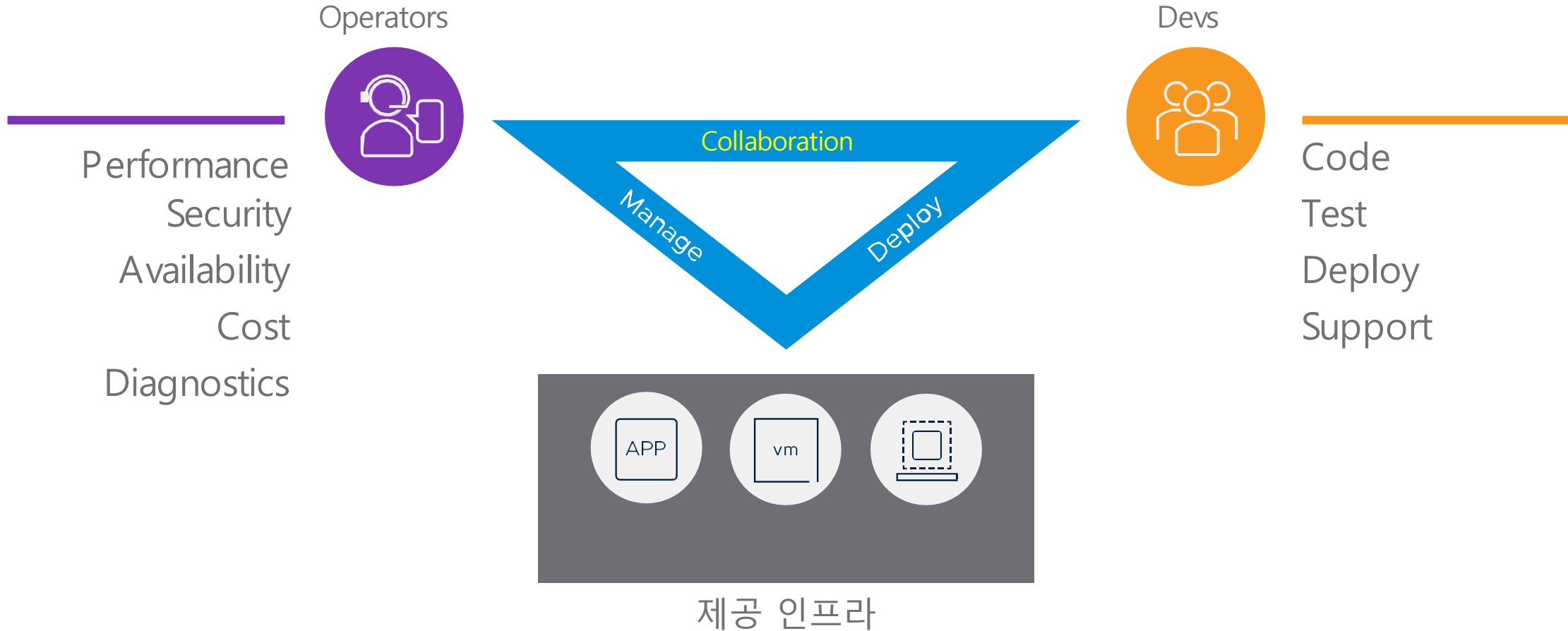
## 최신 앱을 위한 최신 인프라

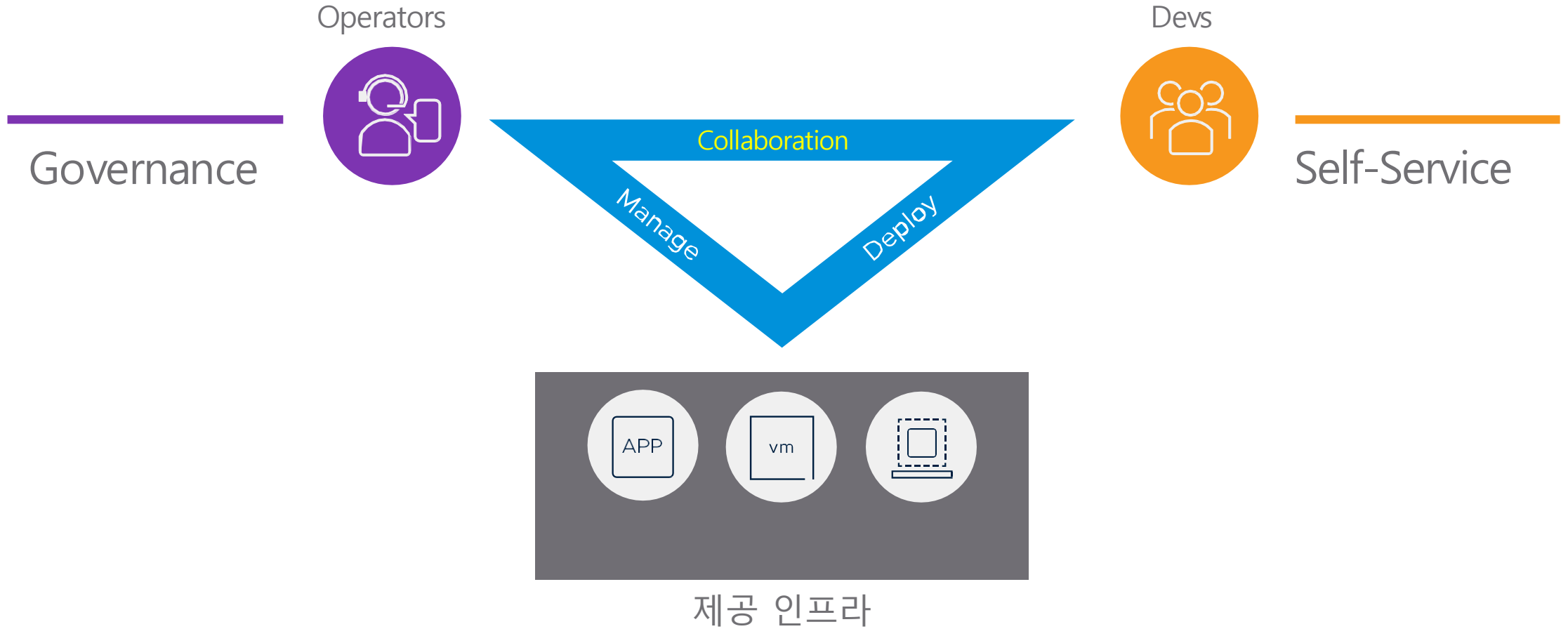
변화하는 비즈니스 요구를  
충족시키는 인프라 및 서비스 제공



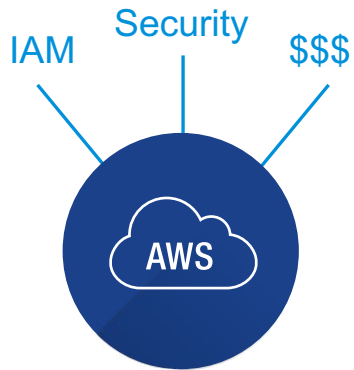
## 새로운 앱/마이크로 서비스를 신속하게 배포

클라우드 민첩성, 확장성 및  
단순성을 갖춘 일관된 인프라 운영

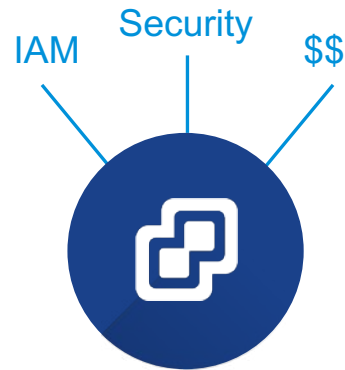








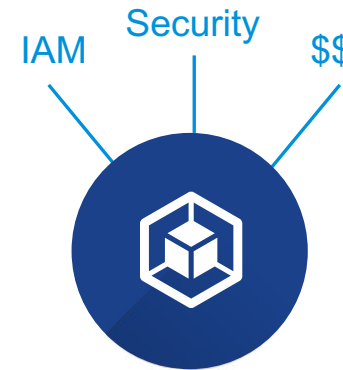
Amazon Web Services



VMware vSphere



Microsoft Azure



Google Cloud Platform



Amazon Web Services

---

환경 별로 사일로화된  
수동 구성 및 관리

---

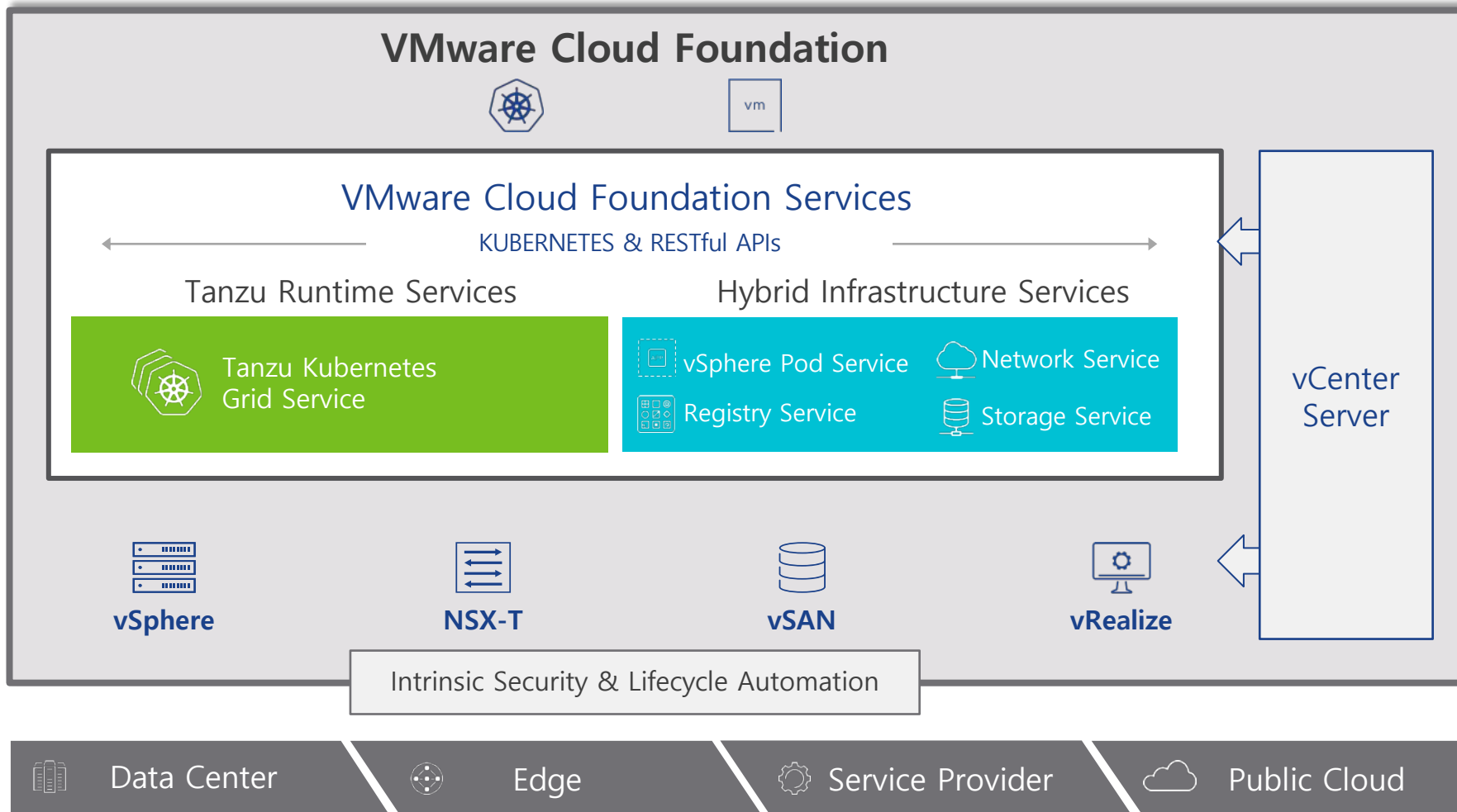
클러스터별로 적용되는  
액세스, 네트워킹, 보안 정책

---

비용 가시성 및 제어 부족

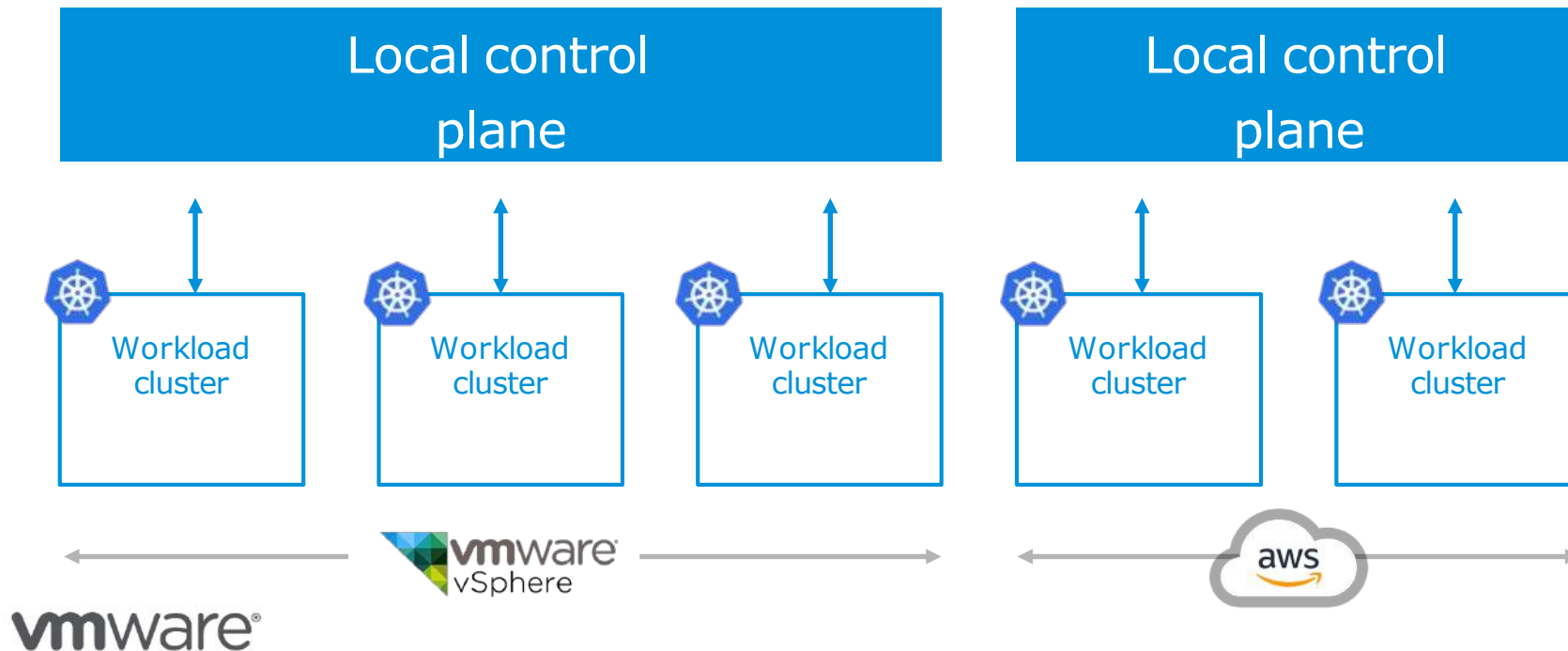


Developer



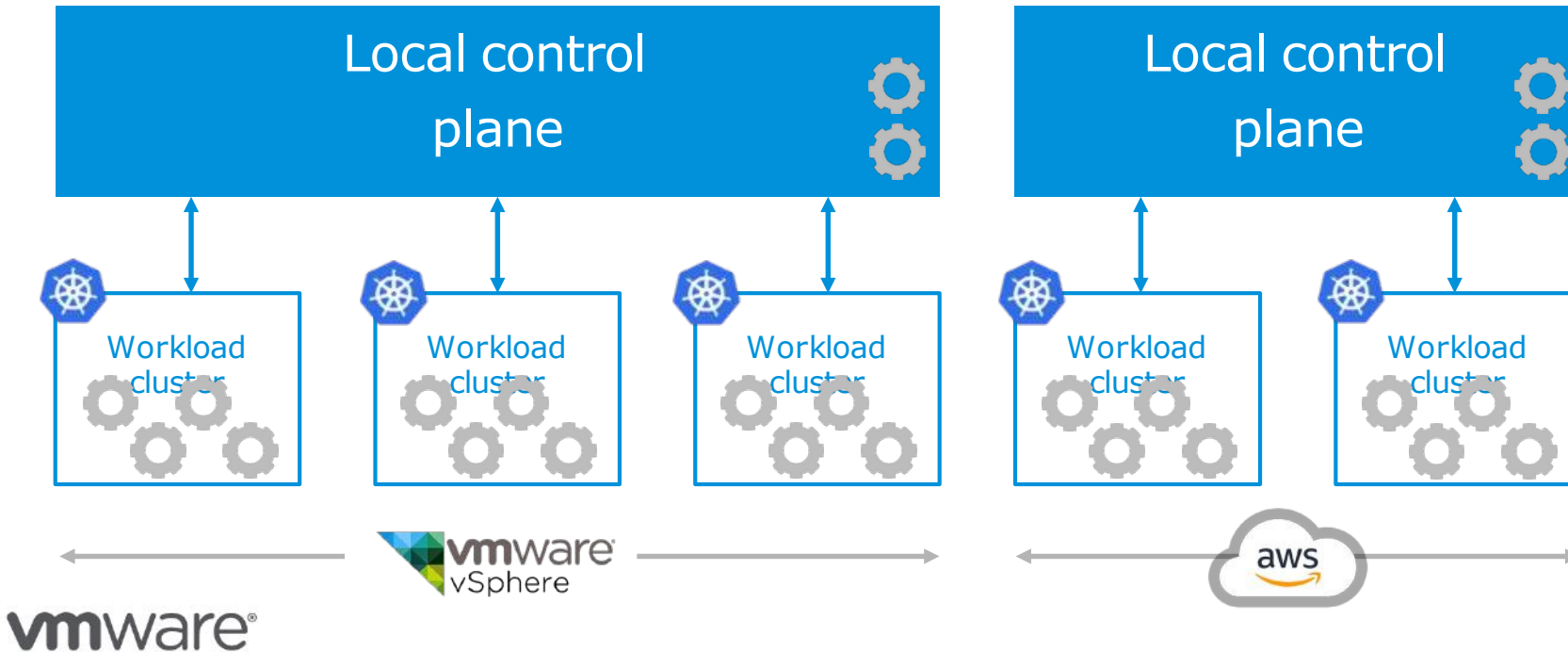
IT Operator

## Tanzu Kubernetes Grid는 워크로드 실행 위치를 자유롭게 선택



- TKG는 conformant Kubernetes 배포
- 모든 API 기반 인프라에서 사용 가능

