

VMware Multi-Cloud HCI, comment réussir votre stratégie Multi-Cloud.

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Who am I



VMware
vSAN™

Solution Architect - Datacenter

VMware Certified Implementation Expert - DataCenter Virtualization

VMware Certified Advanced Professional - Network Virtualization

VMware Certified HCI Master Specialist, vSAN Specialist

VMware Certified Tanzu Specialist



VMware Cloud
Foundation™



<https://www.linkedin.com/in/ydesseau/>

Agenda

Introduction to Multi-Cloud

VMware's Multi-Cloud Solutions

VMware Cloud Foundation

HCI Overview

Intrinsic Security

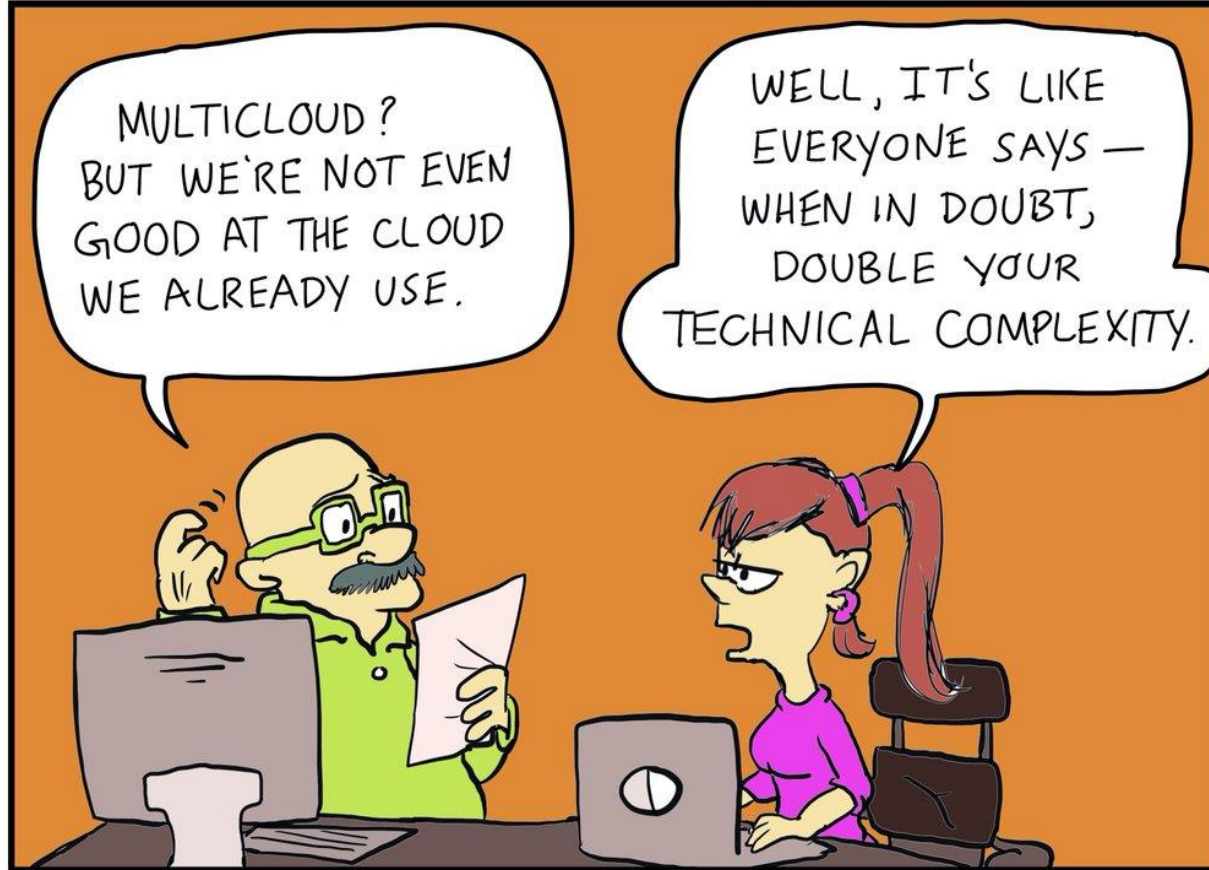
Application Modernization

Multi-Cloud Mobility

Introduction to the Multi-Cloud

Multi-Cloud – But why?!

FaaS and Furious by Forrest Brazeal A CLOUD GURU

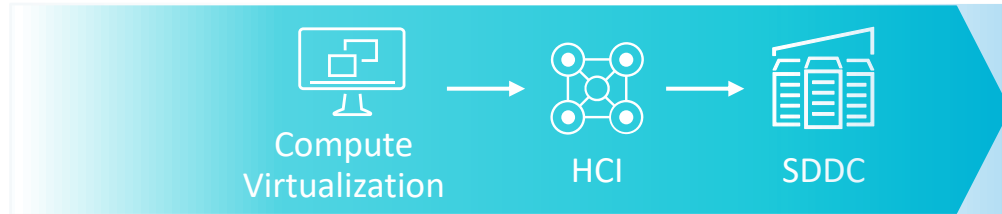


Multicloud: a problem in search of a problem.

Infrastructure Strategy to Meet Modern Application Needs

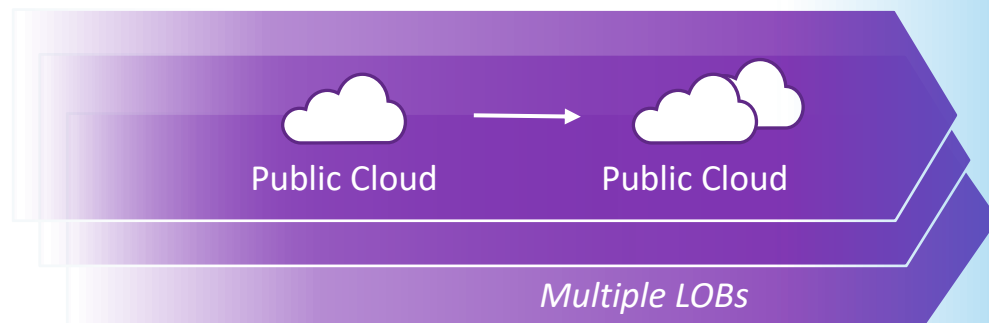
Two distinct cloud journeys coming together as a single enterprise strategy

