VMware Cloud Foundation

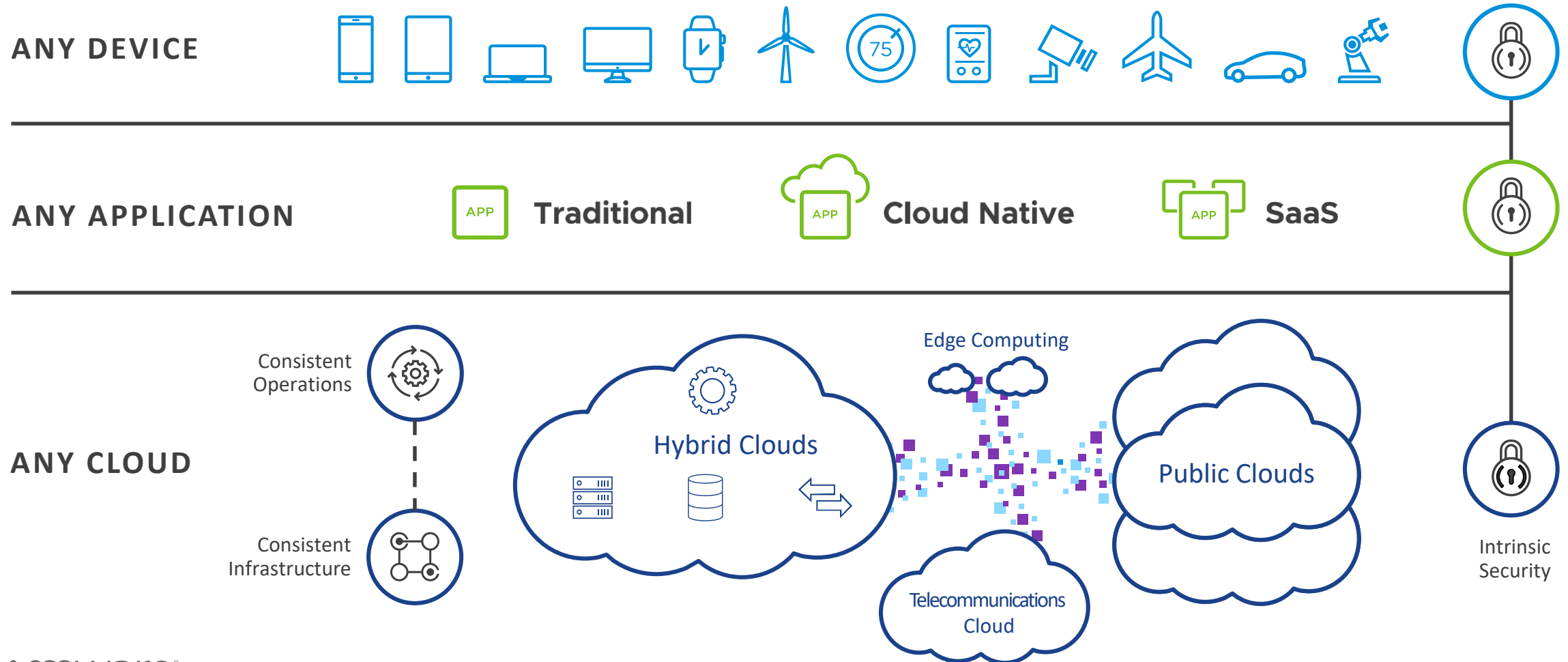## Full Stack HCI

Darius Spaičys
Maestro of Mayhem Baltic

2020.01 lovely Tallinn

VMware Vision

The Essential, Ubiquitous Digital Foundation

ANY DEVICE

ANY APPLICATION

APP **Traditional** APP **Cloud Native** APP **SaaS**

ANY CLOUD

Consistent Operations

Consistent Infrastructure

Hybrid Clouds

Edge Computing

Public Clouds

Telecommunications Cloud

Intrinsic Security

VMware Cloud Foundation.
The simplest path to the hybrid cloud.