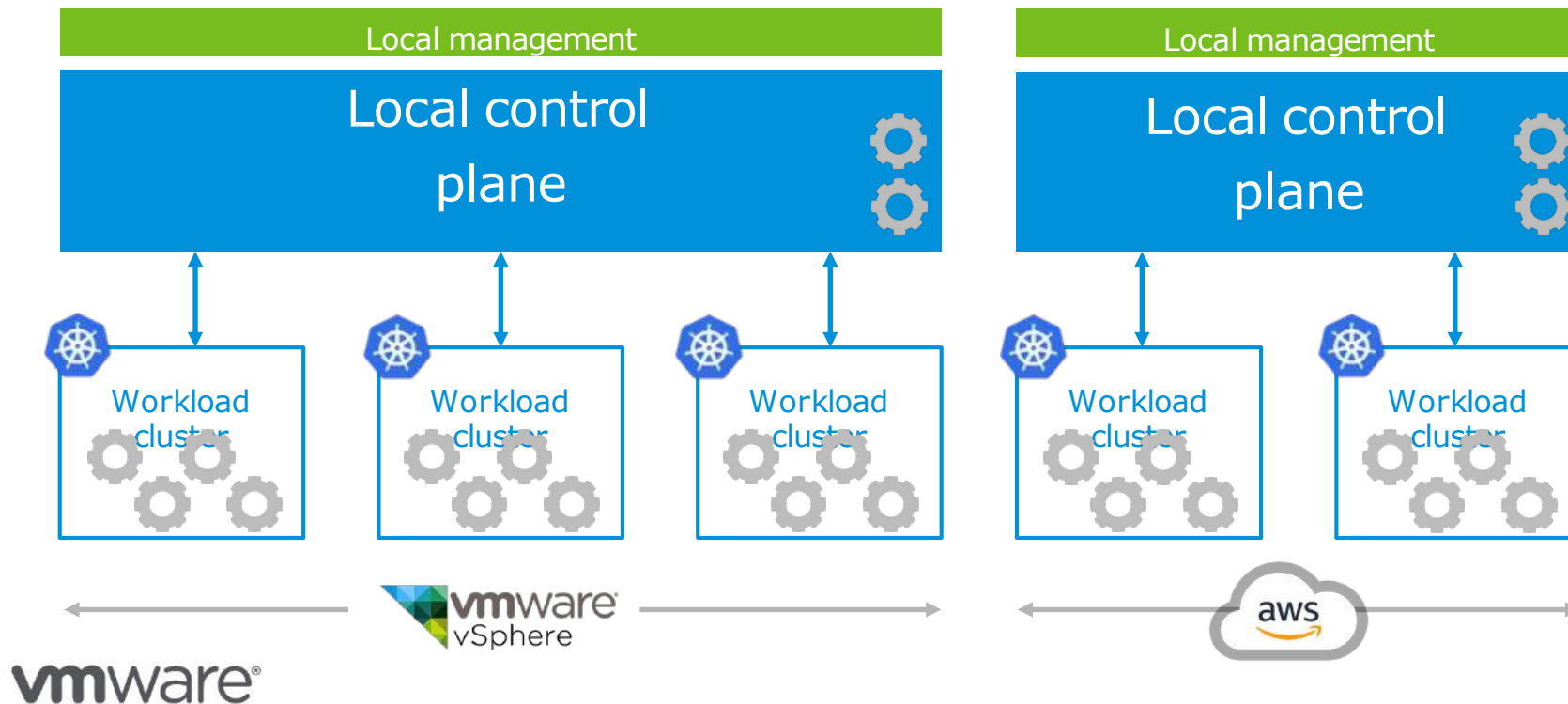
## 적절한 컨테이너 플랫폼에 필요한 추가 서비스



### 추가 서비스 포함

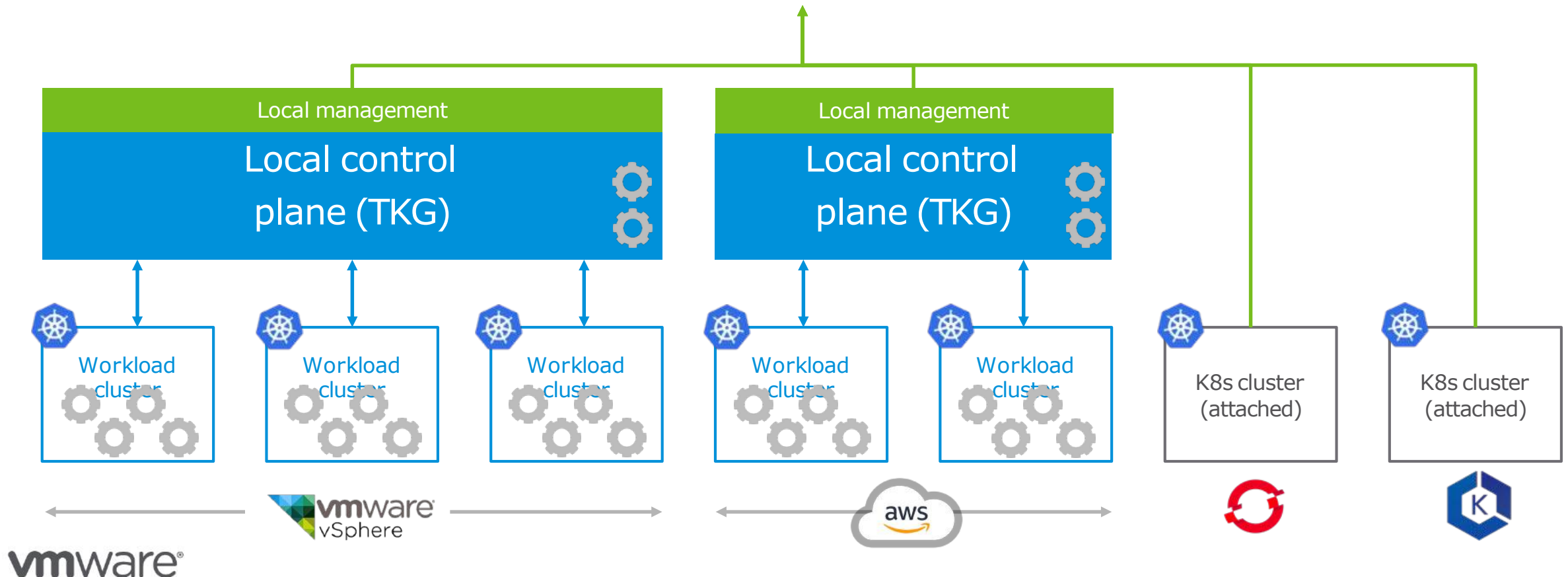
- Ingress
- Monitoring
- Log-Transport
- Container Registry
- Identity/Auth
- Disaster Recovery

## On-Prem 및 External 환경에서 사용 가능한 API, UI, CLI 통합 가능



- On-Prem 또는 연결이 끊긴 환경에 대한 다중 클러스터 관리 지원
- API, CLI 및 UI 를 통해 기존의 관리 기능을 그대로 활용 가능

## Multi control plane (TMC)





Tanzu Mission Control (Optional)

User Workloads



Tanzu  
Kubernetes  
Grid

**Runtime:  
Kubernetes**



**Local Control Plane**

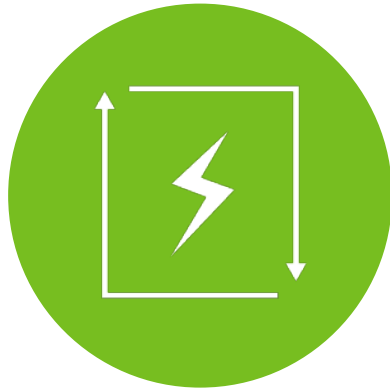
Local Shared Services



**Provisioning: Cluster API**

TKG+

사전 기술 서비스 지원  
및 확장을 위한 OSS  
구성 요소 검증 및  
서비스 지원



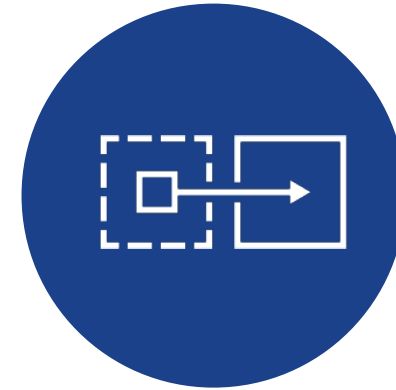
## 업스트림 K8s 지원

Kubernetes Cluster API



## 일관된 운영

SDDC, Public Cloud,  
Hybrid Cloud, and Edge