Data Center Evolution



I&O STRATEGY LED

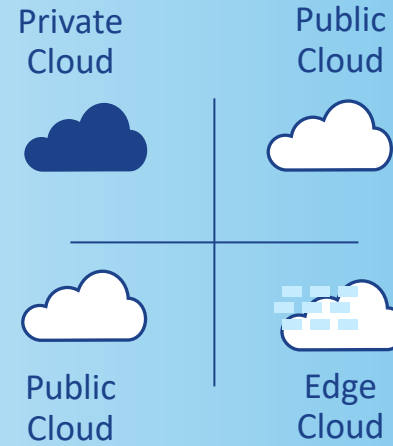
Public Cloud Evolution



LOB STRATEGY LED

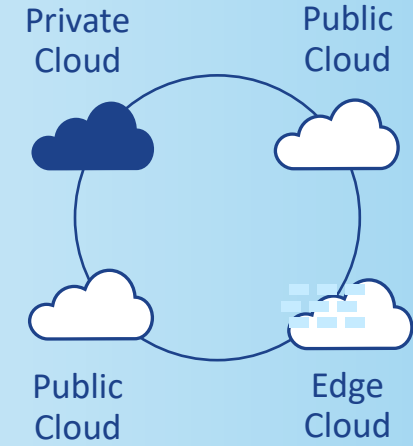
Multi-Cloud Evolution

Current State



Minimal Leverage

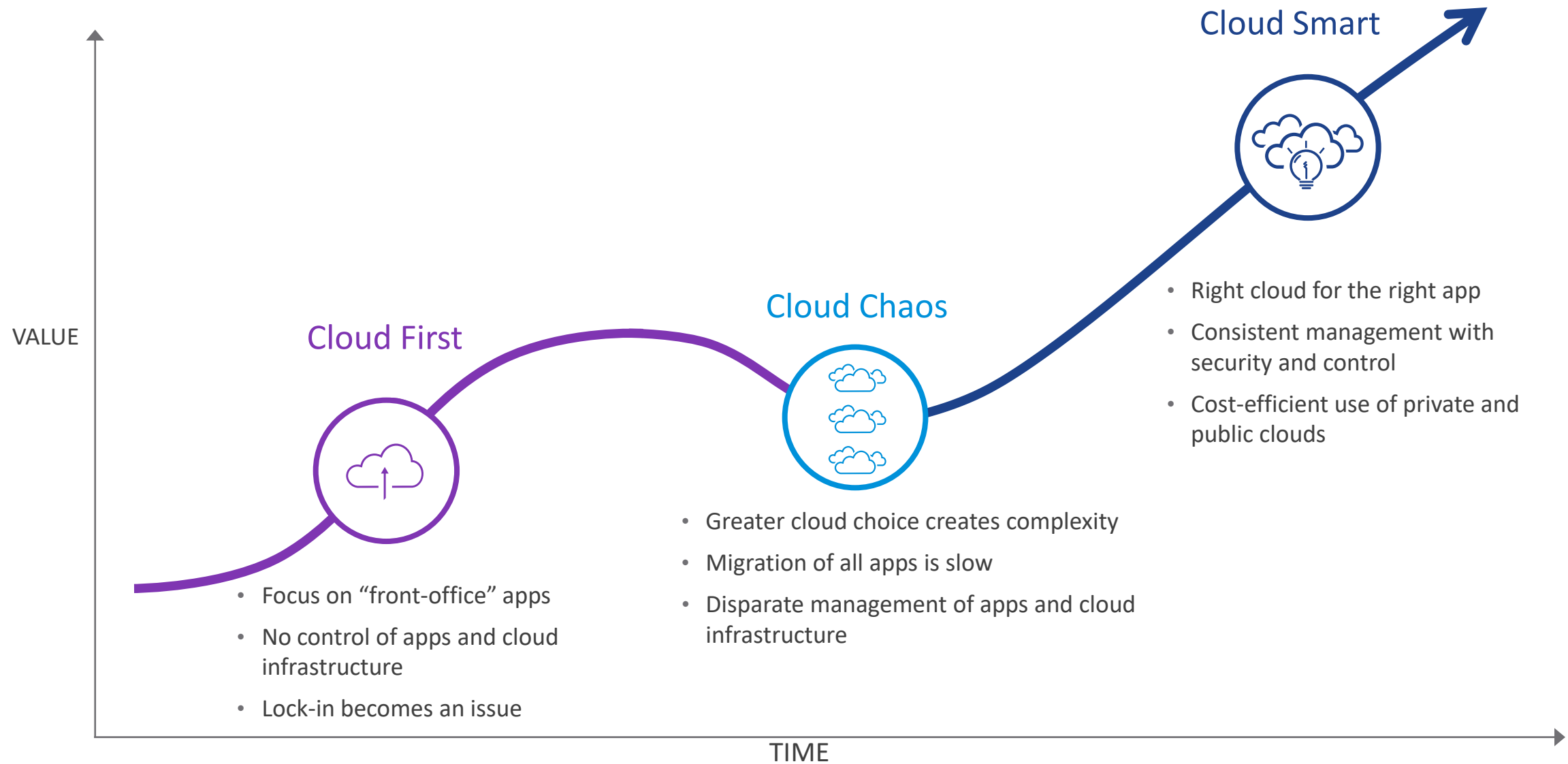
Desired State



Maximum Leverage

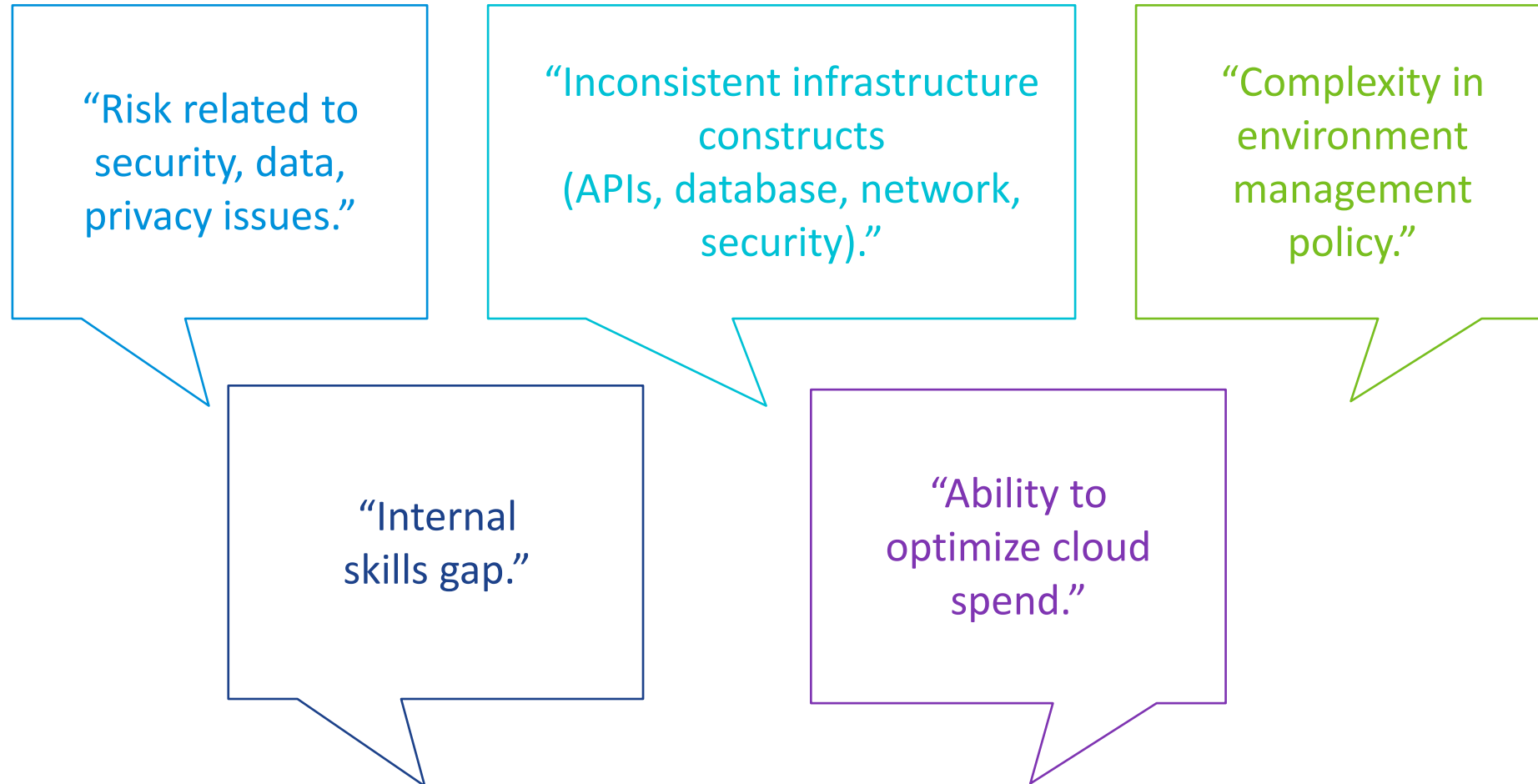
ENTERPRISE STRATEGY LED

A Typical Customer Journey to the Cloud

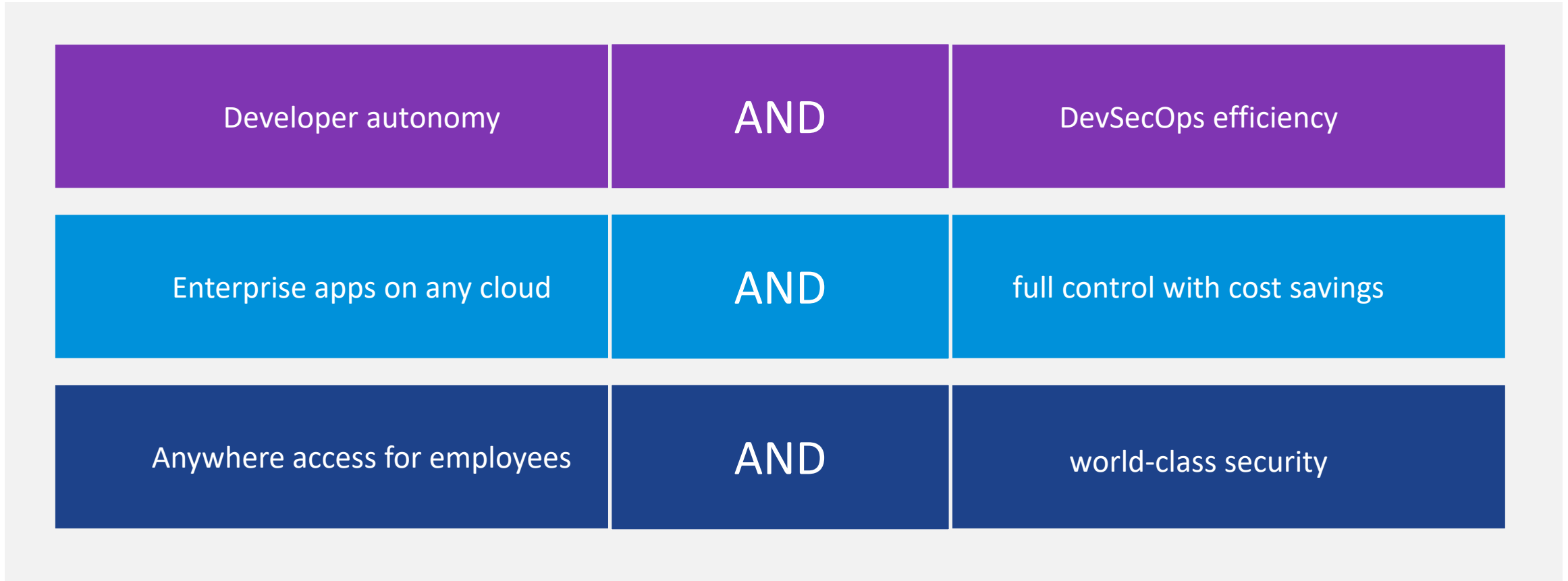


But Cloud Transformation Hasn't Been Easy ...

“What challenges have you encountered regarding utilization of multiple Public Clouds?”