Infrastructure Modernization at Your Own Pace
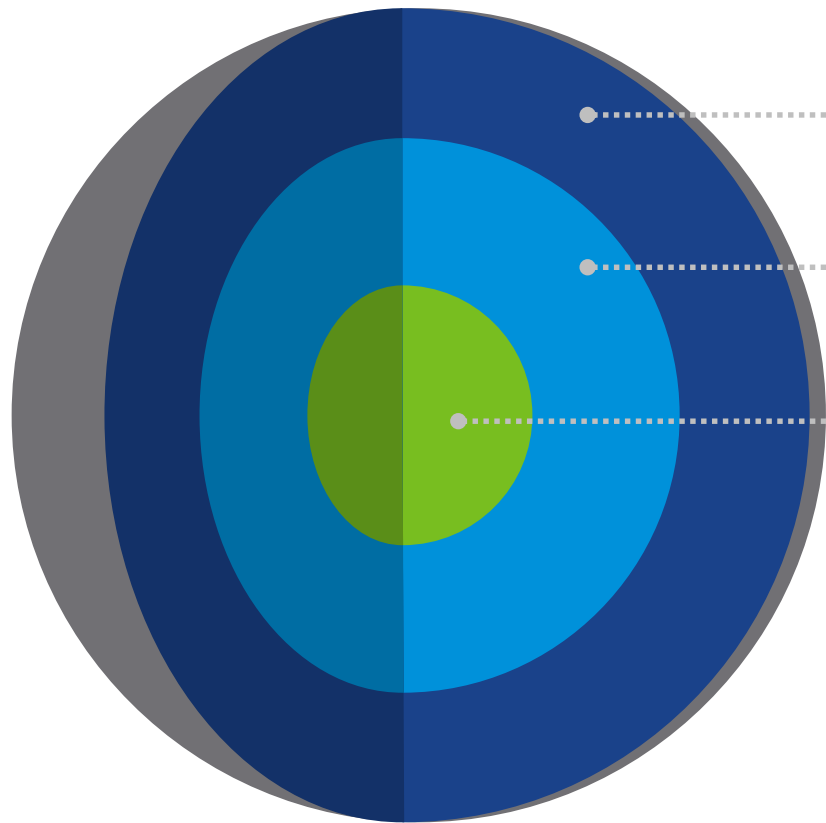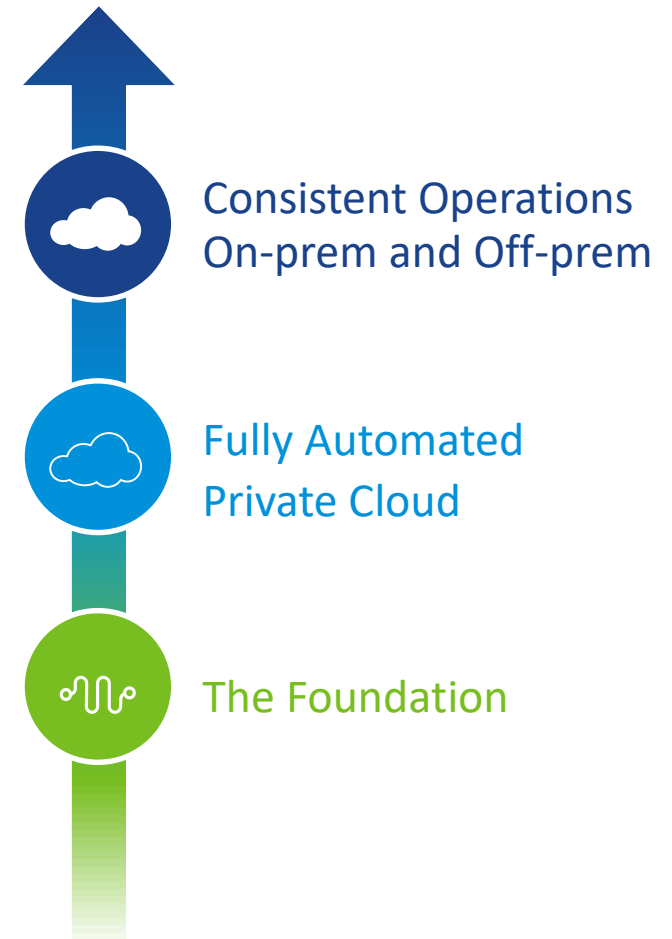
Hybrid Cloud