## 셀프 서비스

개발자, 응용 프로그램 운영자  
및 인프라 관리자 간의 협업





vSphere  
Pods



vSphere  
Pods



Tanzu  
Kubernetes  
Cluster



Tanzu  
Kubernetes  
Cluster



Supervisor Cluster

## vSphere PODs (ESXi Native POD)

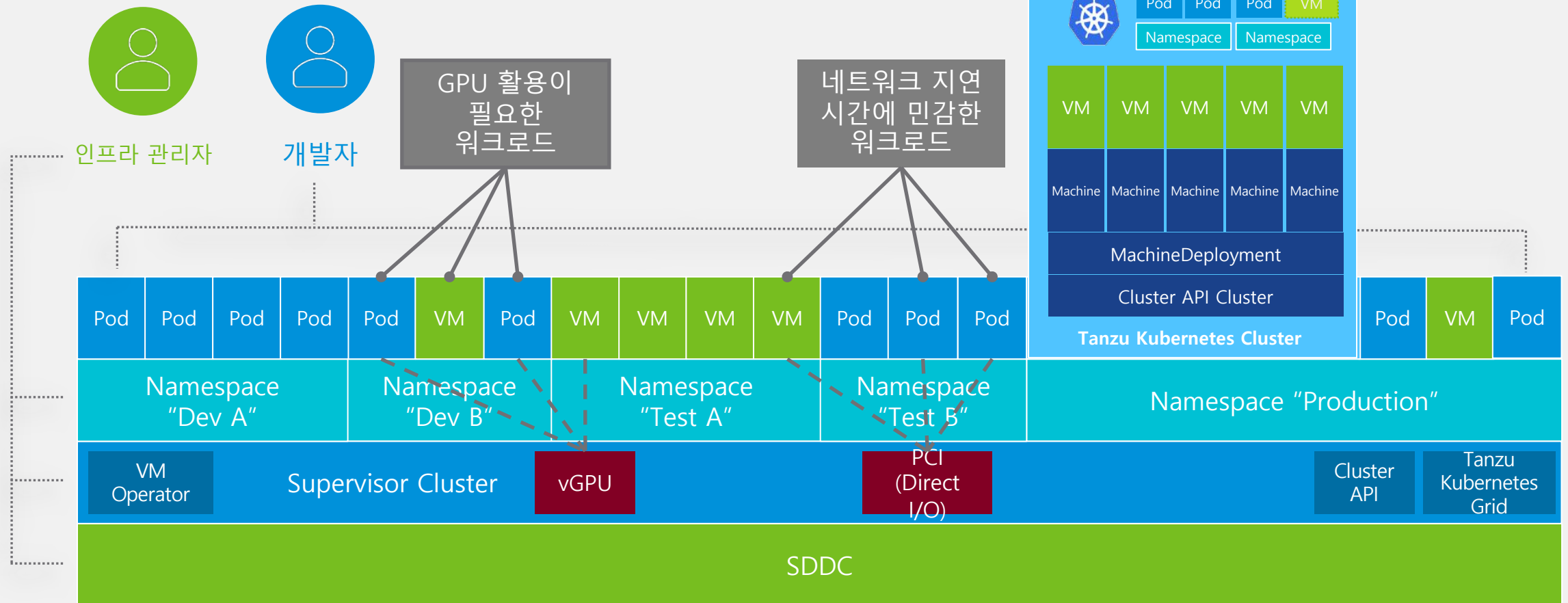
- vSphere 환경의 관리자 권한 필요
- vSphere 관리자가 Kubernetes 를 사용하도록 생성
- 가상 머신 게스트의 OS 가 없이 ESXi 에서 Pod 실행

## Tanzu Kubernetes Clusters (TKG)

- Kubernetes Cluster 관리자와 vSphere 관리자를 분리
- vSphere 버전과 상관 없이 최신 Kubernetes Cluster 사용 가능
- Kubernetes Cluster 를 손쉽게 확장, 삭제 가능
- Tanzu Kubernetes Grid 가 작동



- vSphere 는 범용적으로 Linux 에서 활용 가능한 애플리케이션 지원
- vGPU, 고성능 NIC 등을 활용한 AI/ML/BigData 환경 구성을 지원



## 하드웨어의 Fail-Over 기능은 vSphereHA+K8s를 통한 운영 안정성 향상

1

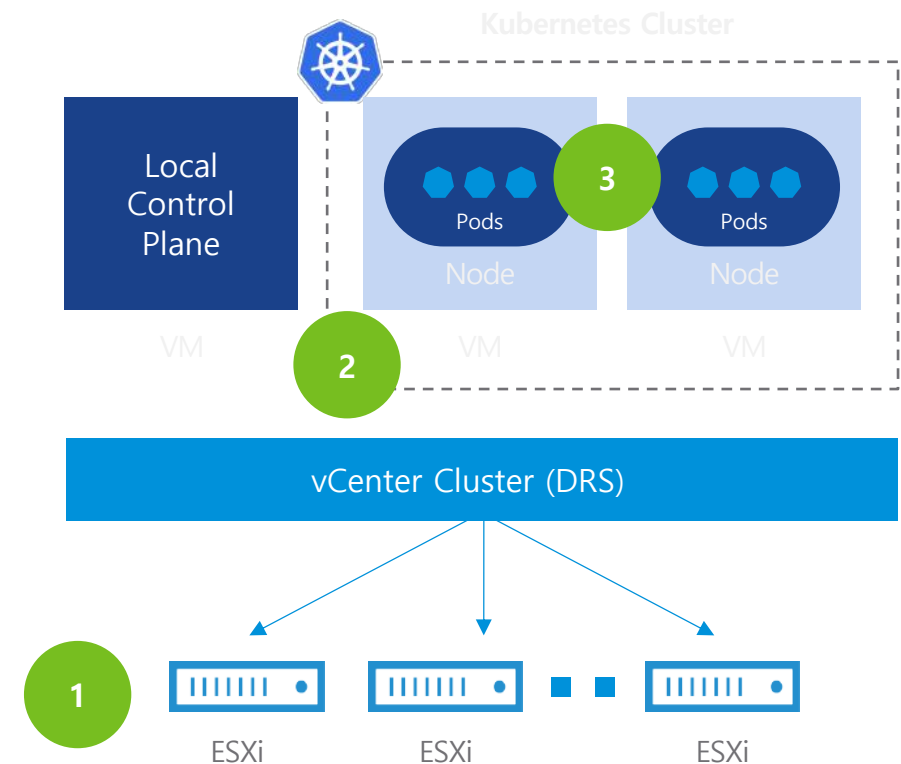
ESXi 호스트에 장애가 발생하면 vSphere HA 는 영향을 받는 Kubernetes 클러스터 노드를 다른 호스트로 이동