Our Approach at VMware: Freedom AND Control in Your Multi-Cloud Business

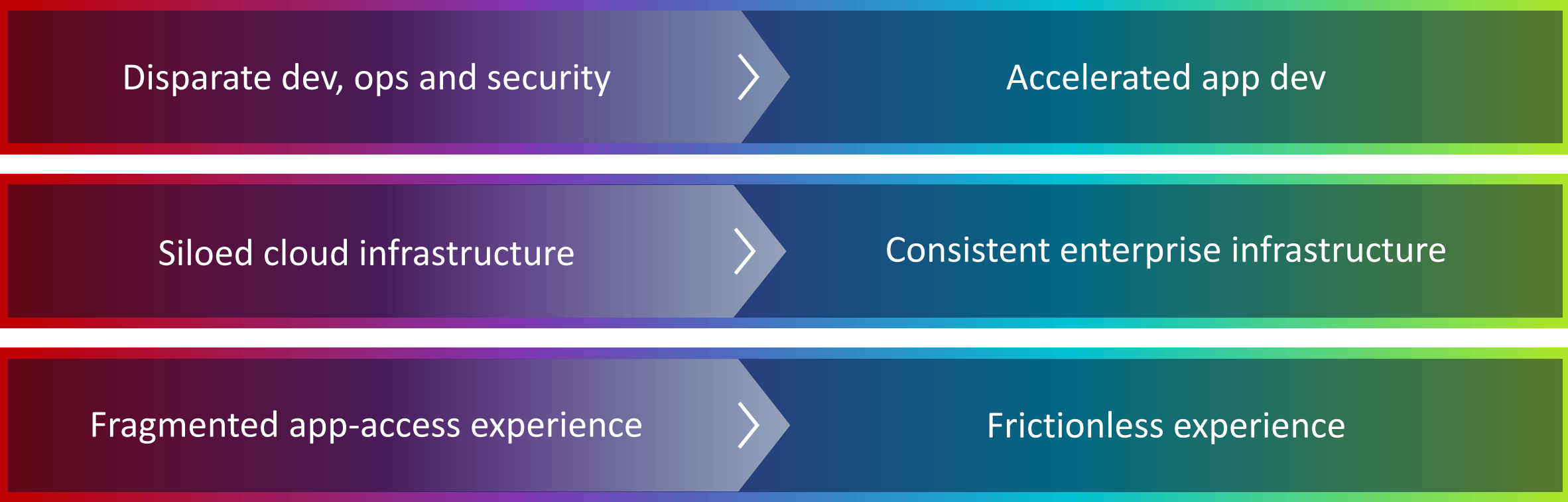




CLOUD CHAOS



CLOUD SMART



Cloud Smart: The Path to Accelerate Digital Innovation

VMware's Multi-Cloud Solutions

VMware Cross-Cloud™ Services

A family of services to build, run and secure applications across any cloud

DELIVER THE

Trusted
Foundation

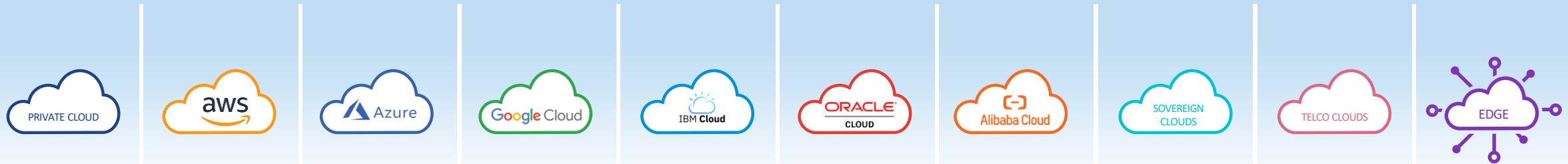
TO

Accelerate
Innovation

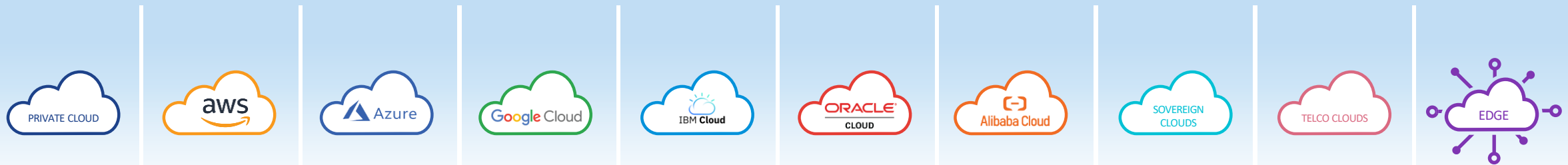


Our Mission

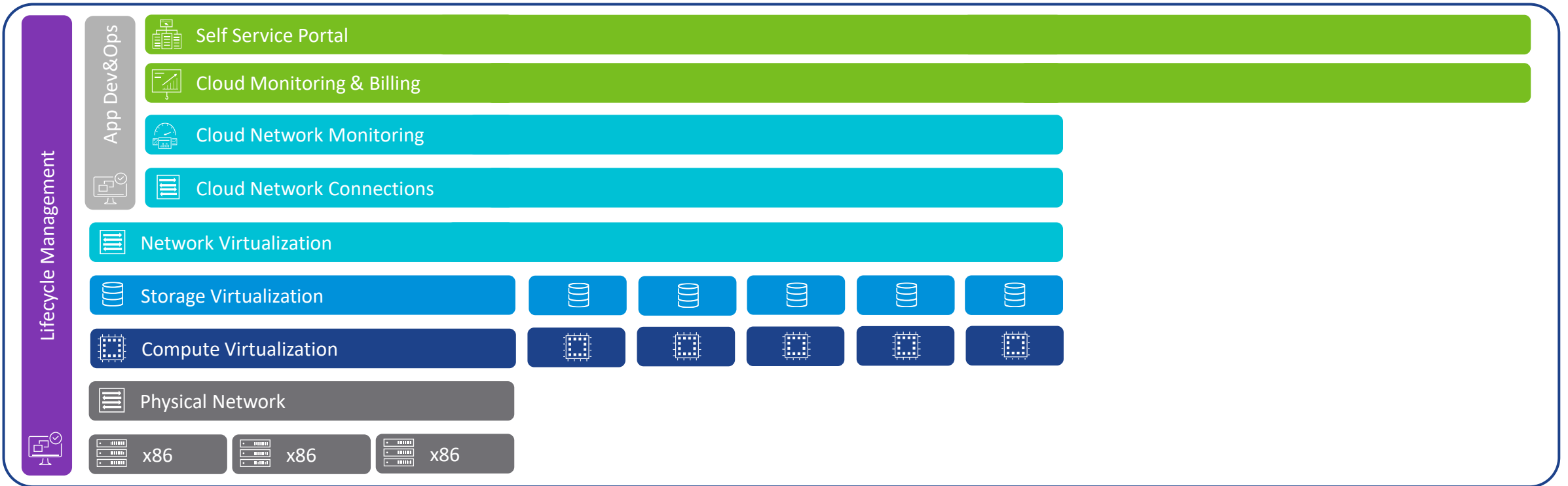
VMware Cross-Cloud™ Services



VMware Cross-Cloud™ Services



Freedom **AND** Control in Your Multi-Cloud Business



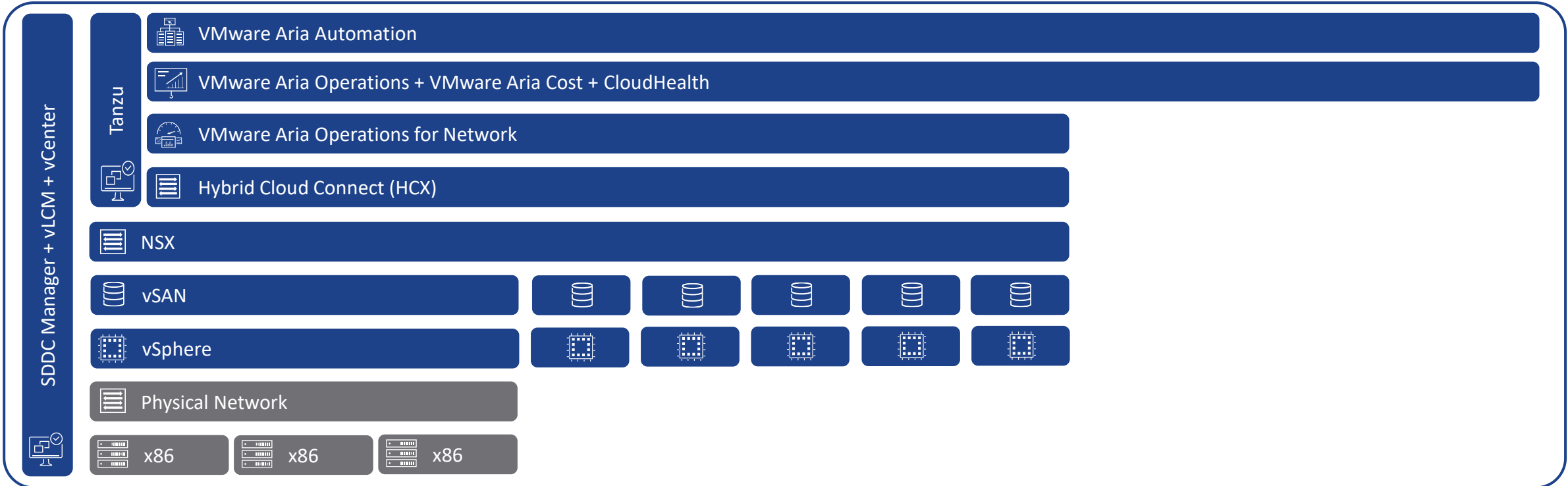
Private Cloud
your Datacenter



Public Cloud
VMware Stack



Public Cloud
native



Private Cloud
your Datacenter

Public Cloud
VMware Stack

Public Cloud
native



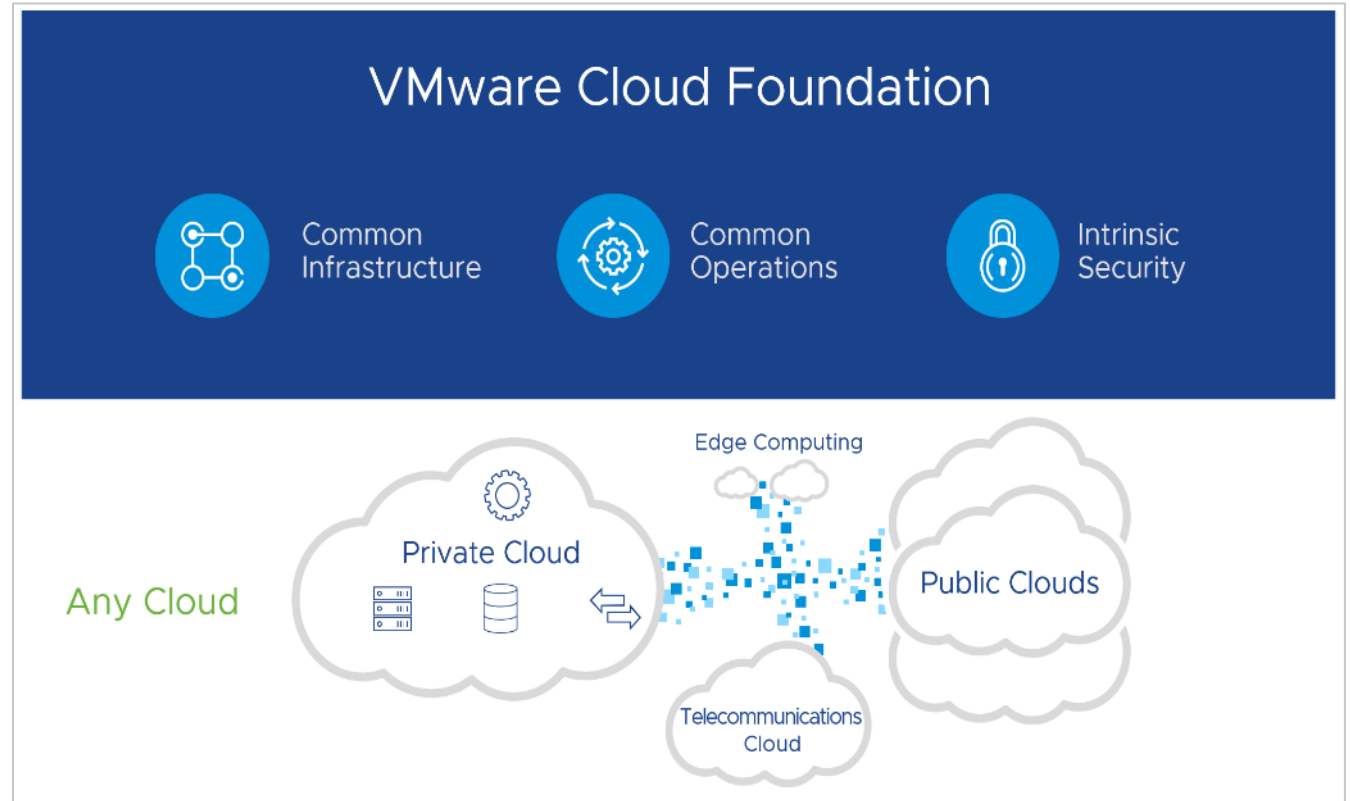
VMware Cloud Foundation

VMware has a Unique Advantage to Modernizing the Data Center

VMware's full stack is the complete IT infrastructure for your applications and IT services



VMware is the **only** one-stop-shop to run anything, anywhere and build a "business ready" futureproof architecture.



VMware Cloud Foundation

Hybrid cloud platform for modernizing data centers and deploying modern applications

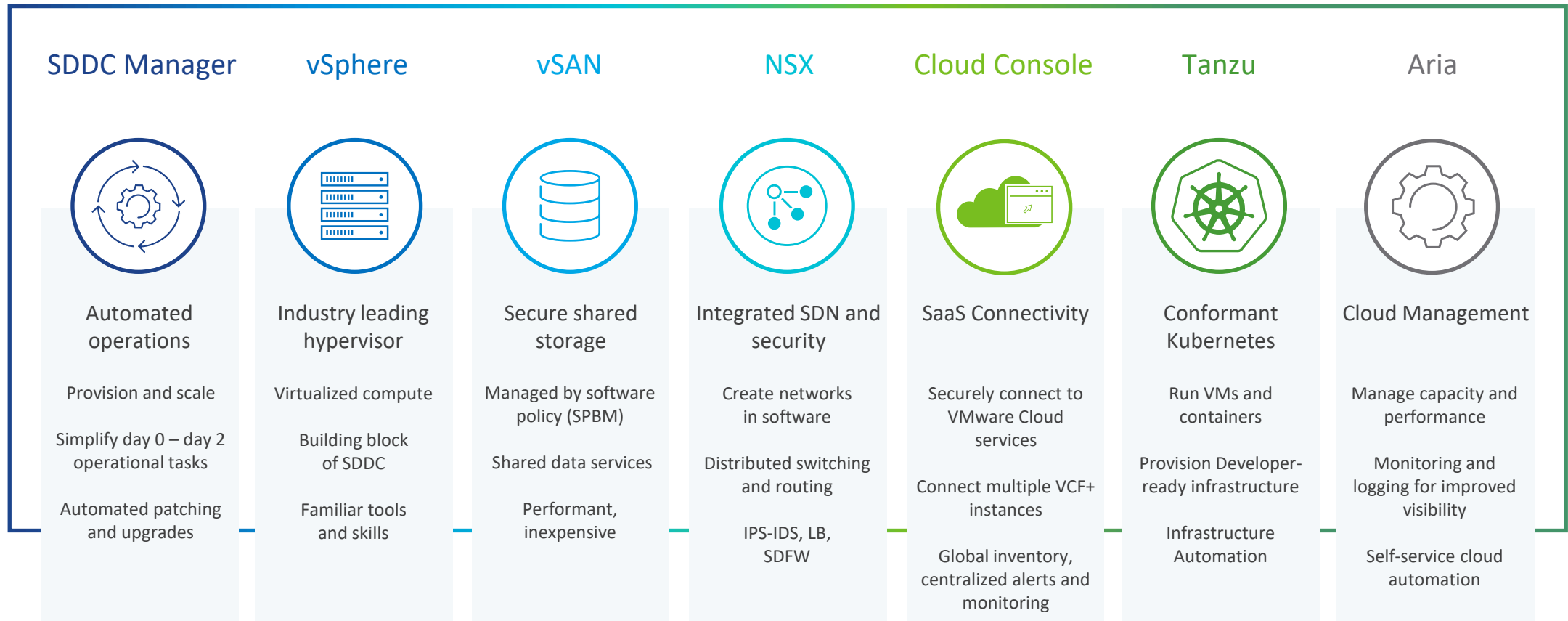


Full stack HCI platform that unifies containers, Kubernetes, and virtual machines