VMware Cloud on AWS

Full Stack HCI

Cloud Foundation

Core HCI

vSAN + vSphere

Consistent Operations On-prem and Off-prem

Fully Automated Private Cloud

The Foundation

VMware Vision

The Essential, Ubiquitous Digital Foundation

ANY DEVICE

ANY APPLICATION

APP **Traditional** APP **Cloud Native** APP **SaaS**

ANY CLOUD

Consistent Operations

Consistent Infrastructure

VMware Cloud Foundation

Automation & Operations

Compute Storage Network

Public Clouds

Intrinsic Security

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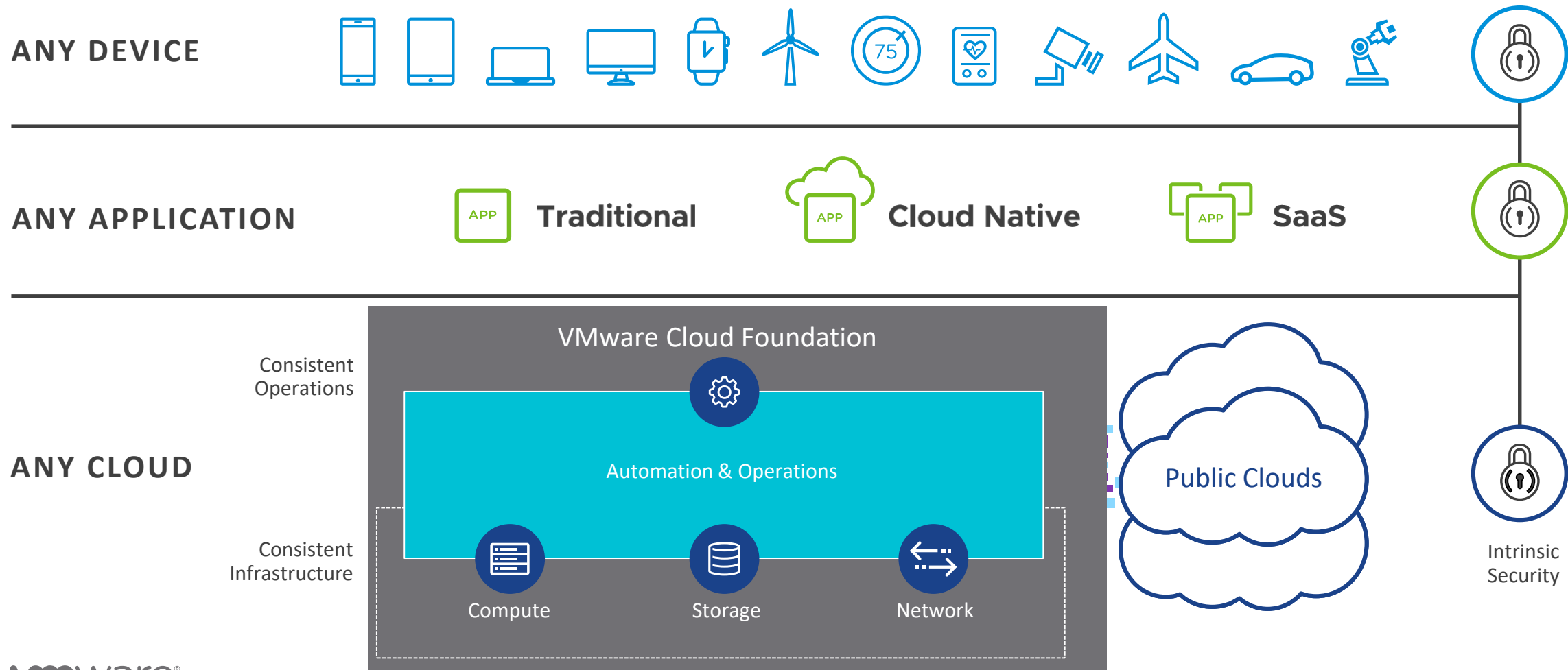
Modernize Your Data Center With VMware Cloud Foundation