2

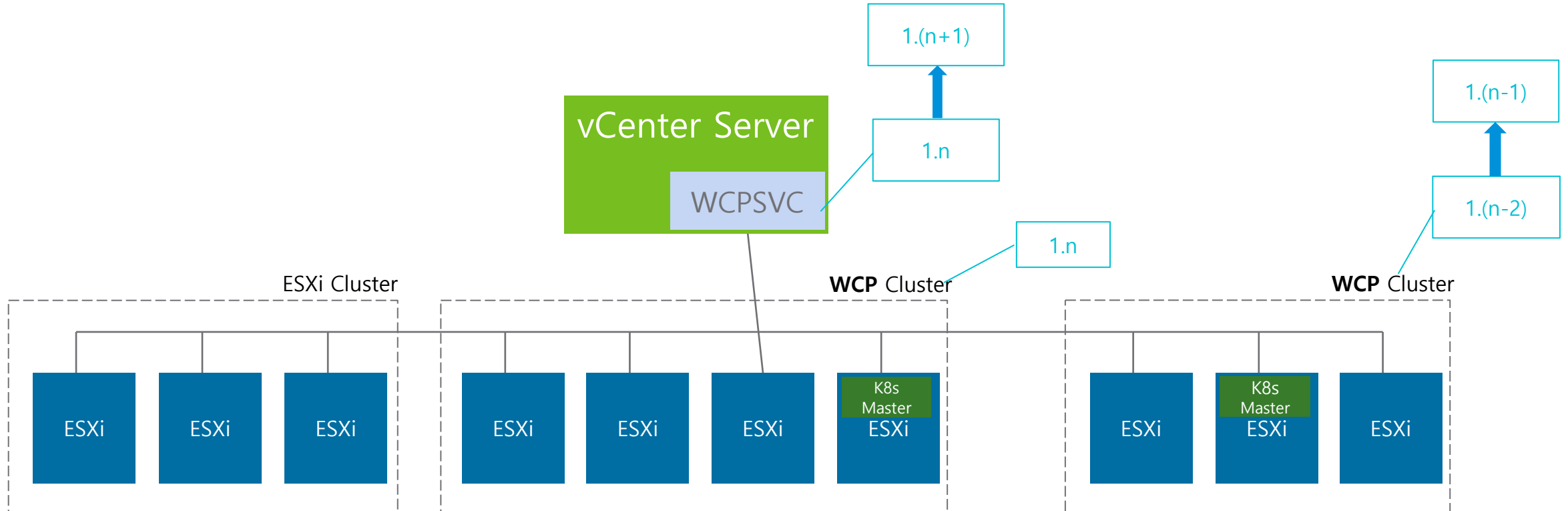
Kubernetes 클러스터 노드가 실패하면 PKS 가 노드를 다시 빌드하고 클러스터를 재구성하며 Kubernetes Control Plane 은 작업 노드에서 포드를 다시 예약

3

포드가 실패하면 Kubernetes 는 포드를 다시 시작하고 원하는 응용 프로그램 상태를 유지

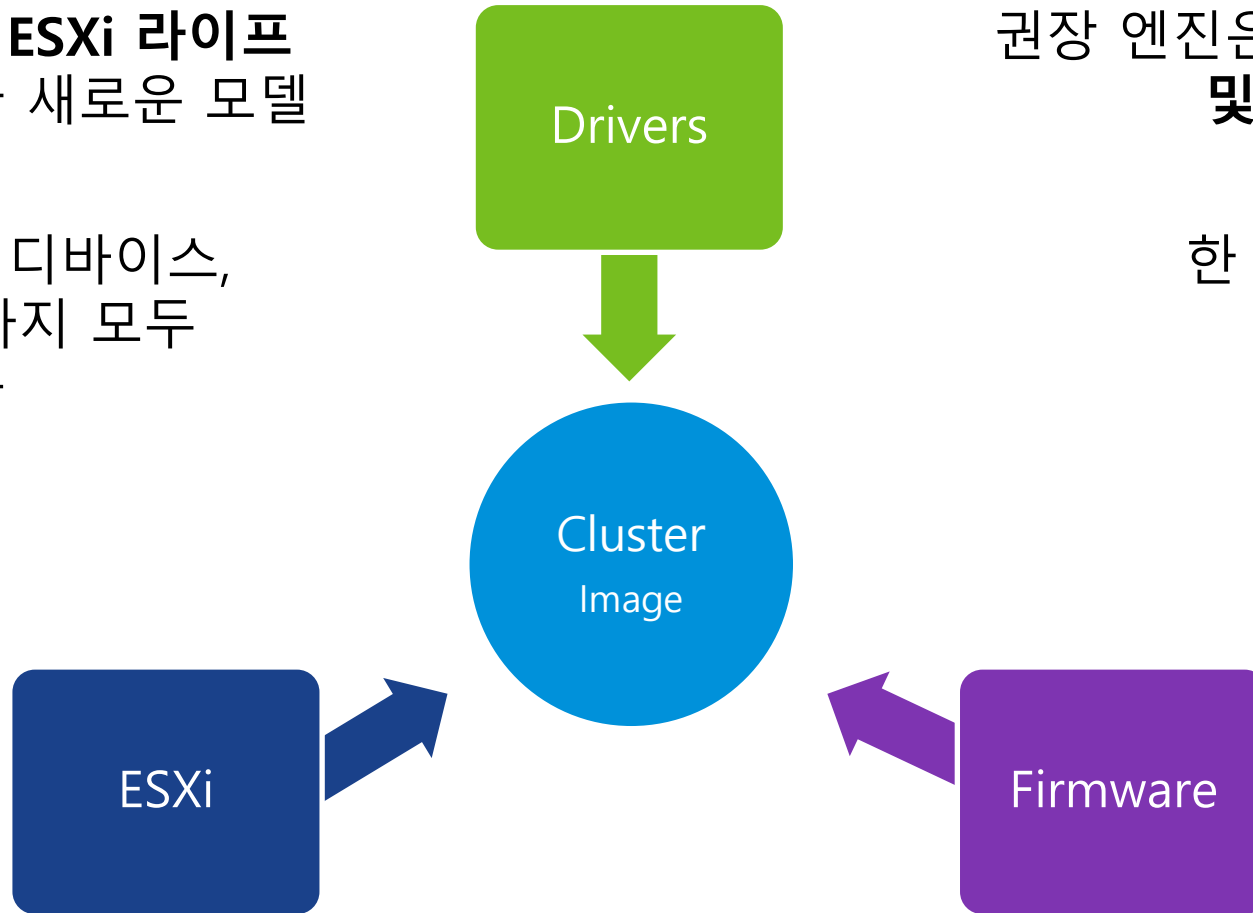


- Kubernetes 업데이트는 vCenter Server 업데이트로 제공
- Kubernetes 의 인프라 구성 요소 및 버전은 클러스터 단위로 관리
- 운영자는 각 K8 클러스터를 비동기 적으로 업데이트 가능
- n-2보다 오래된 클러스터는 자동 업데이트



클러스터 이미지는 ESXi 라이프 사이클 관리를 위한 새로운 모델

클러스터 이미지는 디바이스, 드라이버, 펌웨어 까지 모두 포함하여 구성 가능



권장 엔진은 검증된 펌웨어, 드라이버 및 소프트웨어 호환성을 추적

한 번에 인프라에 연관된 모든 구성요소들을 관리 가능

vm vSphere Client
Menu ▾ Search in all environments
Administrator@VSPHERE.LOCAL ▾

- 10.198.24.1
  - vSAN-DC
    - vSAN-Cluster
      - 10.198.17.5
      - 10.198.17.6
      - 10.198.17.7
      - 10.198.17.8
      - 10.198.23.255
      - 10.198.24.0
      - ESX Agents
        - k8s-master01
        - k8s-worker01
        - k8s-worker02
        - k8s-worker03
        - k8s-worker04
        - k8s-worker05

**vSAN-Cluster** ACTIONS ▾

Summary **Monitor** Configure Permissions Hosts VMs Datastores Networks Updates

- VM DRS Score
- CPU Utilization
- Memory Utilization
- Network Utilization
- Resource Allocation** ▾
  - CPU
  - Memory
  - Storage
- Utilization
- Storage Overview
- Security
- vSAN** ▾
  - Skyline Health
  - Virtual Objects
  - Physical Disks
  - Resyncing Objects
  - Proactive Tests
  - Capacity**
  - Performance
  - Performance Diagnostics
  - Support
  - Data Migration Pre-check
- Cloud Native Storage** ▾
  - Container Volumes

### Usage breakdown before dedup and compression

Usage by categories [EXPAND ALL](#)

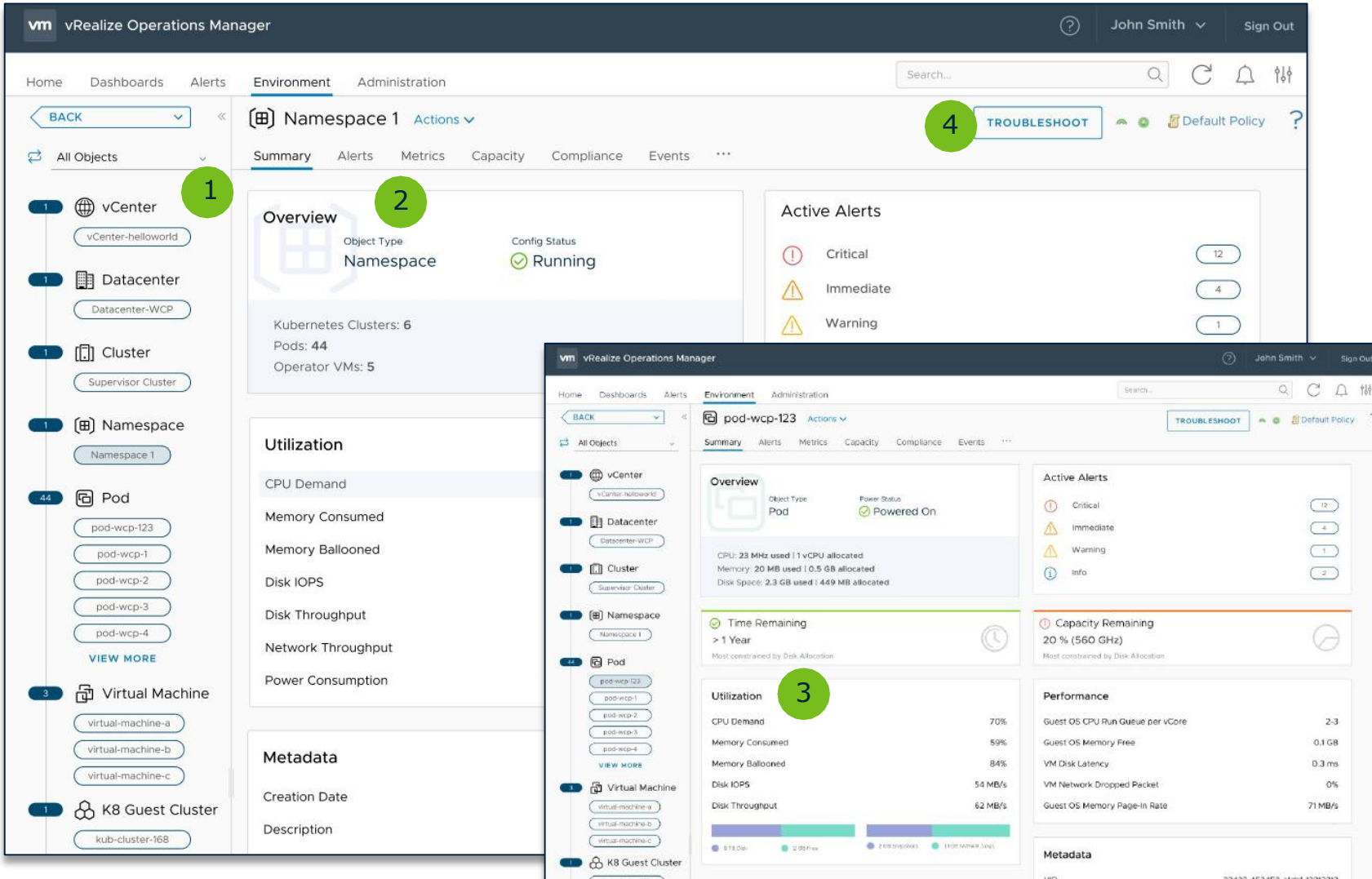
- VM 200.86 GB (75.62%)**

  - VMDK 168.64 GB (83.96%)
    - Primary data 99.33 GB
    - Replica usage 69.30 GB
  - Block container volumes (attached to a VM) 24.30 GB (12.1%)
    - Primary data 12.09 GB
    - Replica usage 12.21 GB
  - VM home objects (VM namespace) 7.63 GB (3.8%)
  - Swap objects 288.00 MB (0.14%)
- User objects 1.00 GB (0.38%)**