Automation of advanced compute, storage, and networking resources

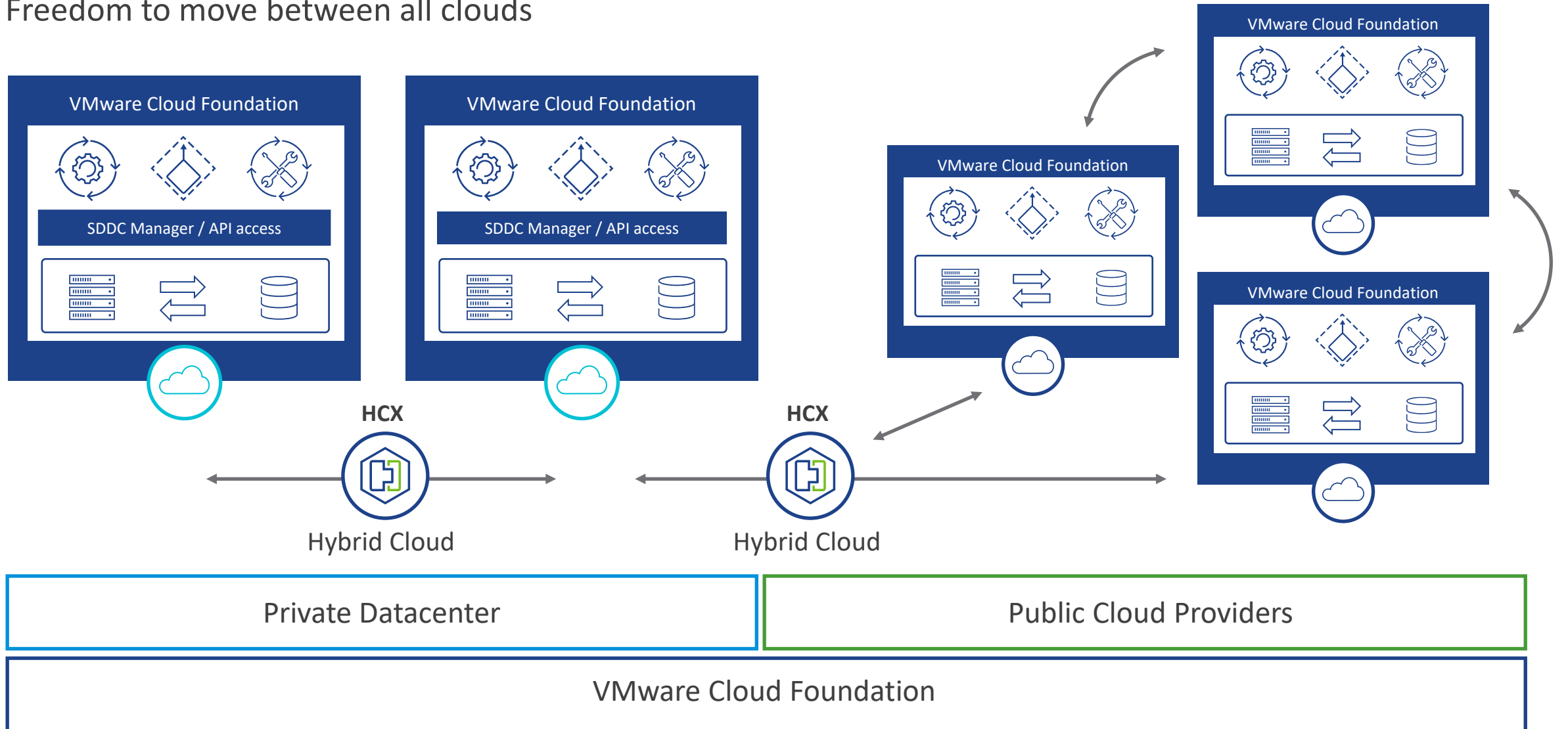
Consistent infrastructure and operations that results in a Cloud Operating Model

VMware Cloud Foundation Components



True Hybrid Cloud

Freedom to move between all clouds








VMware HCI Overview

The Evolution of Hardware and Demands for Businesses









Comparing the changes in technology over a 10-year period




2012


 Hard drives	 1-4 vCPU
 Flash (SATA/SAS)	
 4-10 CPU cores	
 1Gb/10Gb Networking	
<hr/>	<hr/>
Hardware	Workloads

2022

 TLC Flash (NVMe)	 4+ vCPU	
 QLC Flash (NVMe)	 16+ vCPU	
 64+ CPU cores	 Data Svc	
 25Gb/100Gb Networking	 Security	
<hr/>	<hr/>	<hr/>
Hardware	Data Svcs	Workloads



On Premises Environments



On Premises Environments



Public Cloud Partners



VMware Cloud Provider Partners

HCI Addresses Top Needs of Modern IT Organizations

Leading benefits identified by vSAN customers



High Performance

Access data at full speed and low latency



Hybrid Cloud

Ability to extend vSAN between on-premises and public cloud



High Scalability

Easy to add services for more storage



Lower Cost

No networked storage appliances



Reliable Security

Native encryption



Unified Management

No storage silos versus server silo demarcation problem

HCI Powered by VMware vSAN



Runs on any standard x86 server



Pools SSDs/HDDs into a shared datastore



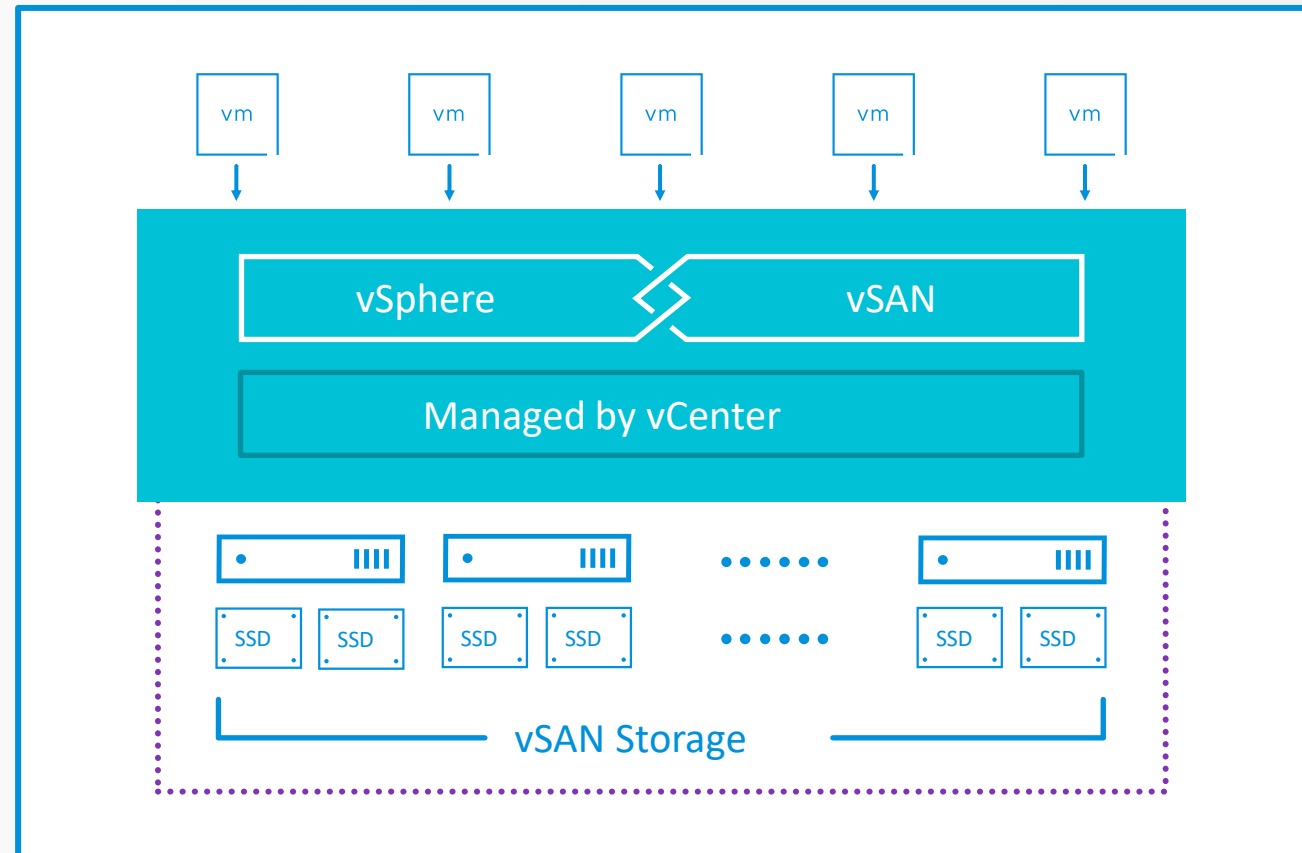
Delivers enterprise-grade security, scale and performance



Managed through per-VM storage policies

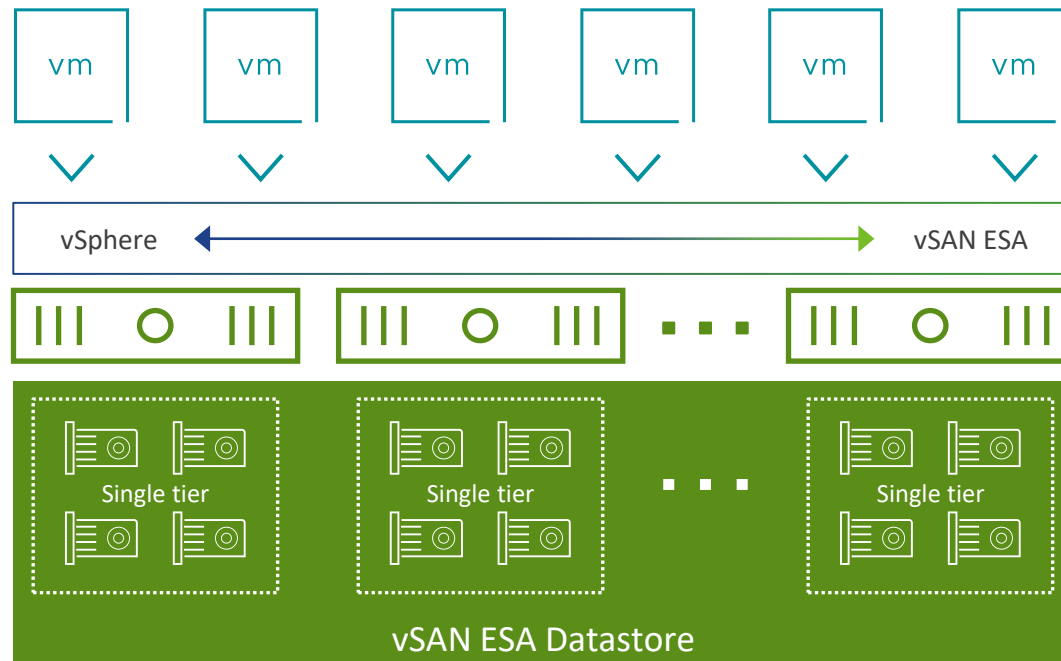


Deeply integrated with the VMware stack



Optional Next Generation Architecture built into vSAN

vSAN Express Storage Architecture™ (ESA) in vSAN 8



Next generation storage architecture for the workloads of today and tomorrow

Optional, **alternative architecture** to the vSAN original storage architecture

Available when running on qualified hardware in ESA **approved vSAN ReadyNodes**

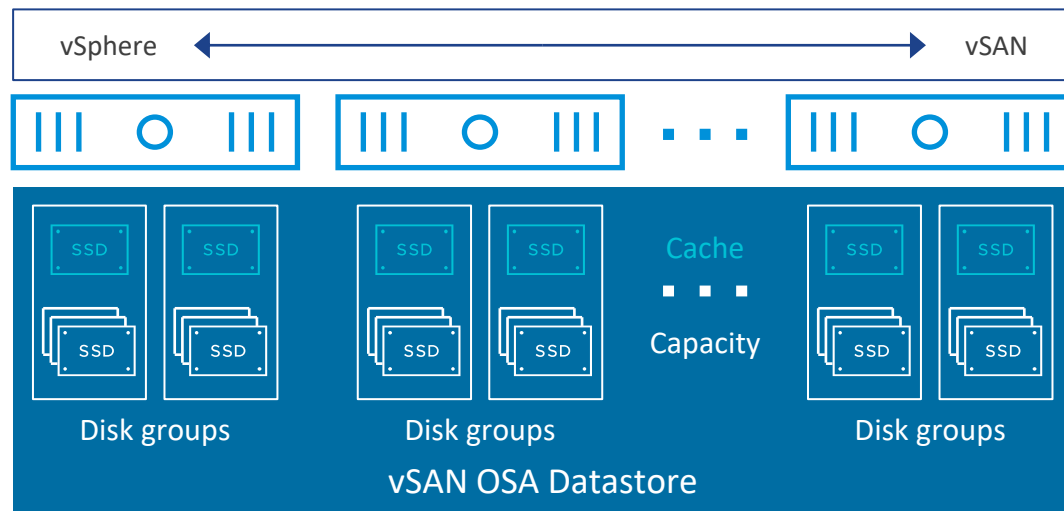
Built into the software you know

What is vSAN Express Storage Architecture (ESA)