The full stack hyper-converged infrastructure for hybrid clouds is comprehensive

Private Cloud

Public Cloud

Edge

VDI | vm |

VMware Cloud Foundation

Automation & Operations

Compute

Storage

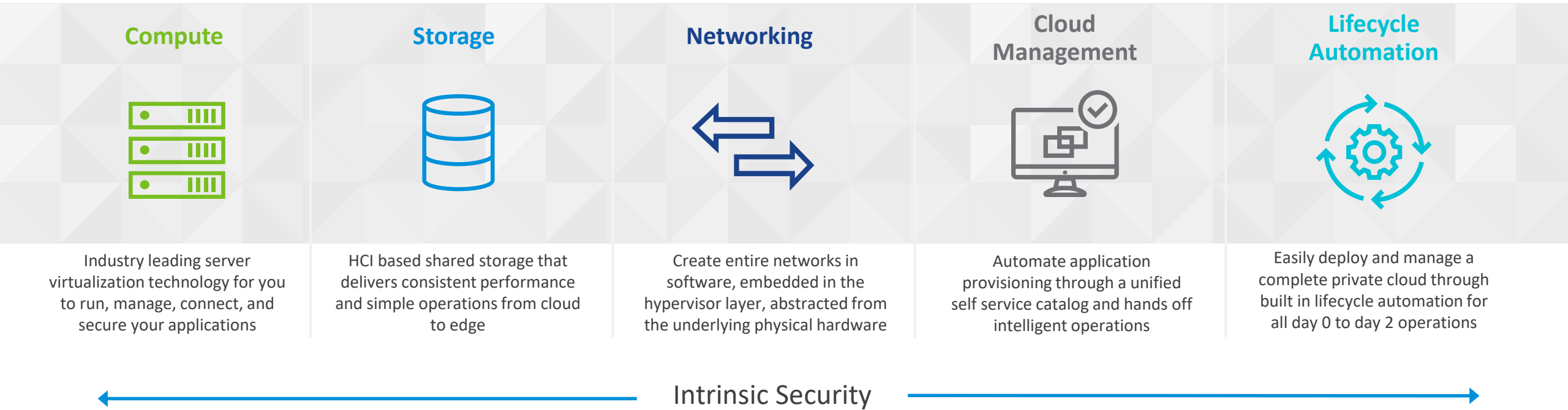Network

Intrinsic Security & Lifecycle Automation
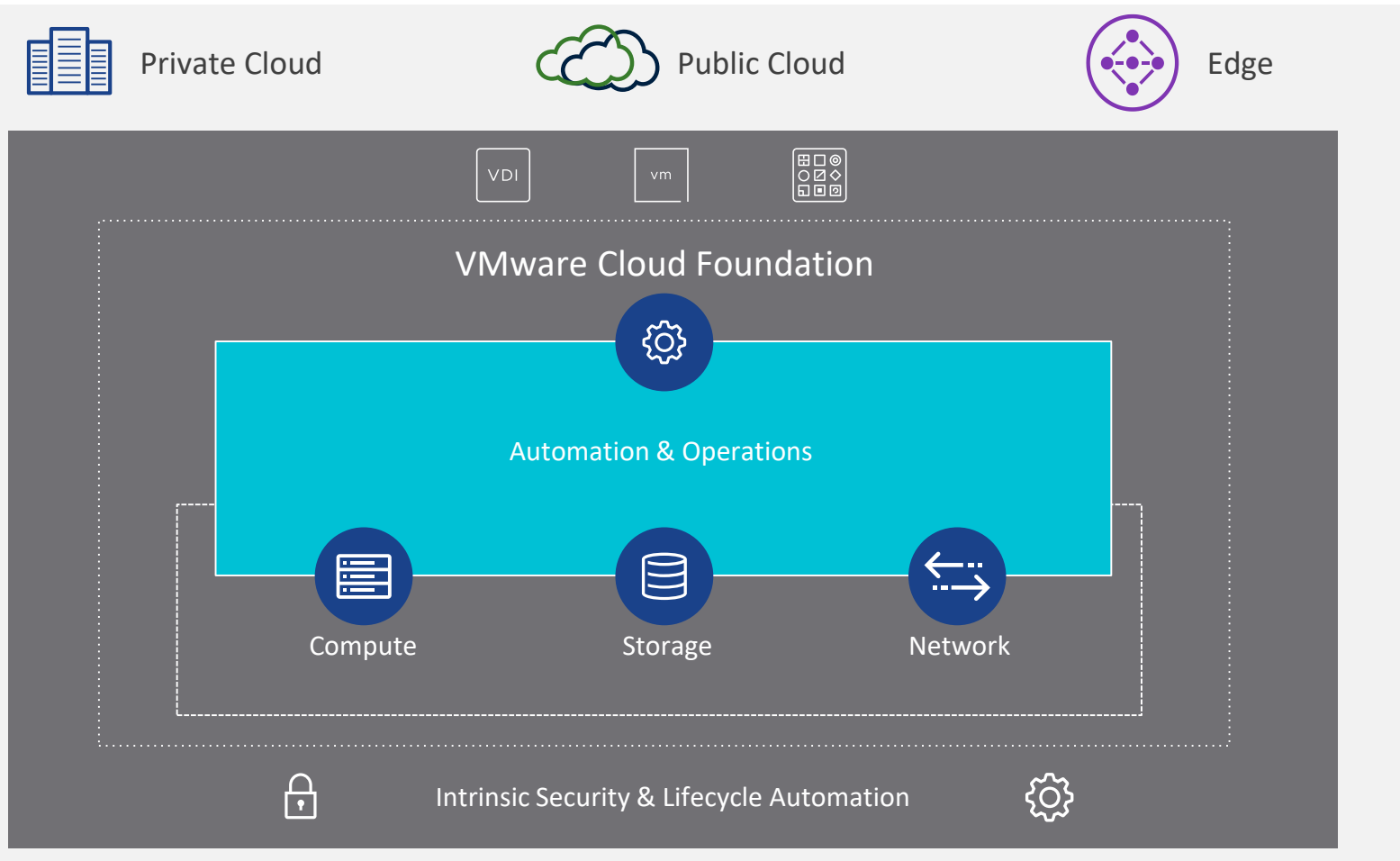
- Built on **standardized** & **validated** architectures