  - Improved virtual disks 820.00 MB (79.77%)
    - Other improved virtual disks 820.00 MB
  - File shares 100.00 MB (9.73%)
    - File container volumes 100.00 MB
  - Other (e.g. ISO files) 108.00 MB (10.51%)
- System usage 63.76 GB (24%)**

[Container volumes overview](#) [File shares overview](#)

Total usage  
265.62 GB



1 vSphere K8s 워크로드 자동 검색 및 모니터링

2 성능, 용량, 활용도를 모니터링하는 요약 페이지

3 사용량 및 수요 증가에 대한 예측

4 보고서, 보기 및 경고 문제 해결



**Cloud-Native Day**  
**2020 Korea**  
*LIVE!*

**Demo**

- 10.196.153.76
  - datacenter
    - Discovered virtual machine
    - pcf\_templates
    - pcf\_vms
      - 114166-ubuntu-17.04-64-Desktop-Tools-vpmc
      - pivotal-ops-manager
      - tas-tkg-control-plane-n5q17
      - tas-tkg-default-lb**
      - tas-tkg-md-0-554fd8fc88-j4zfz
      - tas-tkg-md-0-554fd8fc88-krhi6
      - tas-tkg-md-0-554fd8fc88-nrms2
      - tas-tkg-md-0-554fd8fc88-tzclj
      - tkg-mgmt-vsphere-20200511091226-control-plane-7...
      - tkg-mgmt-vsphere-20200511091226-md-0-69f58d9...
      - tkg-mgmt-vsphere-20200511091226-tkg-system-lb
      - Ubuntu-18.04-64-Server
      - photon-3-haproxy-v1.2.4+vmware.1
      - photon-3-kube-v1.18.1+vmware.1

### tas-tkg-default-lb

Summary Monitor Configure Permissions Datastores Networks Updates

**Powered On**

[Launch Web Console](#)  
[Launch Remote Console](#)

Guest OS: VMware Photon OS (64-bit)  
 Compatibility: ESXi 6.5 and later (VM version 13)  
 VMware Tools: Running, version:11269 (Guest Managed) [More info](#)  
 DNS Name: tas-tkg-default-lb  
 IP Addresses: 10.196.153.245 [View all 2 IP addresses](#)  
 Host: 10.196.7.249

VM Hardware

Related Objects

- Cluster: [clustera](#)
- Host: [10.196.7.249](#)
- Networks: [VM Network](#)
- Storage: [datastore-iscli-1](#)

Tags

Assigned Tag	Category	Description

CPU USAGE: 0 Hz  
 MEMORY USAGE: 40 MB  
 STORAGE USAGE: 22.06 GB

Notes

Cluster API vSphere HAProxy Load Balancer VMware Photon OS 64-bit and HAProxy dataplane API v1.2.4+vmware.1 - <https://github.com/kubernetes-sigs/cluster-api-provider-vsphere>

[Edit Notes...](#)

Custom Attributes

Attribute	Value
compiling	
created_at	
deployment	
director	
id	
index	

9 items

Recent Tasks Alarms

Task Name	Target	Status	Details	Initiator	Queued For	Start Time	Completion Time	Server

All More Tasks



# work-auth | ACTION

- Summary
- Monitor
- Configure
- Compute
- Storage
- Network
- Permissions

- ue-vc-client.eng.vmware...
- Palo Alto
  - Test xyz
  - Underdesk Hosts
  - test abc
- Wenatchee
  - Production
  - Cluster 1
    - m-03.eng.vmwa...
    - m-04.eng.vmwa...
    - Namespace( RP)
      - work-auth**
        - k8-Cluster -1
        - k8-Cluster-2
        - K8S Cluster 3
          - pod-vm-1
          - pod-vm-2
        - finance-app

### Status

Created 03/12/2019

Config Status

**Running**

Kubernetes status

**Active**

Location

ue-vc-client.eng.local

Cluster 1

Link to CLI

Copy Link Open

### Storage

You haven't allowed any storage policies for this workload. Add some policies to let your devops team access persistent storage.

**ADD STORAGE**

### Permissions

You haven't given any devops access to this workload. Add some permissions to let your devops team directly manage this Workload.

**ADD PERMISSIONS**

### Pods

0 Total pods

**VIEW DETAILS**

### Capacity and Usage

Last updated 2 minutes ago

CPU

0 GHz

No Limit

Memory

0 GB

No Limit

# work-auth | ACTION

- Summary
- Monitor
- Configure
- Compute
- Storage
- Network
- Permissions

Status Created 08/27/20

Config Status  
Running

Kubernetes status  
Active

Location  
 ue-vc-client.eng.local

Cluster 1

Link to CLI  
[Copy Link](#) [Open](#)

Storage

Permsions

## Add Permissions

Add a user or a group to give access to this workload.

Identity Source vSphere.local

User/Group WCP-Team

Role Can View

CANCEL

OK

Pods

Total pods



[VIEW DETAILS](#)

## Capacity and Usage

CPU  
 0 GHz  
 No Limit

Memory  
 0 GB  
 No Limit

Last updated 2 minutes ago



16 GHz  
8 GHz  
0

30 GB  
15 GB  
0



# work-auth | ACTION

Summary Monitor Configuration

## Status

Config Status

✔ Running

Kubernetes status

✔ Active

Location

✔ ue-vc-client.eng.local

Cluster 1

Link to CLI

[Copy Link](#) [Open](#)

## Capacity and Usage

CPU

0 GHz

No Limit

Memory

0 GB

No Limit

## Add Limits



Below are various resources that are available to the Namespace. You can choose to limit consumption of any or all of these. This is an optional step.

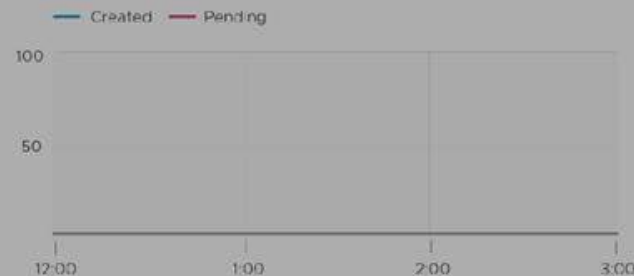
CPU	8	GHz
Memory	No limit	MB
Storage	140	GB
Gold Policy	No limit	GB
Silver Policy	No limit	GB

CANCEL

OK

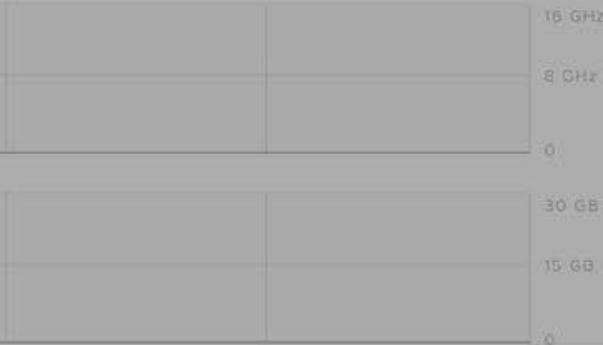
## Pods

0 Total pods



[VIEW DETAILS](#)

Last updated 2 minutes ago



# work-auth | ACTION

- Summary
- Monitor
- Configure
- Compute
- Storage
- Network
- Permissions

## Status

Config Status

✔ Running

Kubernetes status

✔ Active

Location

ue-vc-client.eng.local

Cluster 1

Link to CLI

[Copy Link](#) [Open](#)

## Capacity and Usage

CPU

0 GHz

No Limit

Memory

0 GB

No Limit

## Storage

## Permissions

### Add Storage

Select storage policies for your Namespace.

<input type="checkbox"/>	Storage Policy	Total Capacity	Avaiailable capacity
> <input type="checkbox"/>	Default Policy	200 GB	100 GB
> <input checked="" type="checkbox"/>	Gold Policy	200 GB	100 GB
> <input checked="" type="checkbox"/>	Silver Policy	200 GB	100 GB
> <input type="checkbox"/>	Diamond Policy	200 GB	100 GB

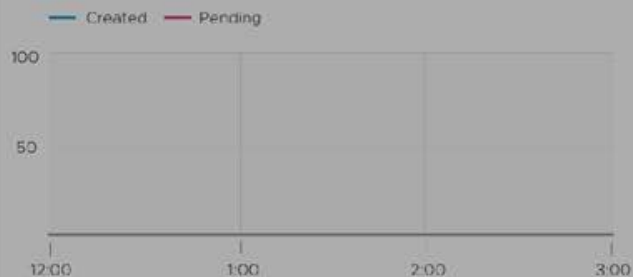
4 items

CANCEL

ADD

## Pods

0 Total pods



[VIEW DETAILS](#)

Last updated 2 minutes ago

16 GHz

8 GHz

0

30 GB

15 GB

0



# work-auth | ACTION

- Summary
- Monitor
- Configure
- Compute
- Storage
- Network
- Permissions

ue-vc-client.eng.vmware...

Palo Alto

Test xyz

Underdesk Hosts

test abc

Wenatchee

Production

Cluster 1

m-03.eng.vmwa...

m-04.eng.vmwa...