A high-level overview of the two storage architectures in vSAN 8

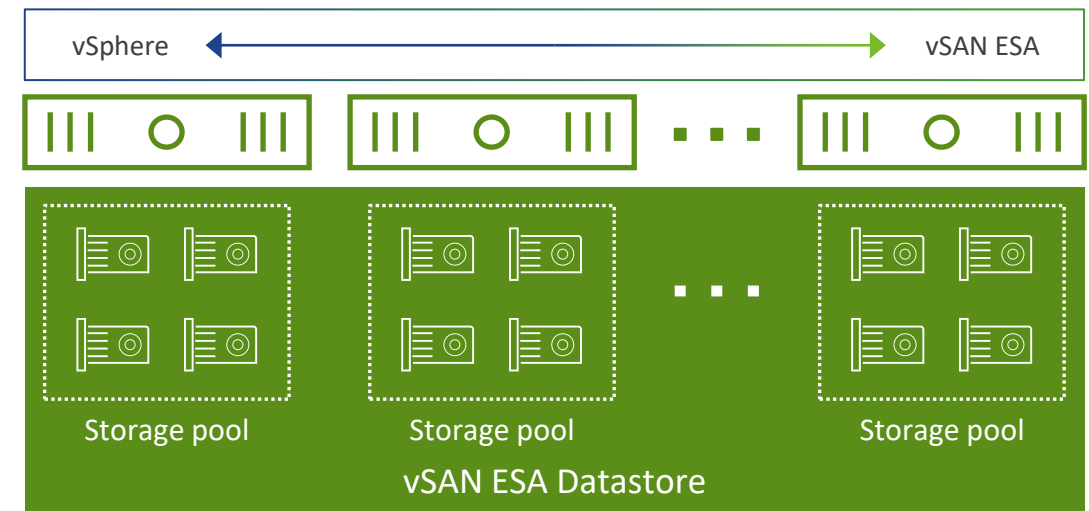
New in
vSAN 8

vSAN Original Storage Architecture



- **Dedicated cache** and capacity devices
- **Accommodates older**, wide ranging storage devices
- **Uses disk groups** to provide performance through caching and capacity

vSAN Express Storage Architecture



- **Flexible** architecture using single tier in vSAN 8
- **Optimized** for high performance NVMe based flash devices
- **No disk groups**. All devices contribute to performance and capacity

Intrinsic Security

Accelerate Business Value from Apps

VMware technology strategy



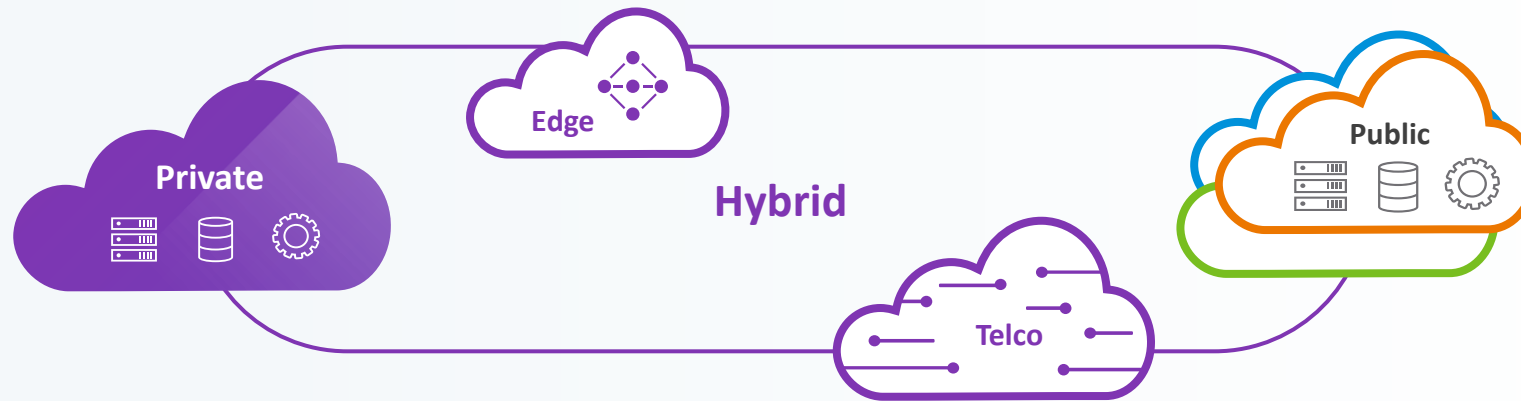
Secure Your Workforce,
Apps and Data
Anywhere



Deliver
Any App
Faster



Manage
Any Cloud
Consistently and
Securely



INTRINSIC SECURITY

NSX Networking Vision

SDN Leadership with comprehensive differentiation



NSX provides scalable network connectivity to all applications in a secure and available fashion



Best-in-class private cloud SDN



Full-stack platform (L2-L7); Includes FW, ATP, LB, WAF



Available via Managed Service Provider and Telco



Foundational for VMware Clouds
Consistent networking and security

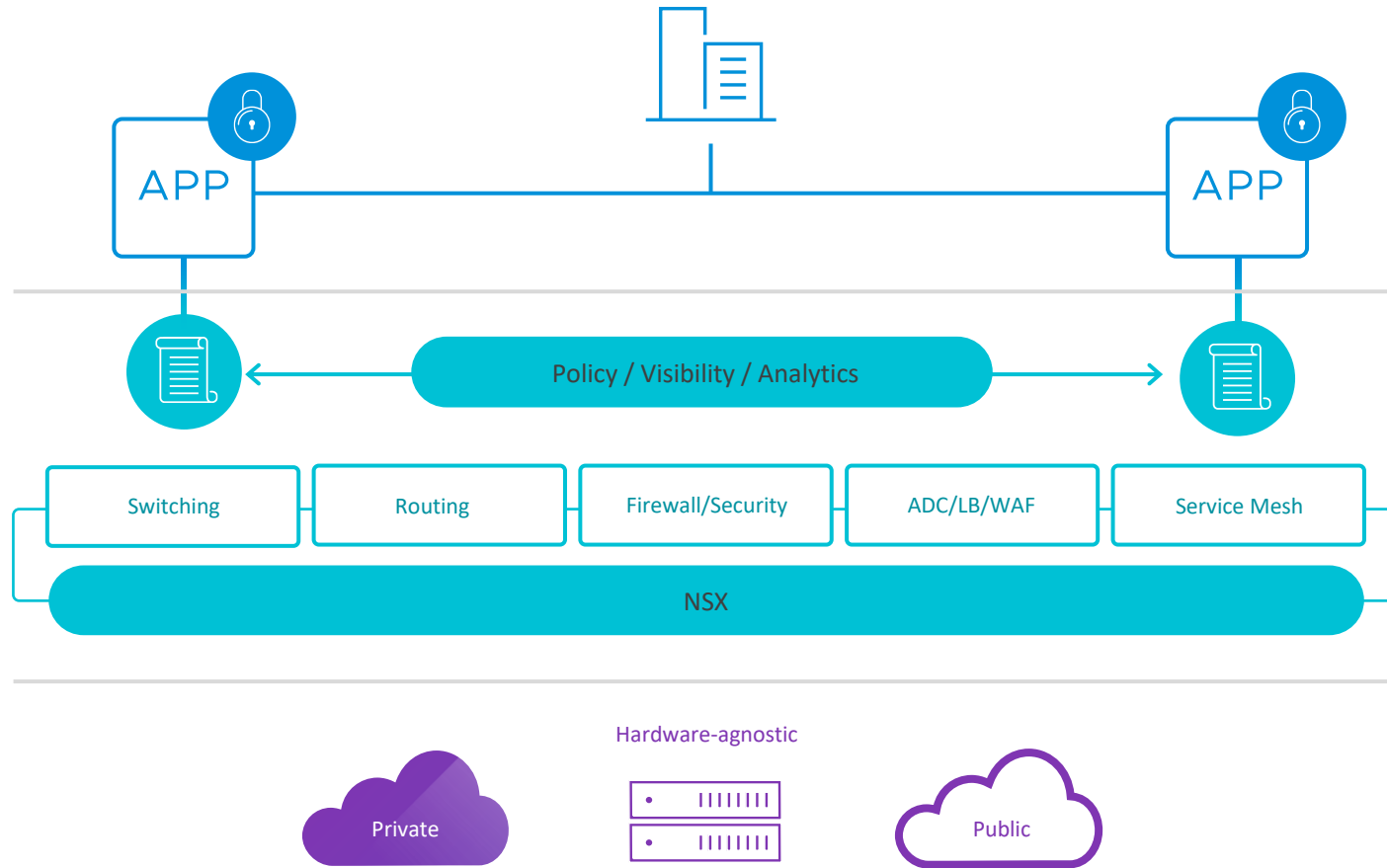


Strong Customer Momentum
Across all segments and verticals

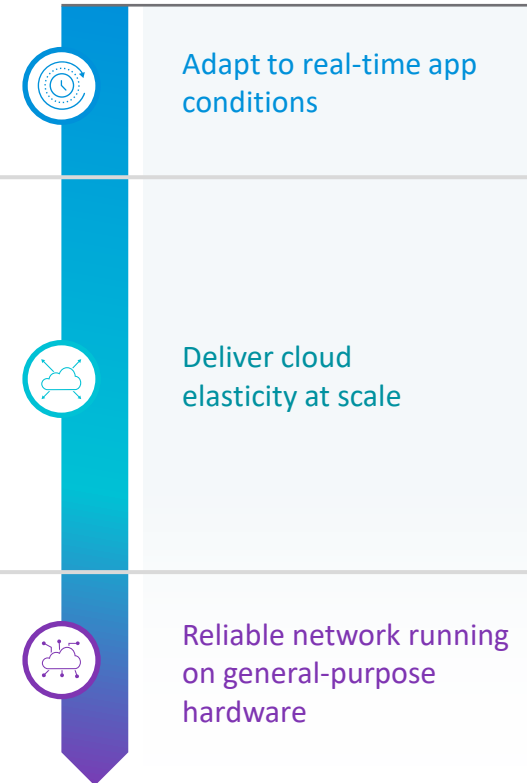
NSX is the anchor of VMware's cloud vision for private, public and hybrid cloud

VMware Brings the Public Cloud Experience to Your Private Cloud

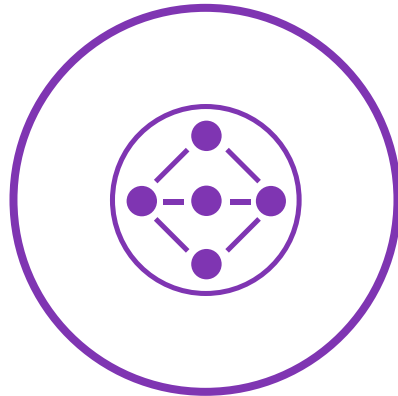
The network needs to be fundamentally re-imagined to be in service of the application