- Integrated software-defined cloud platform

- Simplest to deploy and operate

- Built-in intrinsic security

- Supports traditional and new workloads

- Simplest path to hybrid cloud

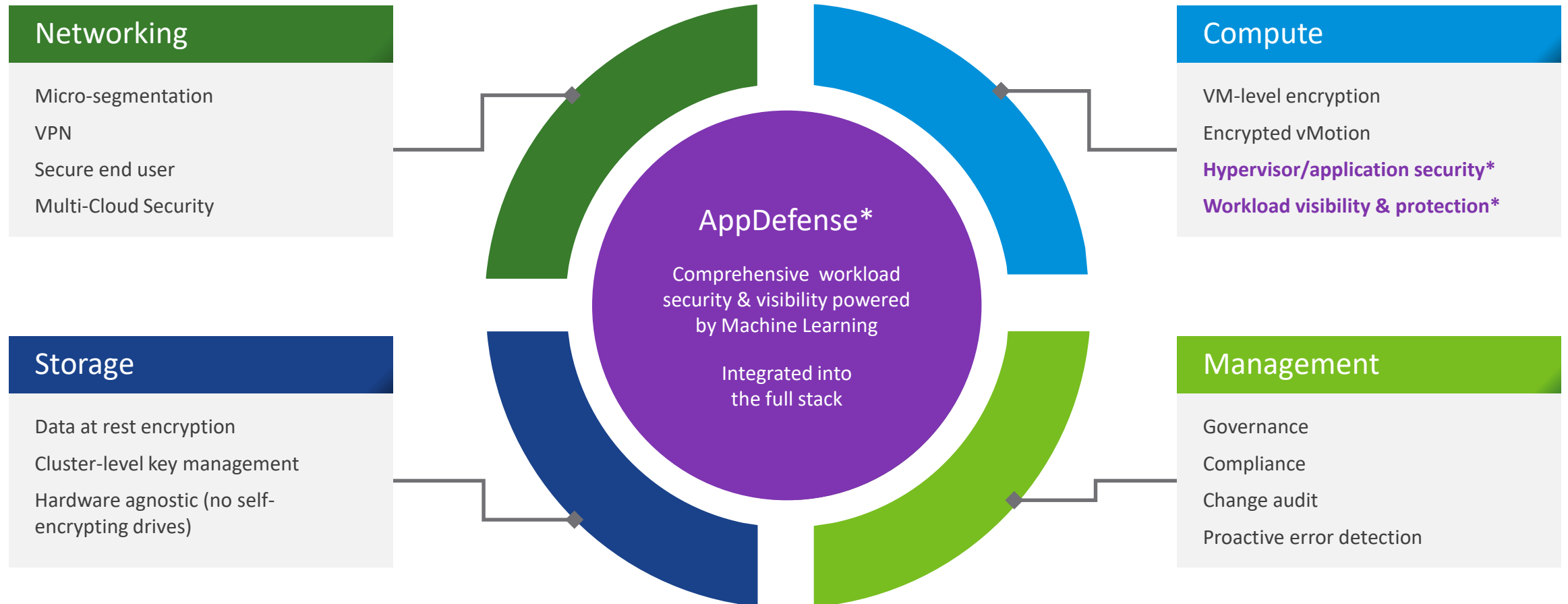**vm**ware®

Delivering Best in Class Software Defined Technologies
Based on enterprise-ready, market leading capabilities

VMware Cloud Foundation

Compute	Storage	Networking	Cloud Management	Lifecycle Automation
Industry leading server virtualization technology for you to run, manage, connect, and secure your applications	HCI based shared storage that delivers consistent performance and simple operations from cloud to edge	Create entire networks in software, embedded in the hypervisor layer, abstracted from the underlying physical hardware	Automate application provisioning through a unified self service catalog and hands off intelligent operations	Easily deploy and manage a complete private cloud through built in lifecycle automation for all day 0 to day 2 operations

← Intrinsic Security →

Security Is More Than Just Firewalls

Intrinsic security built into every layer of the infrastructure

Networking

Micro-segmentation

VPN

Secure end user

Multi-Cloud Security

Compute

VM-level encryption

Encrypted vMotion

Hypervisor/application security*

Workload visibility & protection*

AppDefense*

Comprehensive workload security & visibility powered by Machine Learning

Integrated into the full stack

Storage

Data at rest encryption

Cluster-level key management

Hardware agnostic (no self-encrypting drives)

Management

Governance

Compliance

Change audit

Proactive error detection

* included in the VMware Cloud Foundation Platinum edition

Cloud Foundation Software Building Blocks…

Compute + Storage + Network + Management
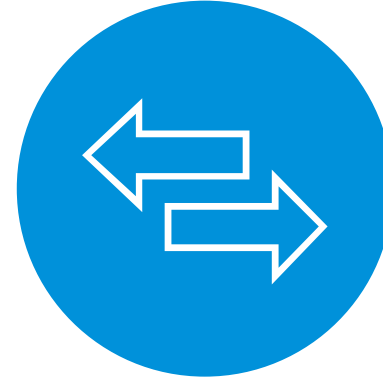
vSphere **vSAN** **NSX** **vRealize Suite**

Brought Together by the SDDC Manager Control Plane

Automated day 0 to day 2 operations of the entire cloud infrastructure

SDDC Manager

vSphere   vRealize

NSX   vSAN

Patching
and Upgrades

Policy Based
Provisioning

Configuration

Deployment

*Automated patching and upgrading not yet supported on vRealize Automation, Operations, and Log Insight

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VMware Cloud Foundation: Workload Domains