Namespace( RP)

work-auth

k8-Cluster -1

k8-Cluster-2

K8S Cluster 3

pod-vm-1

pod-vm-2

finance-app

## Status

Created 08/27/2019

Config Status

Running

Kubernetes status

Active

Location

ue-vc-client.eng.local

Cluster 1

Link to CLI

Copy Link Open

## Storage

0

Persistent volume claims

### Storage Policies 2

Gold Policy

3 PVCs | 80 GB

Silver Policy

4 PVCs | 50 GB View all

EDIT STORAGE

## Permissions

Can view workload 2

mwest

Test-team

Can edit workload 10

WCP Team

pshinh

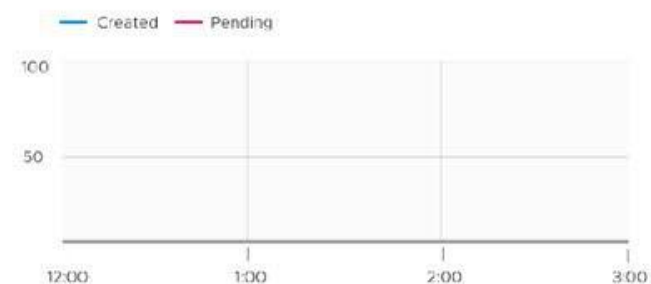
jrosoff

mj-team

MANAGE PERMISSIONS

## Pods

0 Total pods



VIEW DETAILS

## Capacity and Usage

Last updated 2 minutes ago

CPU

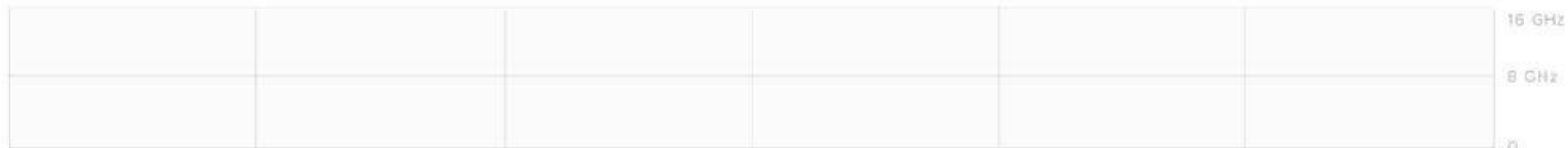
0 GHz

8 GHz Limit

Memory

0 GB

No Limit



vm vSphere Client
Administrator@VSPHERE.LOCAL

- 10.198.24.1
  - vSAN-DC
    - vSAN-Cluster
      - 10.198.17.5
      - 10.198.17.6
      - 10.198.17.7
      - 10.198.17.8
      - 10.198.23.255
      - 10.198.24.0
      - ESX Agents
        - k8s-master01
        - k8s-worker01
        - k8s-worker02
        - k8s-worker03
        - k8s-worker04
        - k8s-worker05

vSAN-Cluster
ACTIONS

Summary
Monitor
Configure
Permissions
Hosts
VMs
Datstores
Networks
Updates

Container providers: Kubernetes [LEARN MORE](#)

REAPPLY POLICY | Add filter

	Volume Name	Type	Label	Datstore	Health Status	Capacity Quota
<input type="checkbox"/>	pvc-b95dfecf-cfb1-4d...	BLOCK	component master <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-345a9263-47d8-4...	BLOCK	app postgresql <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-1546ef6f-d0a9-44...	FILE	app space-odyssey	vsanDatast...	✓ Healthy	50.00 GB
<input type="checkbox"/>	pvc-cd20d607-2344-...	BLOCK	app postgresql <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-568294e2-2f40-4...	BLOCK	app cassandra release cassandra	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-f3bd64a5-21c2-40...	BLOCK	app concourse-worker release concourse	vsanDatast...	✓ Accessible	20.00 GB
<input type="checkbox"/>	pvc-a815febc-f295-4d...	BLOCK	app mongodb <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-367e0d46-ca07-4...	BLOCK	app mongodb <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-218661b0-2d5e-4...	BLOCK	app gitily release gitlab	vsanDatast...	✓ Accessible	50.00 GB
<input type="checkbox"/>	pvc-2d1ab2d0-c042-4...	BLOCK	app concourse-worker release concourse	vsanDatast...	✓ Accessible	20.00 GB
<input type="checkbox"/>	pvc-0384508e-15be-4...	BLOCK	app prometheus <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	8.00 GB
<input type="checkbox"/>	pvc-f019d144-f794-42...	BLOCK	app minio <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	10.00 GB
<input type="checkbox"/>	pvc-50f39722-e7b3-4...	BLOCK	app minio <a href="#">SEE ALL</a>	vsanDatast...	✓ Accessible	10.00 GB

1-13 of 13 container volumes

32



## Physical Placement | 52406c2c-0ac6-4505-b9ac-7a6b1d7ddf15

Group components by host placement

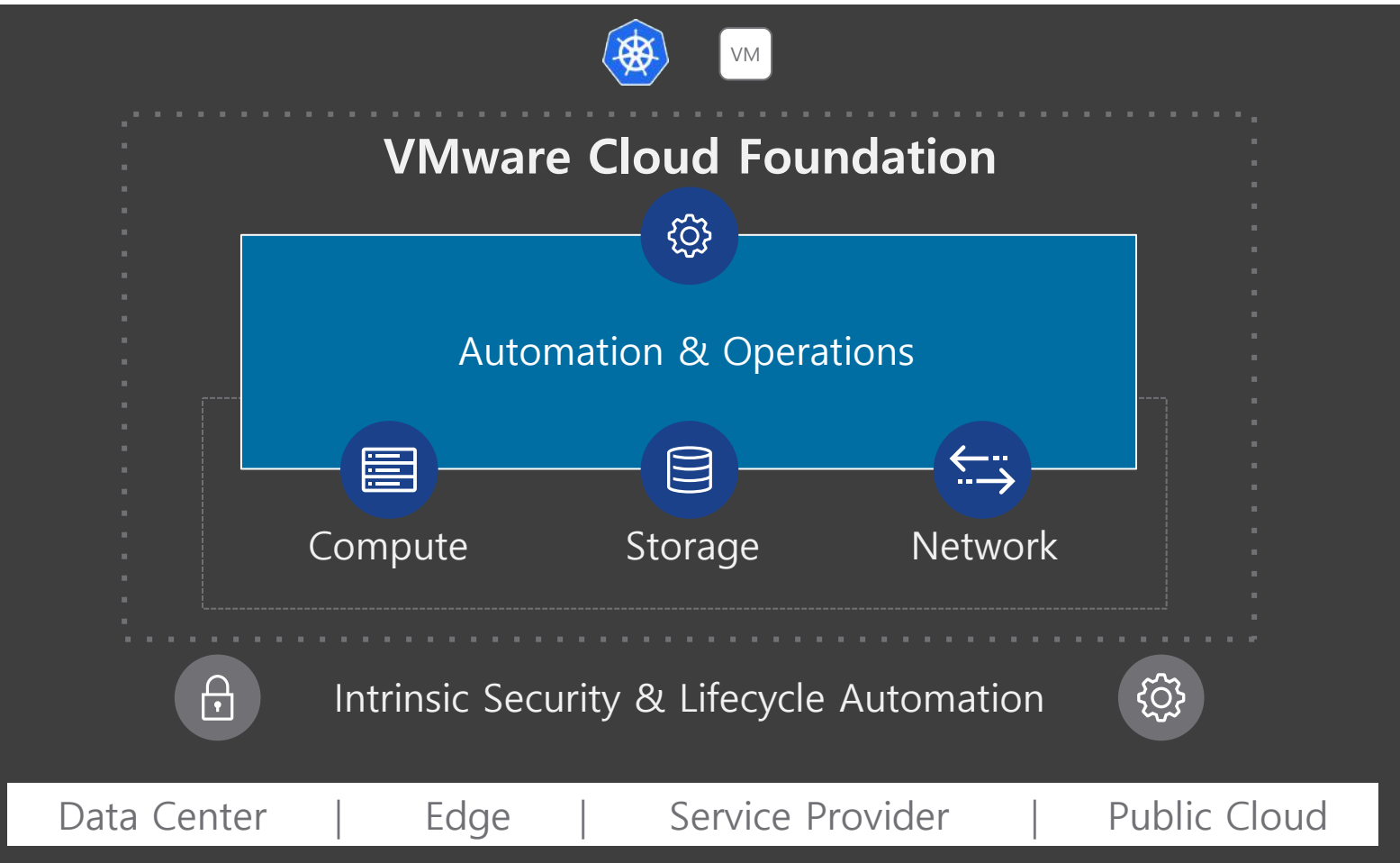
### Hosts and Disks

Name	State
10.198.17.6	✔ Health...
Disk Group (Local VMware Disk (mpx.vmhba0:C0:T4:L0))	✔ Health...
Local VMware Disk (mpx.vmhba0:C0:T1:L0)	✔ Health...
10.198.24.0	✔ Health...
Disk Group (Local VMware Disk (mpx.vmhba0:C0:T4:L0))	✔ Health...
Local VMware Disk (mpx.vmhba0:C0:T1:L0)	✔ Health...
10.198.17.5	✔ Health...
Disk Group (Local VMware Disk (mpx.vmhba0:C0:T4:L0))	✔ Health...
Local VMware Disk (mpx.vmhba0:C0:T2:L0)	✔ Health...

### Virtual Object Components

pvc-1546ef6f-d0a9-4414-b6e... > 52406c2c	
Witness	✔ Active

VCF editions include TKG and vSphere with Kubernetes



## 안정적인 컨테이너 및 가상 머신 실행

vSphere Pod 서비스  
Tanzu Kubernetes Cluster 배포  
VM 배포 및 관리

## 레지스트리 서비스

Harbor 를 사용하여 Docker 및 OCI 이미지 저장, 관리  
역할 기반 액세스 제어로 이미지를 보호  
취약성 스캔하여 이미지 레지스트리 신뢰성 향상