Modern Top-Down Approach

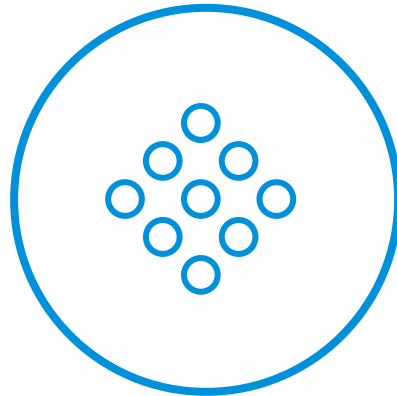


Key Differentiators



Overlay Networking

Decouple VMs from the physical network



Distributed Architecture

Eliminate hair pinning and reduce network congestion

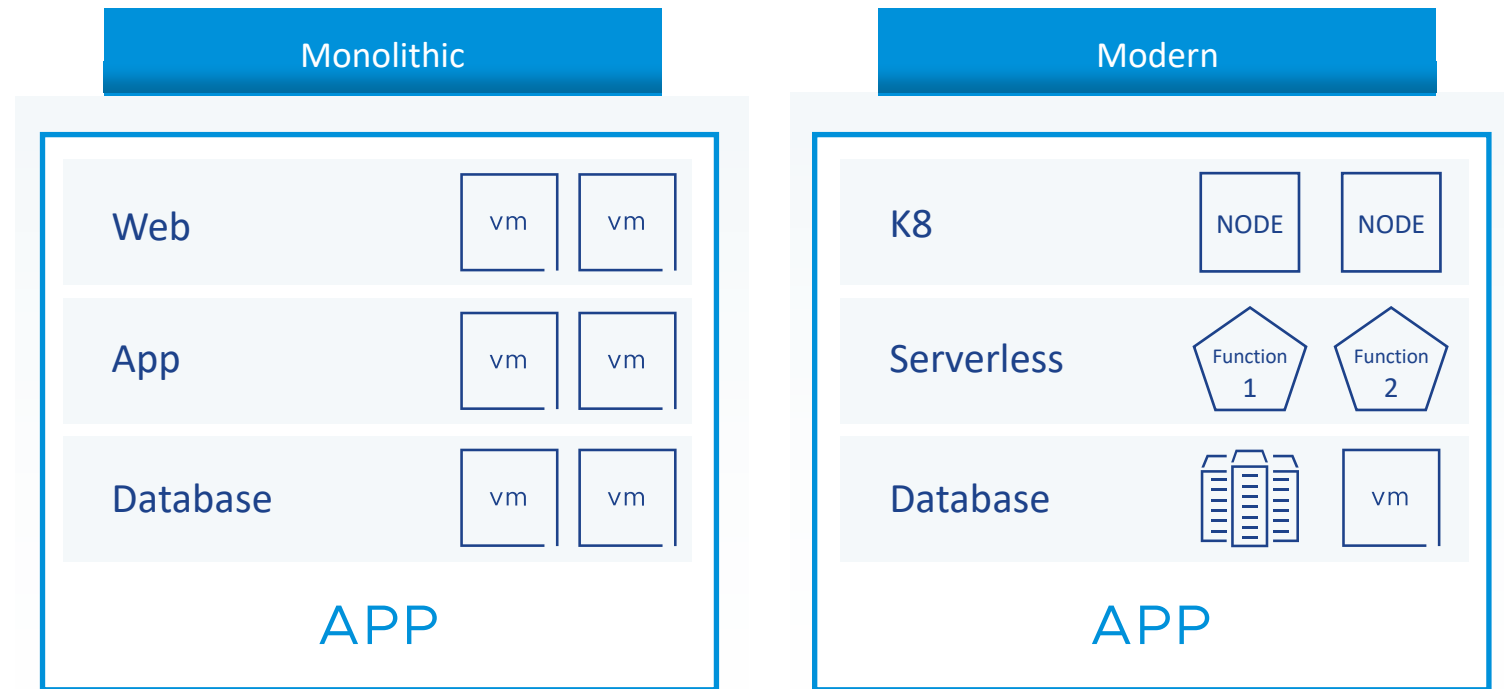


Agility and Simplified Operations

Accelerate app delivery and reduce operational costs

Enterprise are Evolving Rapidly to Accelerate Digital Transformation

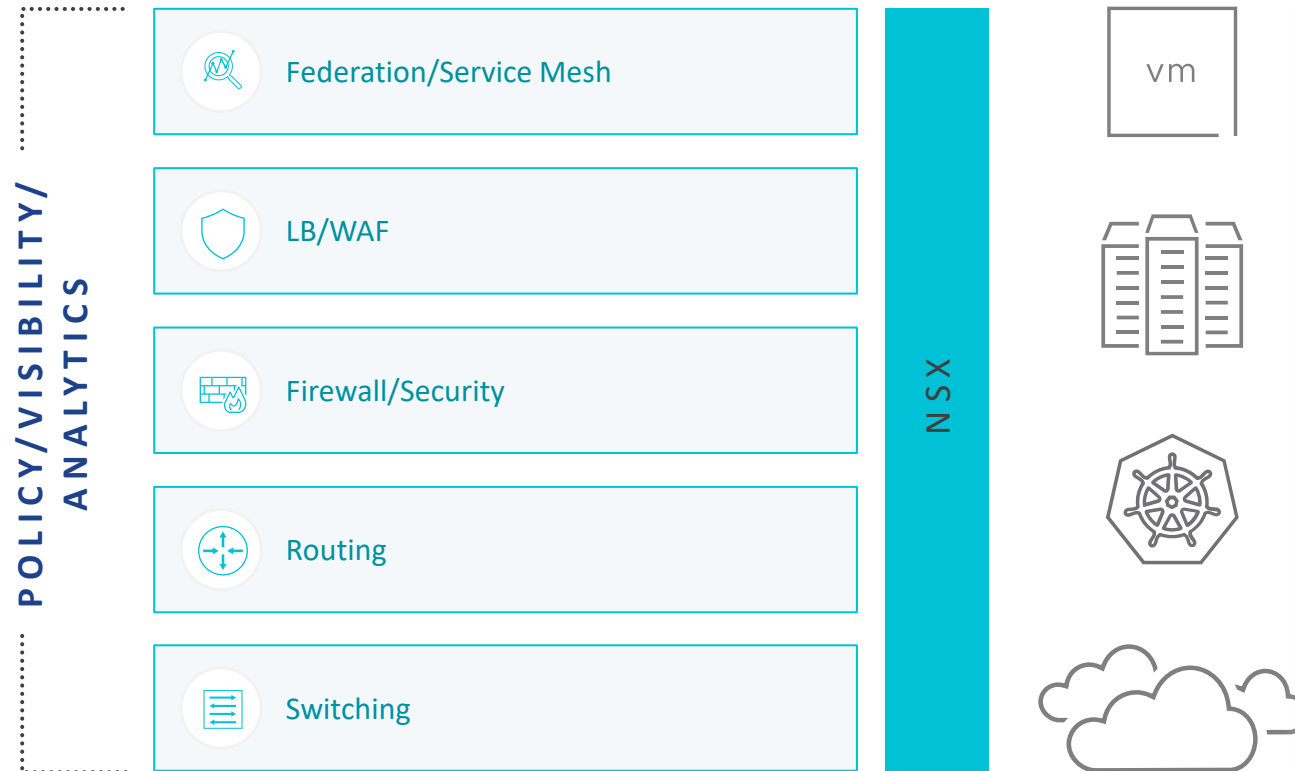
Network complexity and cost remain key blockers



- Disparate Network Stacks
- Siloed Apps & Operations
- Incomplete and Inconsistent Security
- Non-uniform Access and Identity

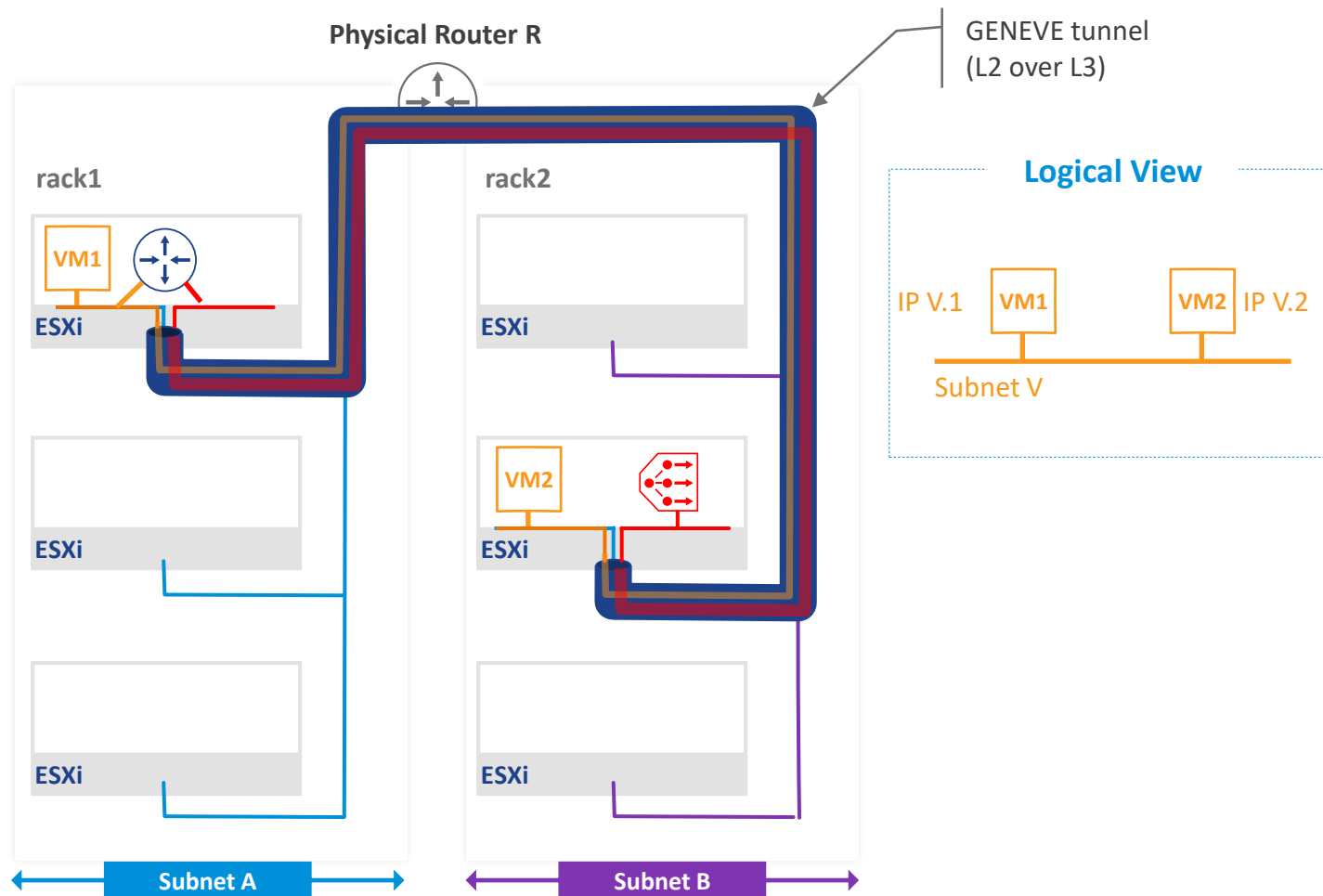
NSX: A Complete Network Stack Delivered In Software

Modern networking and security delivered in software across private and public cloud