On-demand, policy managed infrastructure for workloads

External Interfaces
Can be specific to certain
Workload Domains (WLD)
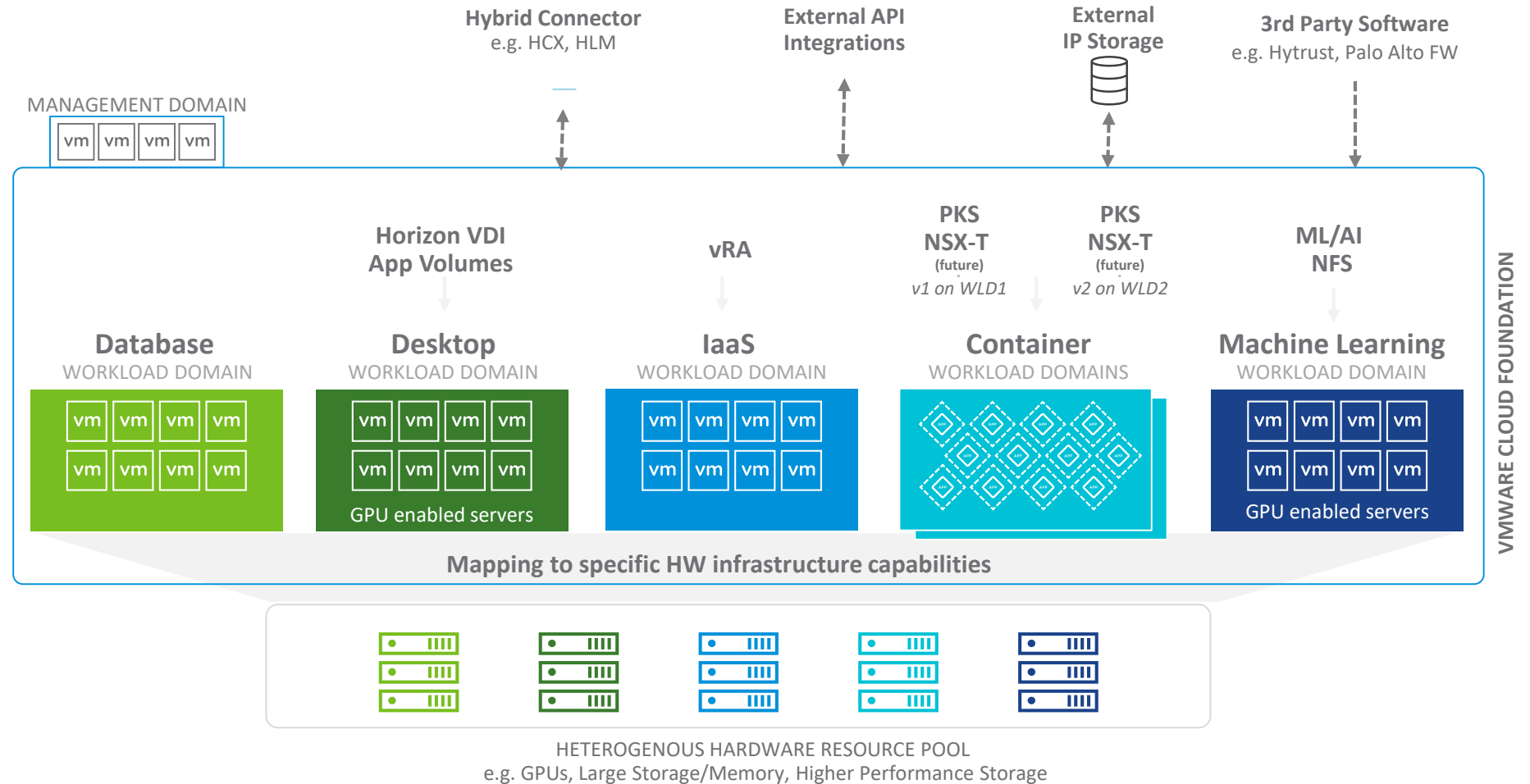
Software Flexibility
Products, Versions,
3rd party software

**Application Mapped
Infrastructure**
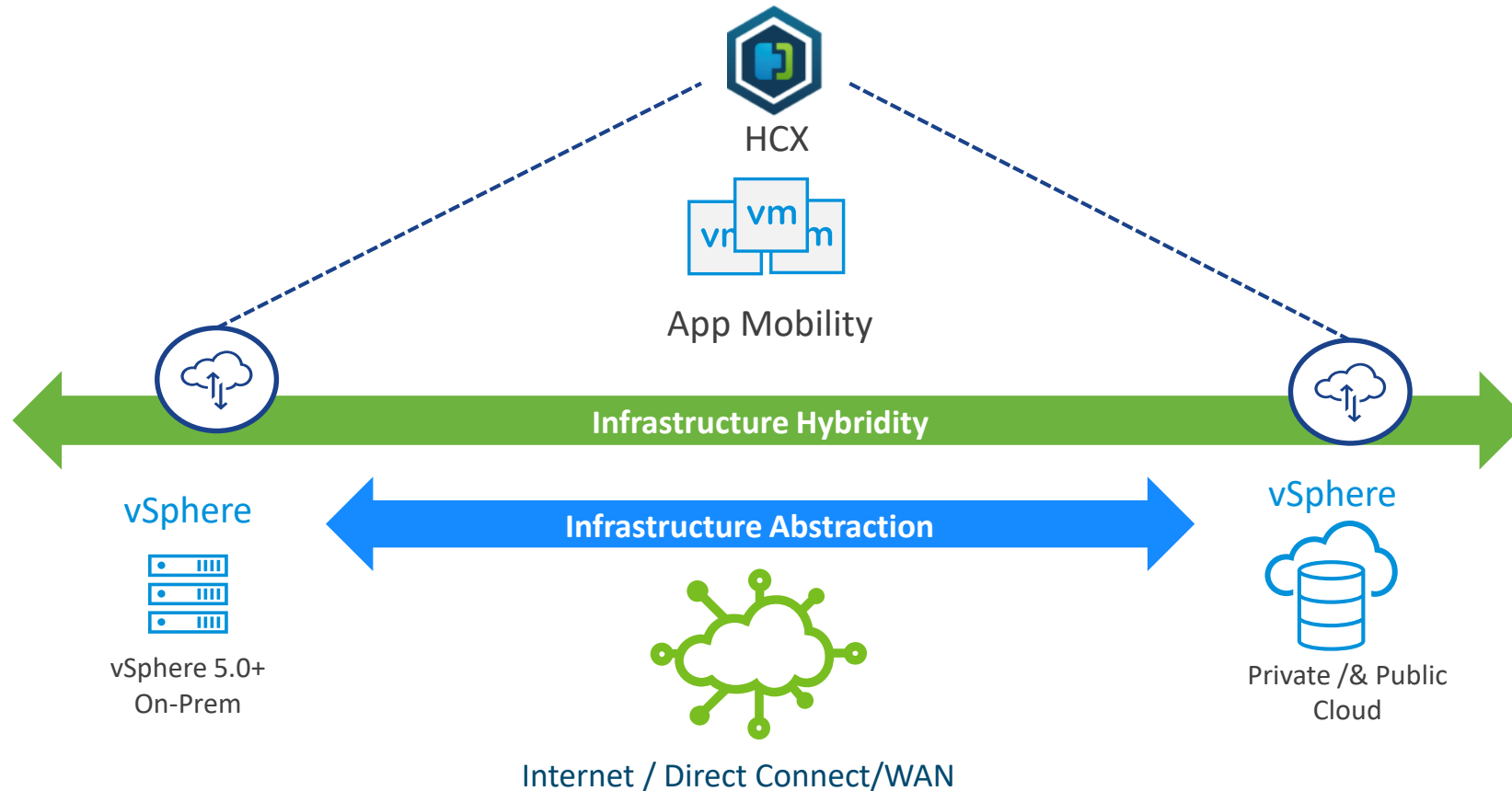Capacity, Performance,
Security/Compliance,
HW requirements