## 스토리지 서비스

vCenter Server 스토리지 정책 및 장치를 활용  
컨테이너, K8s 및 VMs 와 함께 영구 디스크 할당

## 네트워크 서비스

가상 라우터, 로드 밸런서 및 방화벽 규칙을 정의



## Tanzu Kubernetes Grid Service for vSphere

Tanzu 런타임 서비스를 통해 개발자는 일관되고  
규정을 준수하는 적합한 Kubernetes 클러스터를 배포

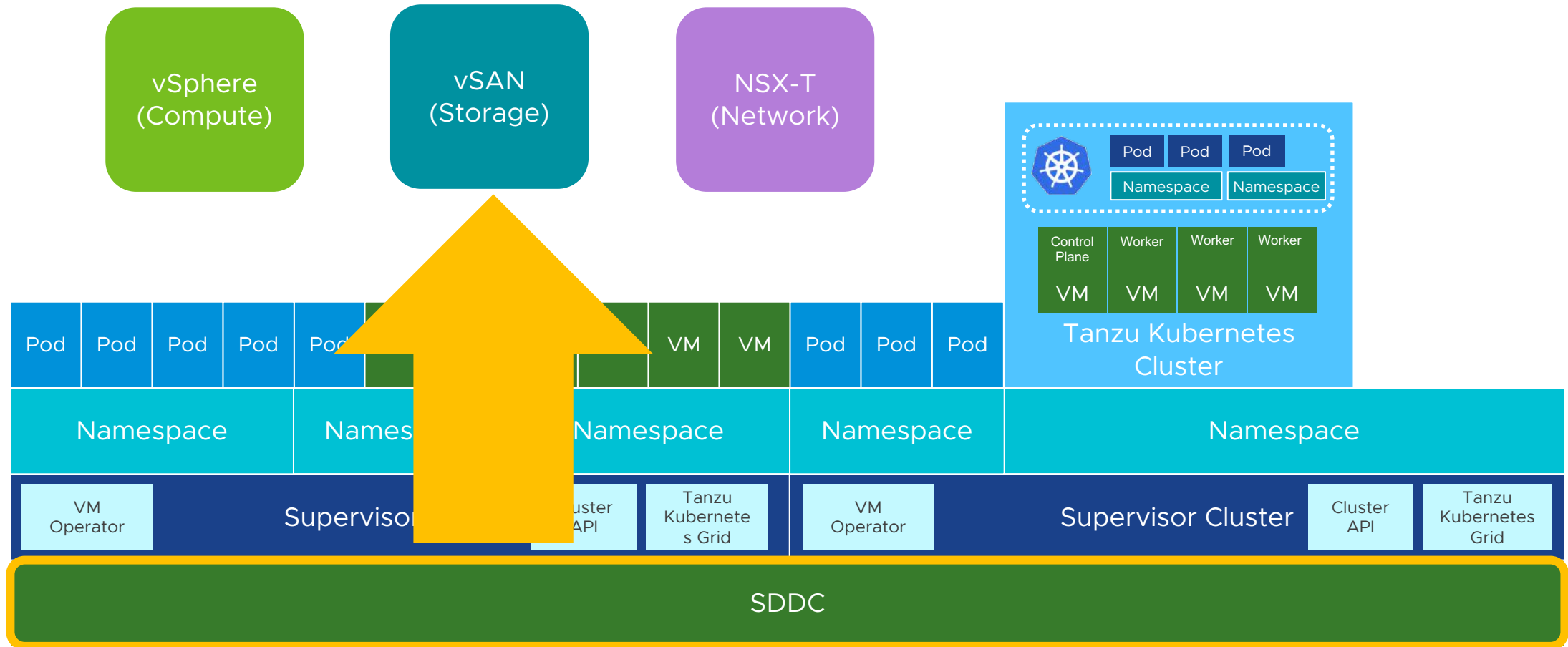
**Cloud-Native Day**  
**2020 Korea**  
*LIVE!*