Overlay Networking Decouples VMs from the Physical Network

With NSX you get physical network abstraction



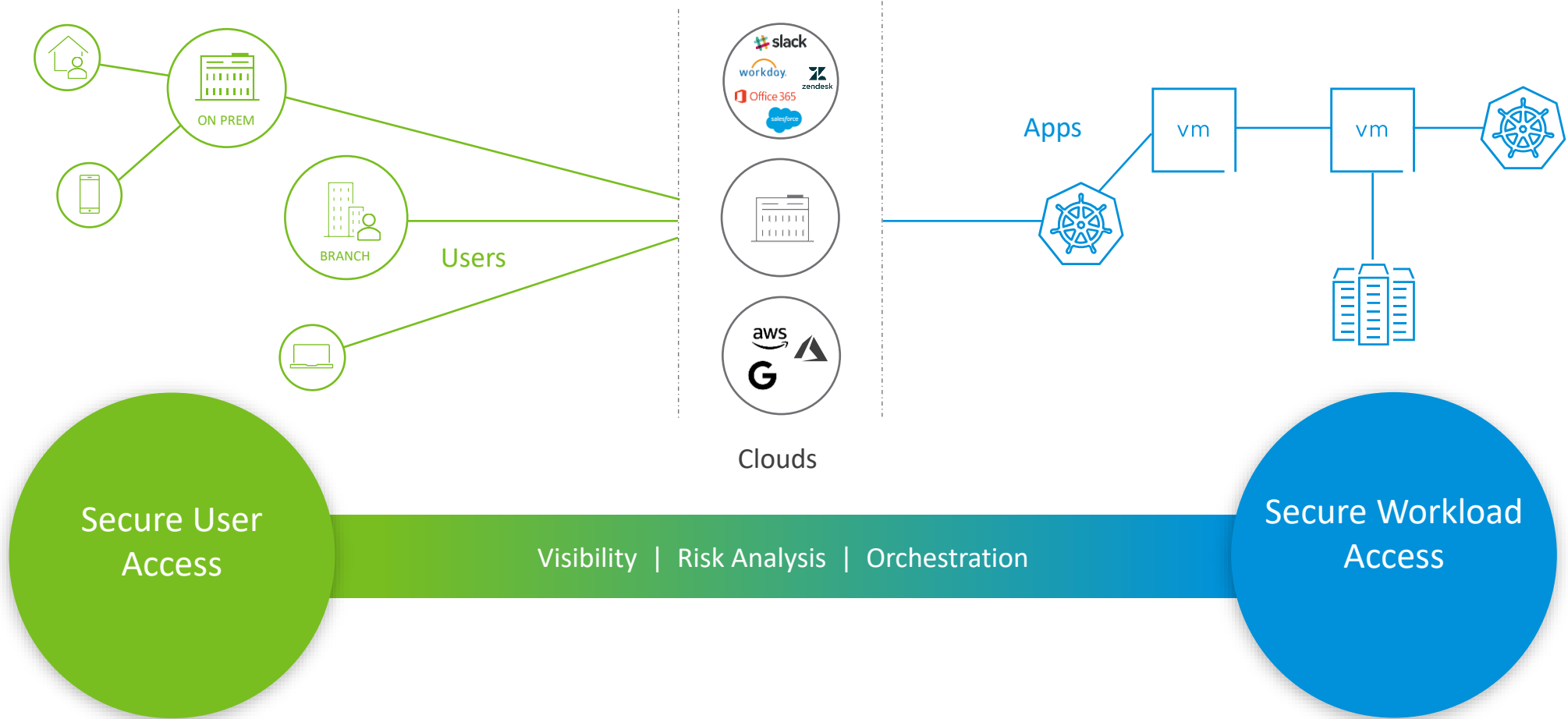
NSX manages GENEVE tunnels between ESXi hosts

VMs IP addresses are independent of the physical network

New virtual networks can be created without changes in the physical network

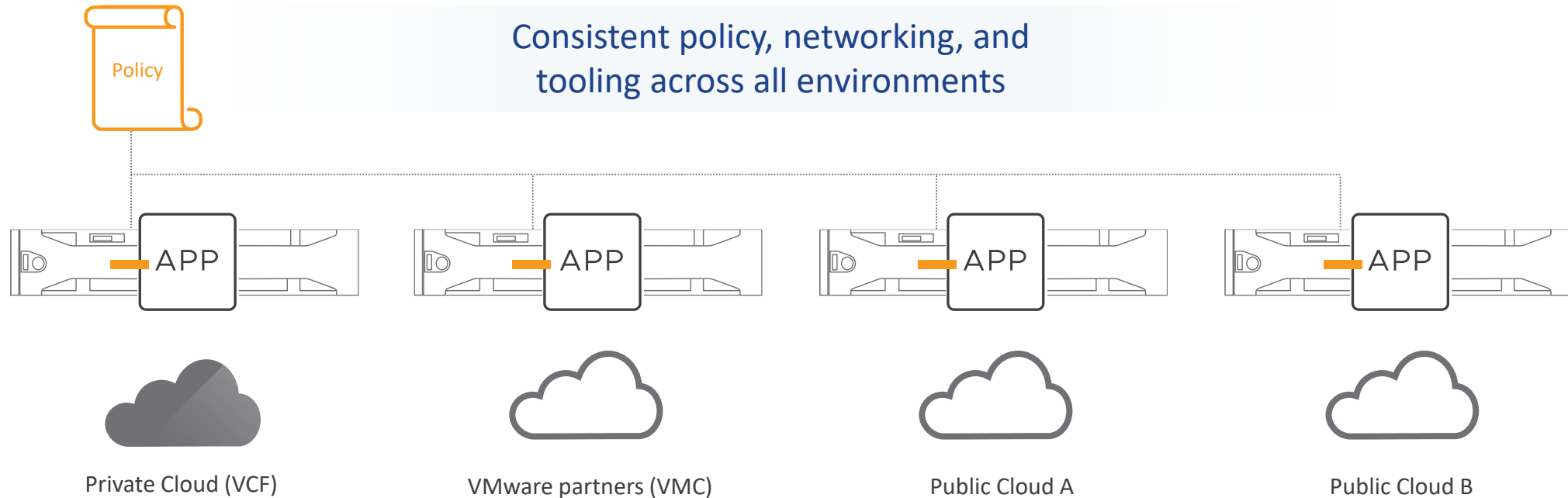
This model enables the virtualization of the whole networking stack

Zero Trust Architecture



Workspace ONE | SASE | Carbon Black | NSX | Tanzu Service Mesh

Cloud-class Agility and Operational Simplicity Delivered On-prem



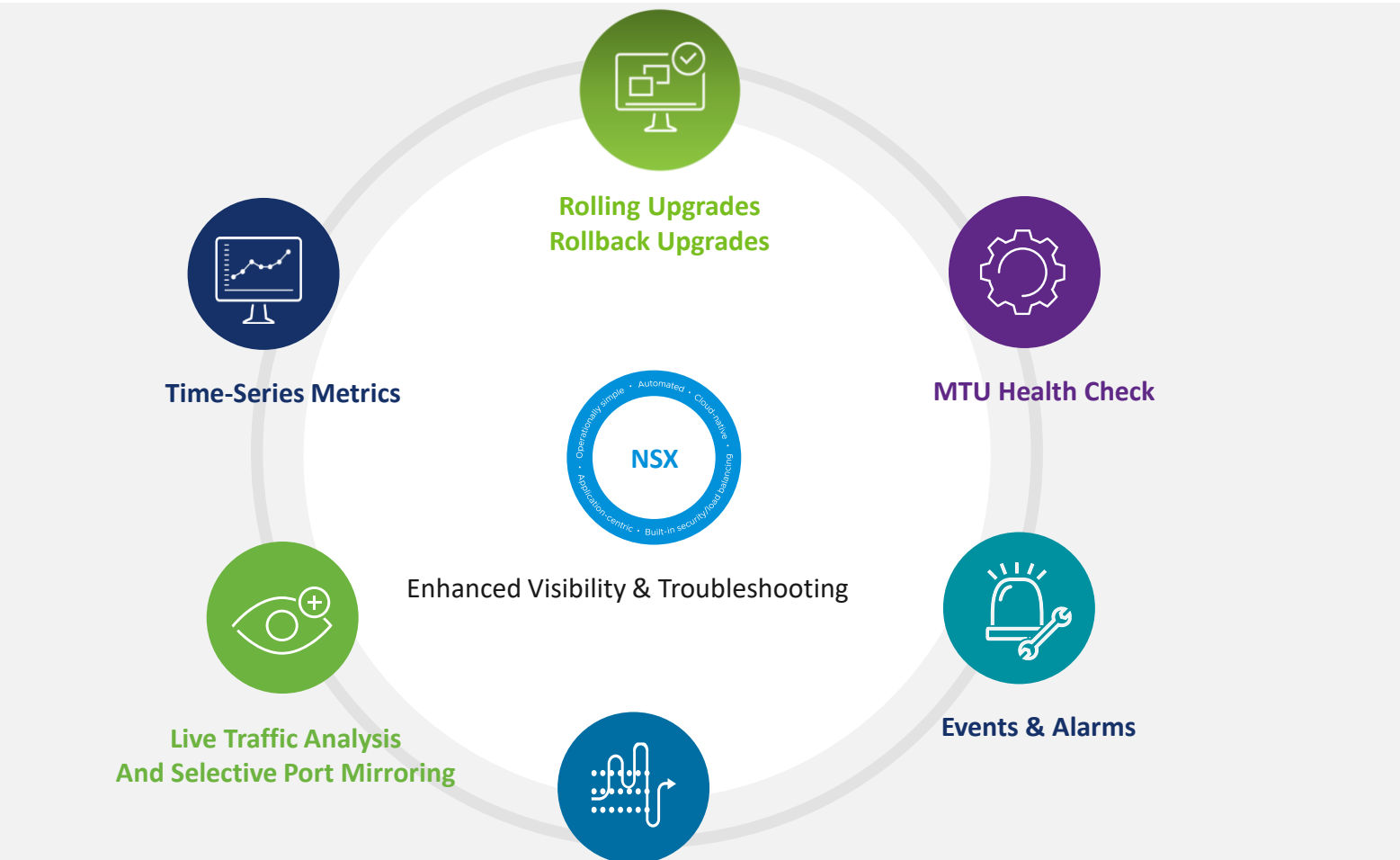
DAY 0
1-click Install

DAY 1
Simplified Policy

DAY 2
Unified Management

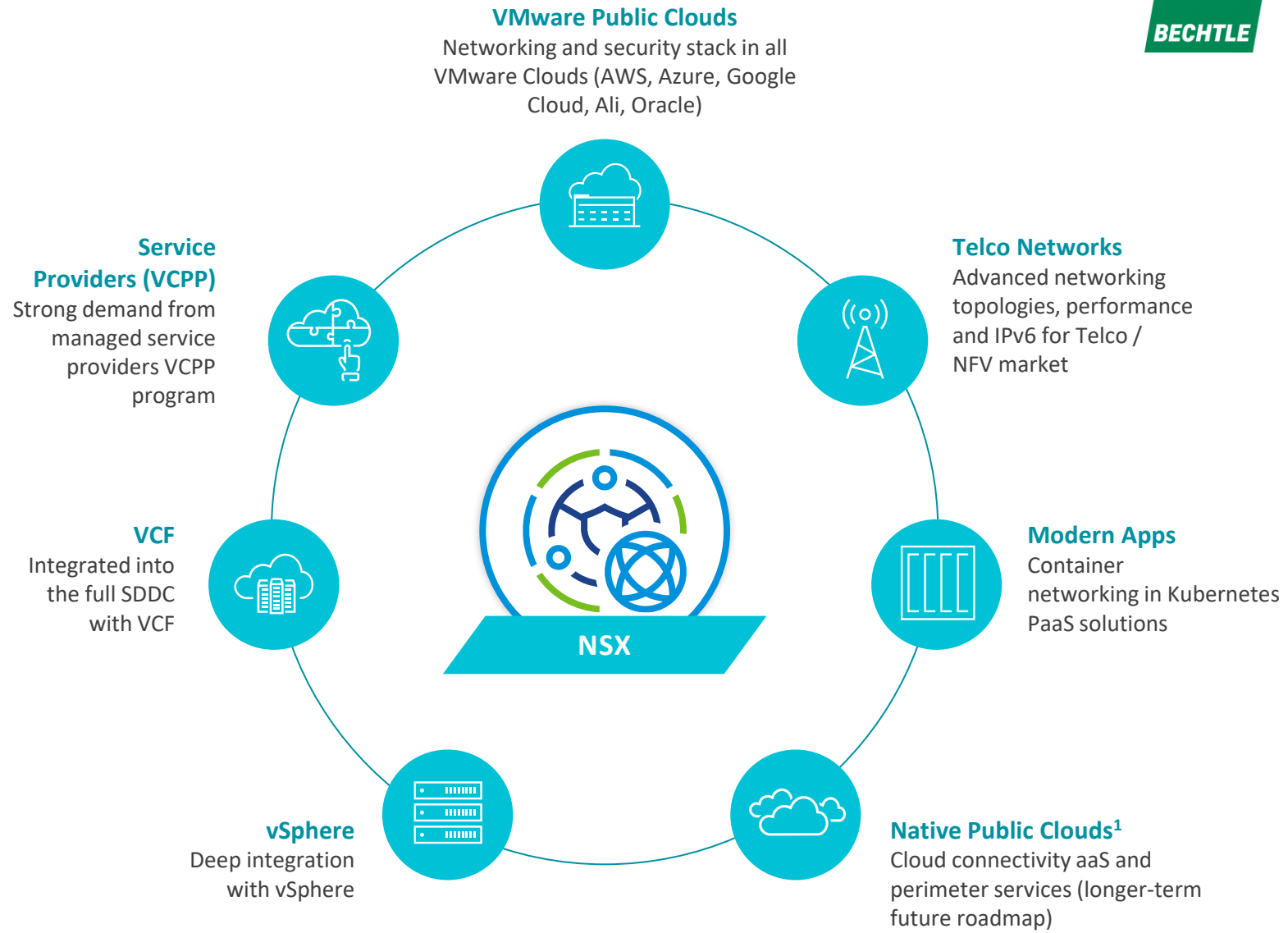
Simplified Operations

Upgrade, Troubleshooting, Monitoring



- Rolling Upgrades and Rollback Upgrades
- MTU Health Check
- New Events & Alarms
- Traceflow
- Live Traffic Analysis
- Selective Port Mirroring
- Time-Series Metrics

Foundation for VMware's Private, Public, and Hybrid Cloud Solutions



¹Future roadmap

Application Modernization

VMware offers a Complete Infrastructure Modernization Portfolio



VMware Tanzu

Adopt Kubernetes in your Software Defined Data Center

Realize the benefits of Kubernetes without writing a single line of code or learning any new tools.

vSphere with Tanzu

Run Kubernetes everywhere

Run and operate the exact same Kubernetes distribution on-premises, public clouds and edge.