**Hardware
Choice**
Vendors, Configuration
Composability

Hybrid Connector
e.g. HCX, HLM

**External API
Integrations**

**External
IP Storage**

3rd Party Software
e.g. Hytrust, Palo Alto FW

MANAGEMENT DOMAIN

vm | vm | vm | vm

VMWARE CLOUD FOUNDATION

**Horizon VDI
App Volumes**

vRA

**PKS
NSX-T**
(future)
v1 on WLD1

**PKS
NSX-T**
(future)
v2 on WLD2

**ML/AI
NFS**

Database
WORKLOAD DOMAIN

vm | vm | vm | vm
vm | vm | vm | vm

Desktop
WORKLOAD DOMAIN

vm | vm | vm | vm
vm | vm | vm | vm

GPU enabled servers

IaaS
WORKLOAD DOMAIN

vm | vm | vm | vm
vm | vm | vm | vm

Container
WORKLOAD DOMAINS

Machine Learning
WORKLOAD DOMAIN

vm | vm | vm | vm
vm | vm | vm | vm

GPU enabled servers

Mapping to specific HW infrastructure capabilities

HETEROGENOUS HARDWARE RESOURCE POOL
e.g. GPUs, Large Storage/Memory, Higher Performance Storage

Future–Proof Through Hybrid Cloud Extension*

For DC Evacuation, Hardware Refresh, DC Extension, and BC/DR

HCX

App Mobility

Infrastructure Hybridity

vSphere

vSphere 5.0+
On-Prem

Infrastructure Abstraction

Internet / Direct Connect/WAN

vSphere

Private /& Public
Cloud

App Mobility between vSphere versions across on-premises and cloud

Best-In-Class migration, **VMware Cloud Motion** with vSphere Replication, with zero downtime for large scale migration

Multisite, Bi-Directional, SD-WAN optimized, Secure, Traffic Engineered, **Network Extension** with Auto VPN set up

* included in the VMware Cloud Foundation Enterprise edition

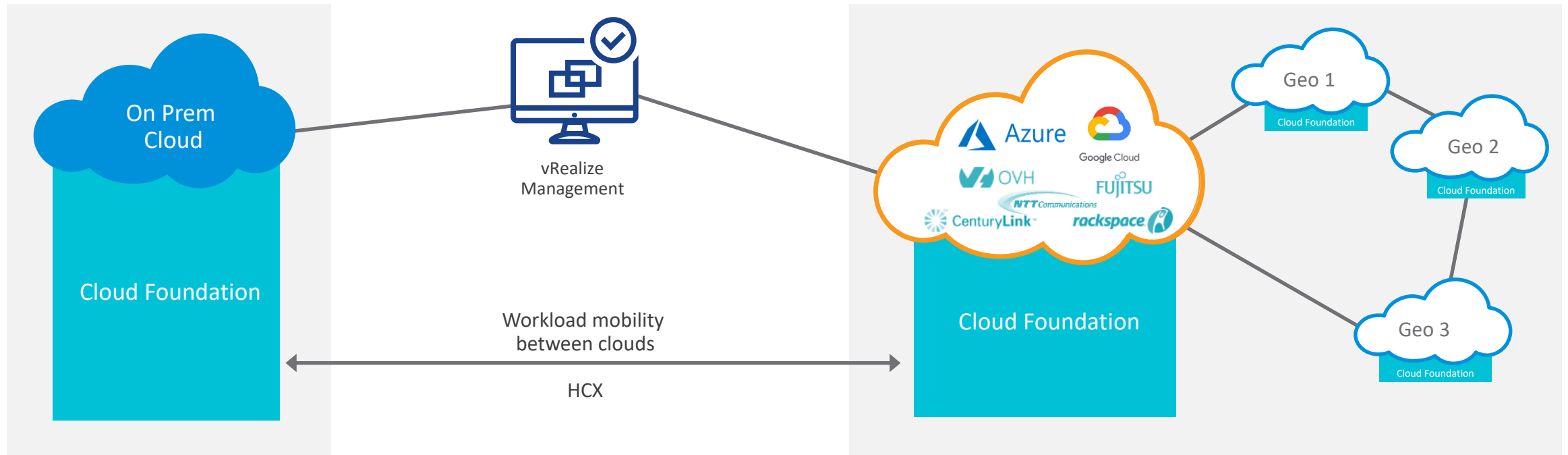# Building a Hybrid Cloud with VMware Cloud on AWS