# 마이크로 서비스를 위한 표준 인프라 구성

## 네트워크

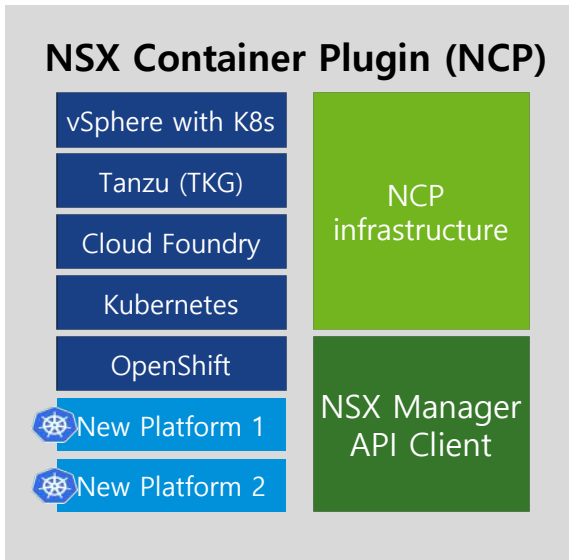
허재홍 부장

vmware®

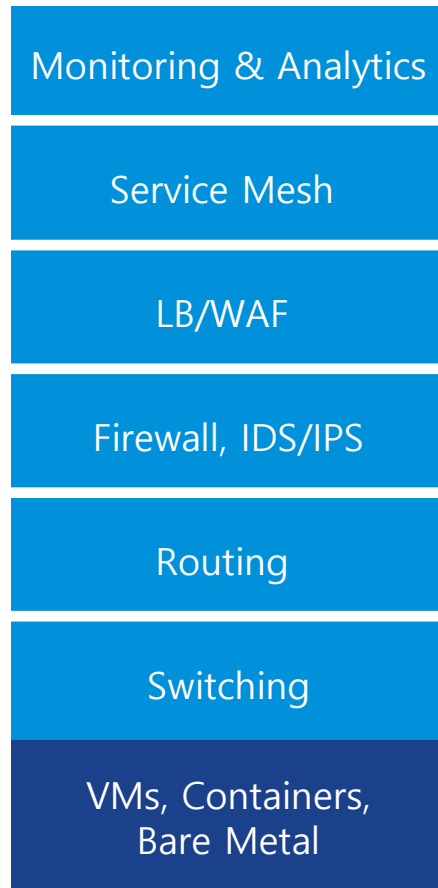


# NSX-T: Converged networking

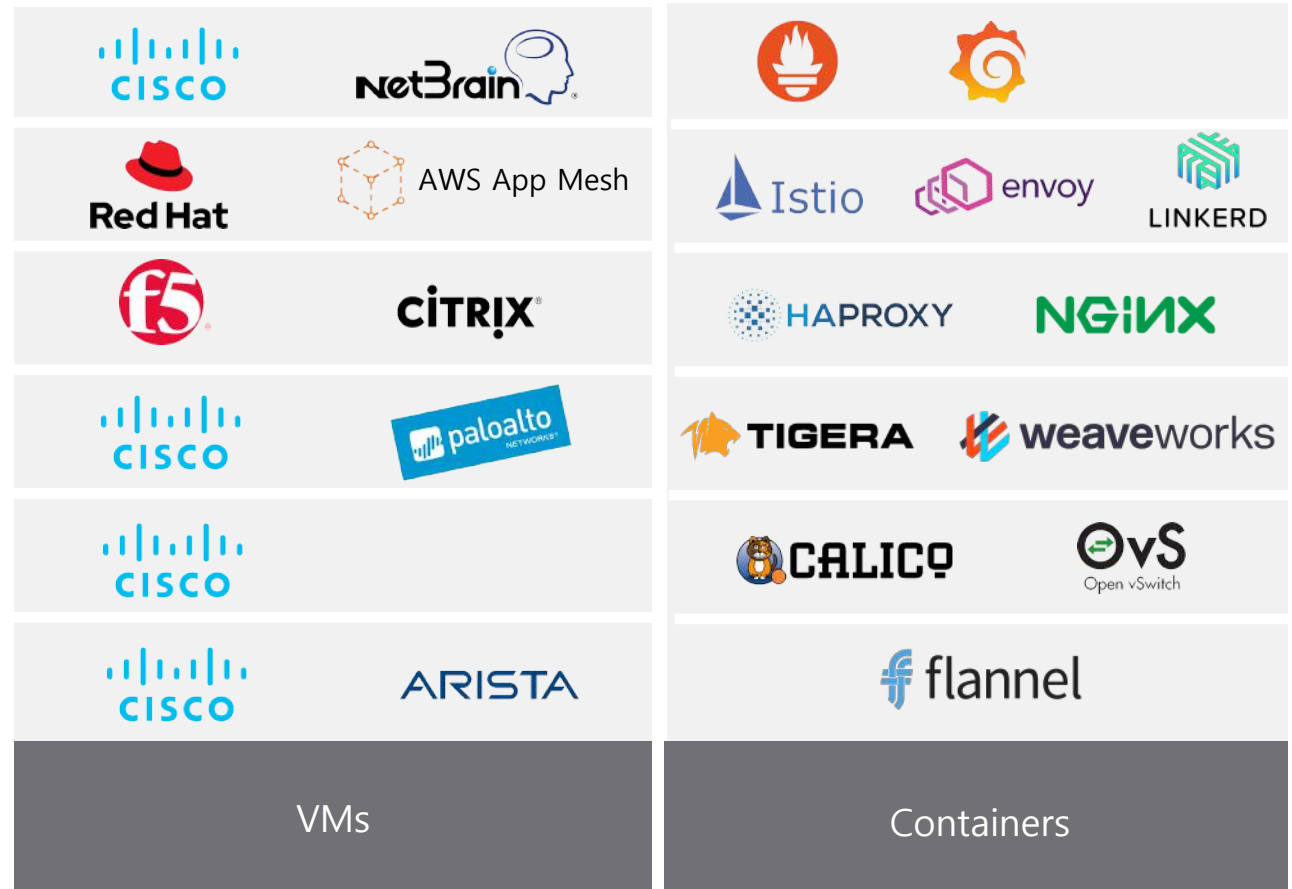
VM and container network



## VMware NSX

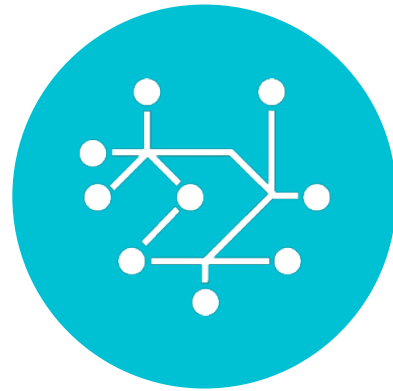


## Without NSX: Separate HW/SW

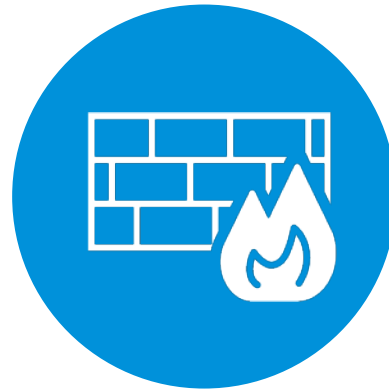




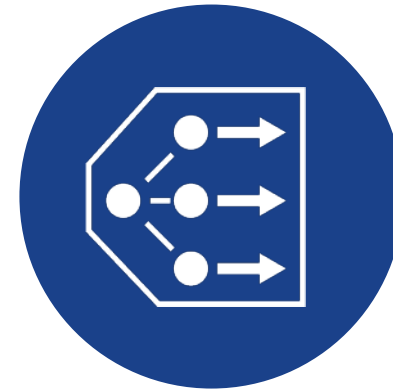
IP Address  
Management



Segmented  
Networking



Firewall  
Isolation

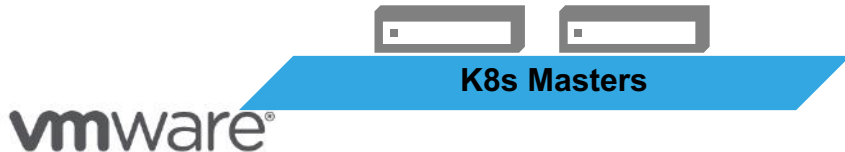
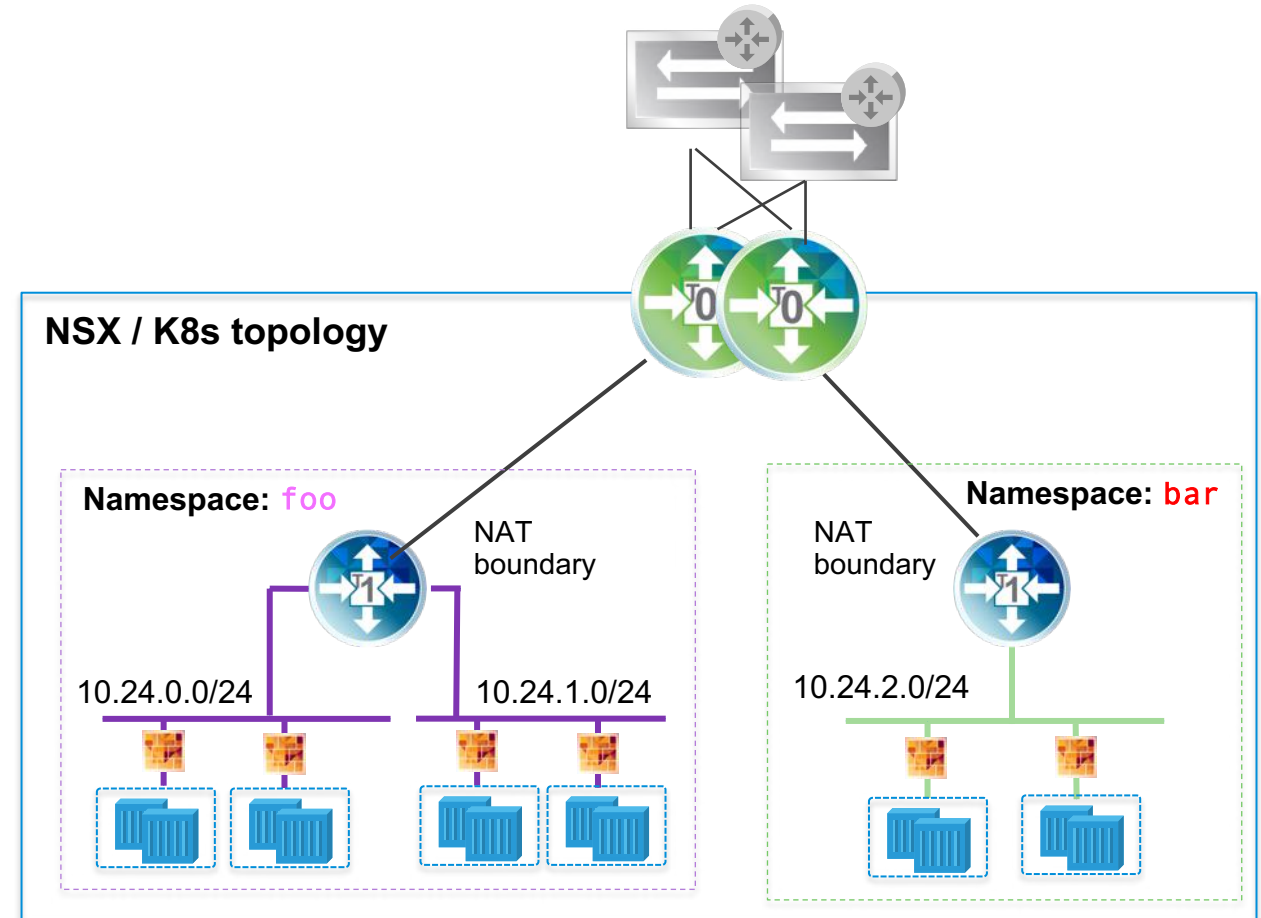


Load  
Balancing



Visibility

```
1. localadmin@k8s-master: ~ (ssh)
admin@k8s-master:~$ kubectl create namespace foo
namespace "foo" created
admin@k8s-master:~$ kubectl create namespace bar
namespace "bar" created
admin@k8s-master:~$ kubectl run nginx-foo --image=nginx -n foo
deployment "nginx-foo" created
admin@k8s-master:~$ kubectl run nginx-bar --image=nginx -n bar
deployment "nginx-bar" created
```



## Trace flow

The screenshot displays the VMware NSX-T Traceflow interface. On the left, a sidebar shows a trace flow diagram with nodes labeled 'seg-dc' and 'nginx-f'. The main content area features a search bar with the query 'nginx-finance'. Below the search bar, there are tabs for 'ENTITIES', 'All', 'Pods', 'Segment Ports', and 'Virtual Machines'. The 'All' tab is selected, showing a table of entities.

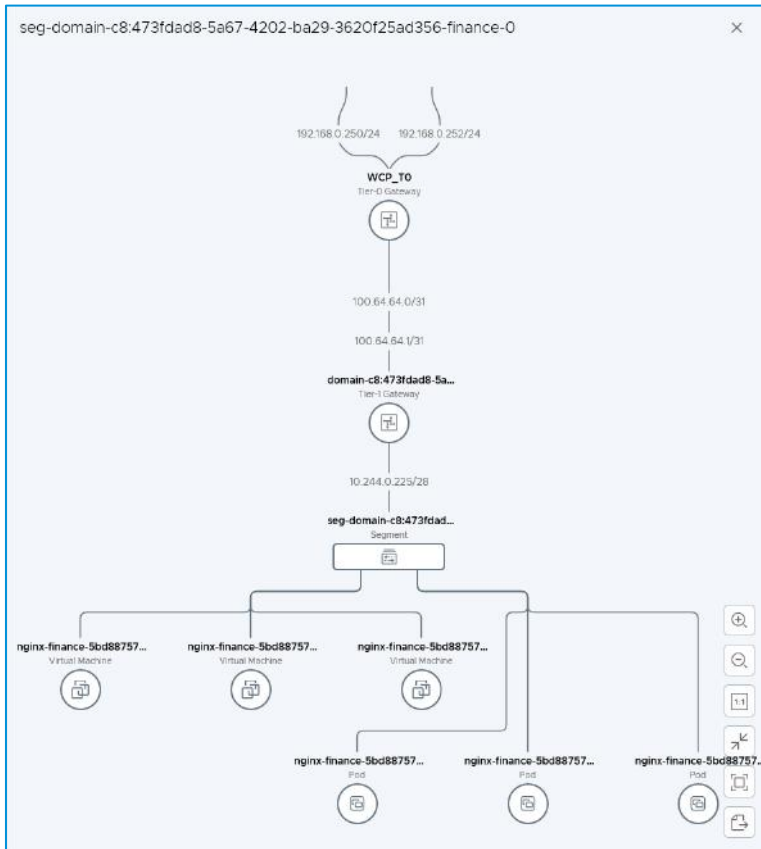
Name	Resource Type	Tags	Last Modified Time	Status
> domain-c8:473fdad8-5a67-4202-ba29-3620f25ad356-finance-nginx-finance-5bd88757cb-whz4q	Segment Ports	8	2020/03/12, 08:29 PM	Success
> domain-c8:473fdad8-5a67-4202-ba29-3620f25ad356-finance-nginx-finance-5bd88757cb-nvkdv	Segment Ports	8	2020/03/12, 08:29 PM	Success
> domain-c8:473fdad8-5a67-4202-ba29-3620f25ad356-finance-nginx-finance-5bd88757cb-7vzd9	Segment Ports	8	2020/03/12, 08:29 PM	Success
> nginx-finance-5bd88757cb-nvkdv	Pods	1		
> nginx-finance-5bd88757cb-whz4q	Pods	1		
> nginx-finance-5bd88757cb-7vzd9	Pods	1		
> nginx-finance-5bd88757cb-nvkdv	Virtual Machines	0		
> nginx-finance-5bd88757cb-whz4q	Virtual Machines	0		
> nginx-finance-5bd88757cb-7vzd9	Virtual Machines	0		

Observations: All | 1 Delivered | 0 Dropped

Physical Hop Count	Observation Type	Transport No
0	Injected	esxidevc
0	Received	esxidevc
0	Forwarded	esxidevc
0	Received	esxidevc
0	Forwarded	esxidevc
0	Forwarded	esxidevc
0	Forwarded	esxidevc
0	Received	esxidevc
0	Forwarded	esxidevc
0	Received	esxidevc



## Network topology



The screenshot shows the VMware NSX-T Native UI interface. The top navigation bar includes 'Home', 'Networking', 'Security', 'Inventory', 'Plan & Troubleshoot', and 'System'. The 'Networking' tab is active, and the 'Network Topology' view is selected. The left sidebar contains a navigation menu with sections: 'Network Overview', 'Network Topology', 'Connectivity' (Tier-0 Gateways, Tier-1 Gateways, Segments), 'Network Services' (VPN, NAT, Load Balancing, Forwarding Policies), 'IP Management' (DNS, DHCP, IP Address Pools), and 'Settings' (Networking Settings). The main content area displays a network topology diagram similar to the one on the left, but with additional context: 'VLANO\_SEGMENT Segment' (1 VM), 'WCP\_UL Segment', '19 Segments' (7 Pods, 3 VMs), and 'vnet-domain-c8:473fdad... Segment' (1 VM).

Kubernetes Service yelb-ui - Kubernetes Service users-... Now (Auto-refresh disabled) Overview Events Flows Metrics

### Path Topology

Source: Pod: yelb-ui... Destination: Pod: users-...

Host Transport Node Edge Transport Node

### VM Underl...

VM: vm-bf6066... VNIC: 172.24.4.6 PNIC: [w1-vrni-t...

#### Path Details

- 1 VM: vm-bf6066f9-d14d-4122-b732-d388efcadcc6
- 2 VNIC: [vm-bf6066f9-d14d-4122-b732-d388efcadcc6]-[Network adapter 1]
- 3 NSX-T Logical Port: 6be3b35e-64e4-0328-3111-e4434b5f84d0/vm-bf6066f9-d14d-4122-b732-d388efcadcc6.vmx@e759246c3e1f-4e23-be40-c6de89c69bf8
- 4 Switch Port: [w1-vrni-tmm-esx014.eng.vmware.com]-[vmnic3]

## NSX-T Values for Containers

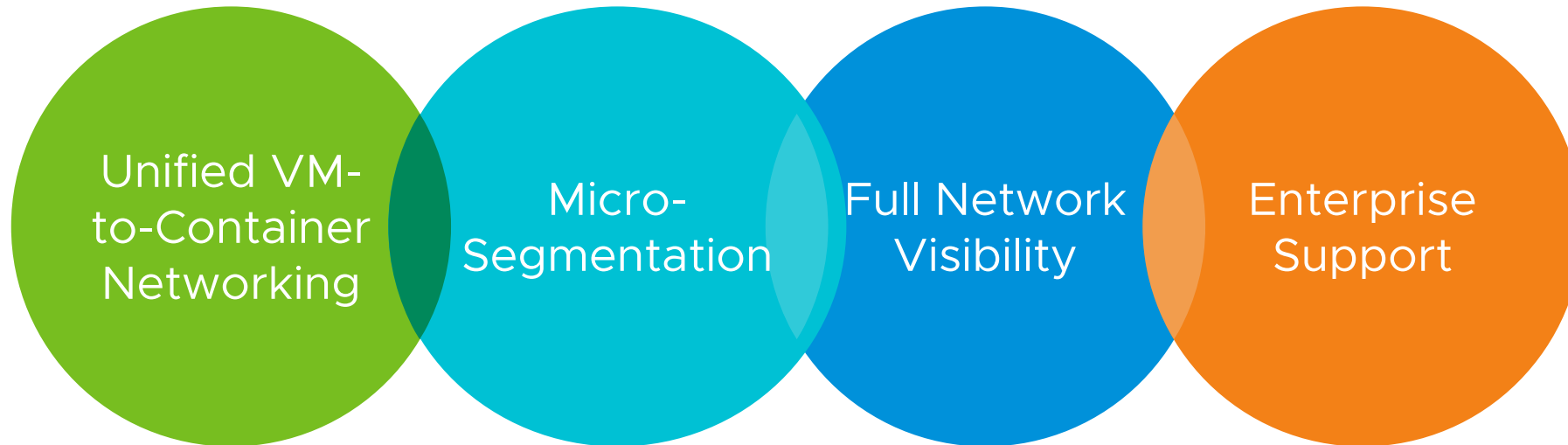
Enterprise-class  
Networking



Advanced Security



Enhanced  
Operations



## Features

**Cloud-Native Day**  
**2020 Korea**  
*LIVE!*

**Thank you.**