Public cloud service sold, delivered and supported by VMware
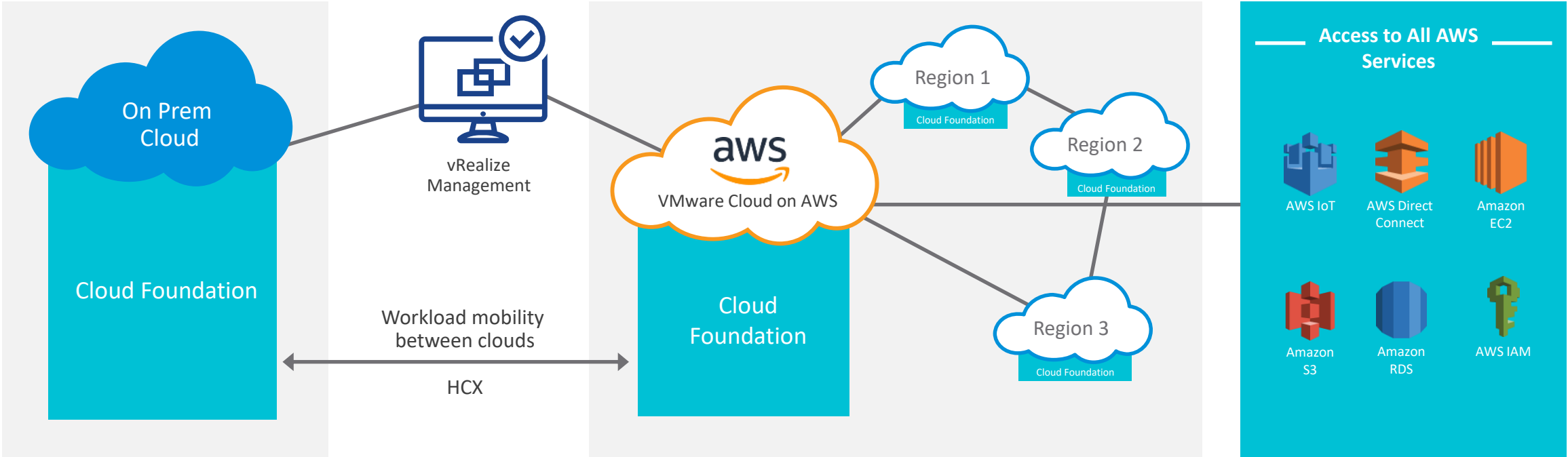
Operational Consistency Across the Hybrid Cloud

Building a Hybrid Cloud with VMware Cloud Partners

Public cloud services offered by our strategic partners

Operational Consistency Across the Hybrid Cloud

# VMware Cloud Foundation Deployment Types

Start small and Grow

VCF Consolidated Architecture

- Compute workloads co-reside in management workload domain

- Shared vSphere cluster with resource pools

VCF Standard Architecture

- Management workload domain dedicated to infrastructure

- Compute workloads run on separate vSphere clusters

Consolidated Design

Standard Design

Today

Tomorrow

Small

Large

4+ nodes

7+ nodes
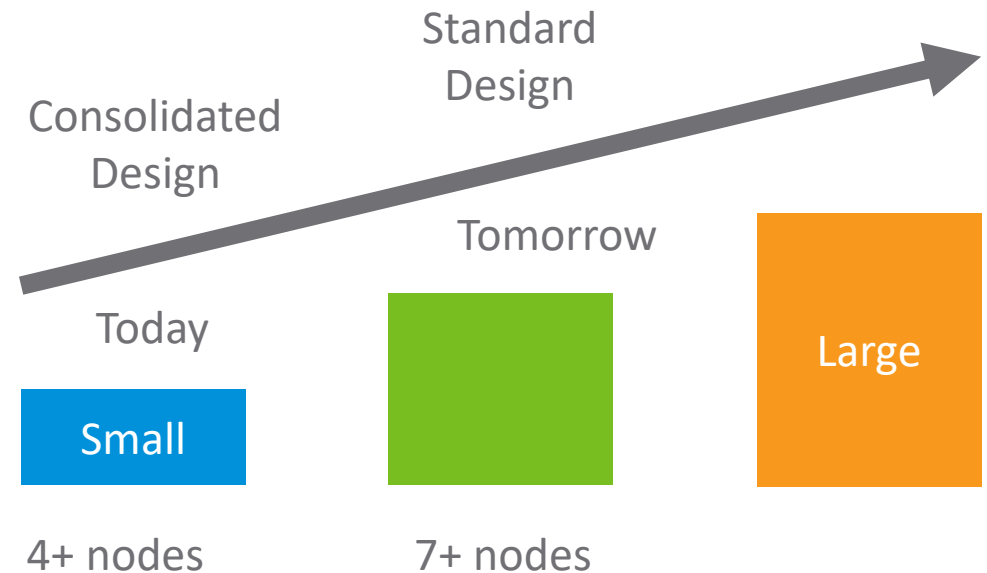
Start with what you need, easily scale non disruptively

Thank You