Tanzu Kubernetes Grid

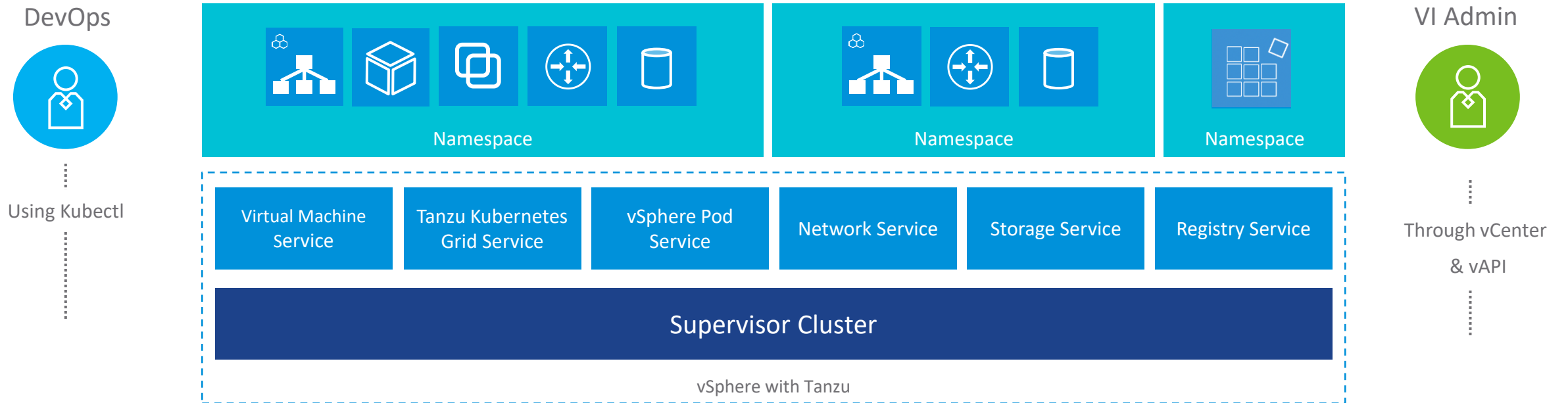
Control all your clusters

Centralize provisioning and policy management for all your clusters, no matter where they reside.

Tanzu Mission Control

vSphere with Tanzu

Overview



Tanzu Kubernetes Grid Key Capabilities



Deploy consistently



Automate multi-cluster operations



Access integrated services



Align with open source

Different Priorities for Modern Apps

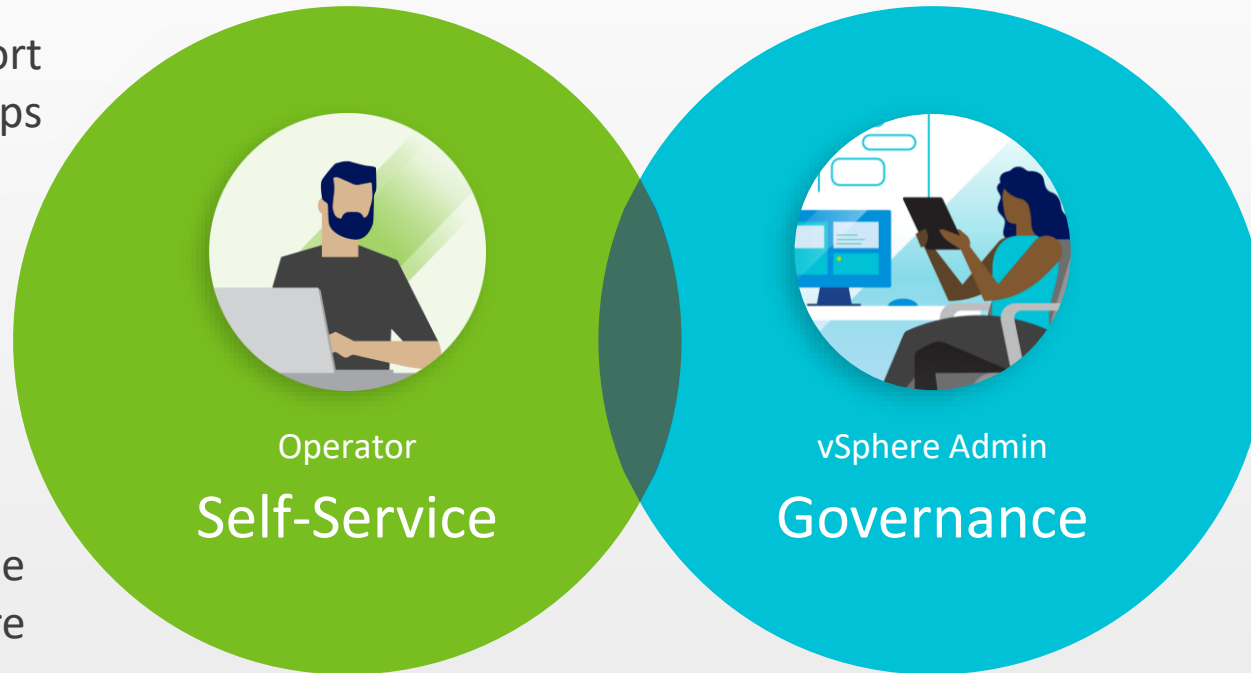
Self Service vs. Governance

Code, test, deploy and support apps

Leverage Kubernetes ecosystem

New Kubernetes releases

No knowledge needed of the infrastructure



Ensure availability

Ensure security and multi-tenancy

Deliver quality of service

Cost control

Accelerate App Development with Tanzu Integration



Developer

Uses existing tools to self-serve storage infrastructure

STORAGE CLASSES



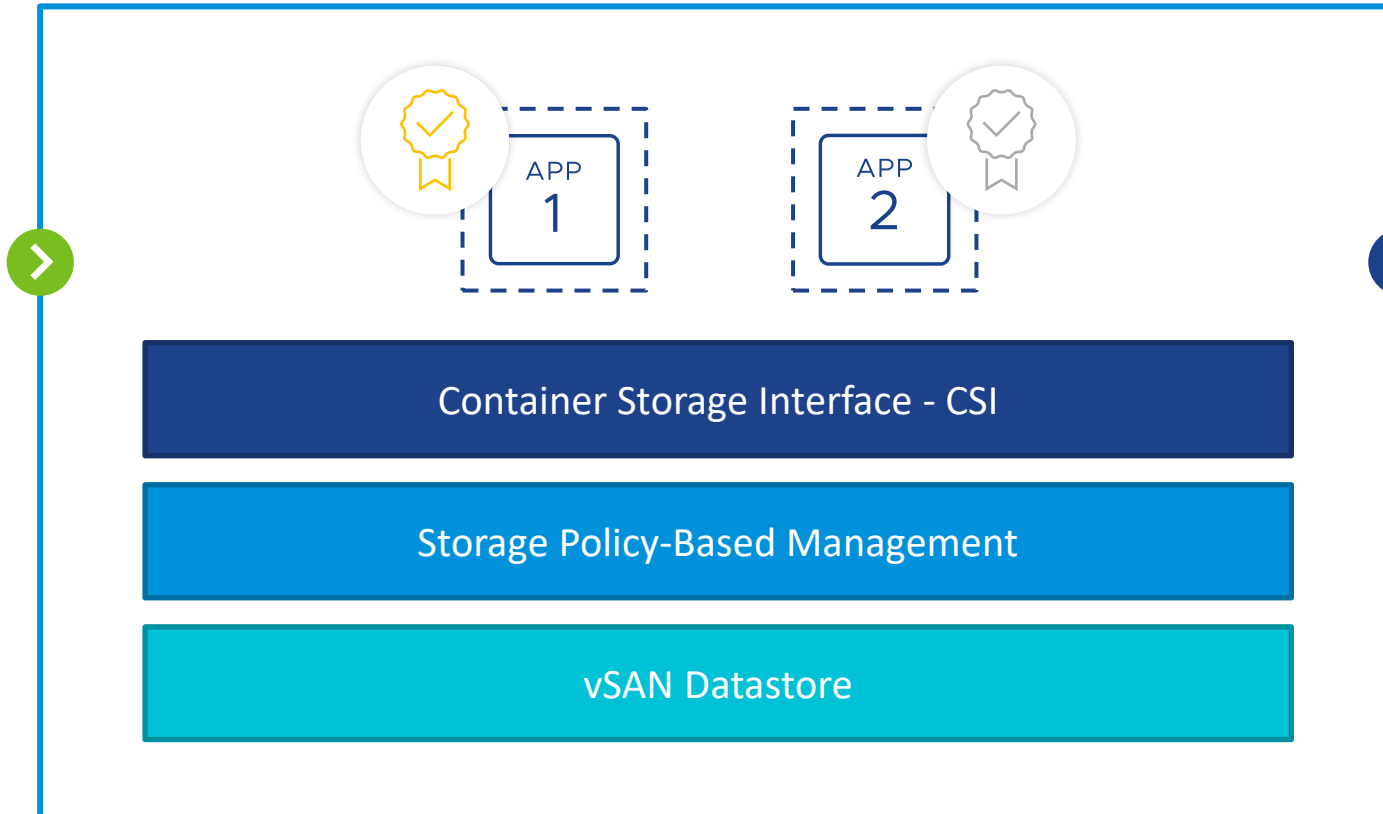
Gold



Silver



Bronze



Sys Admin

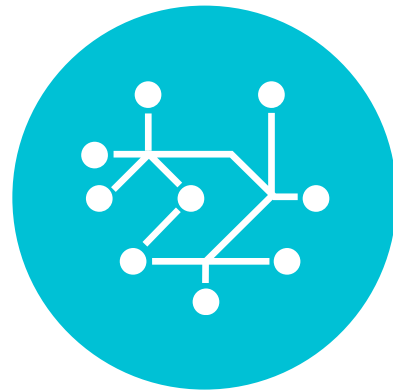
Governs storage access and policies

NSX in vSphere with Tanzu

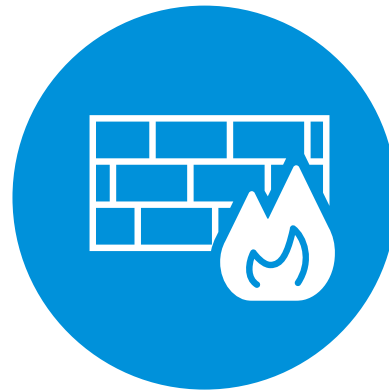
Features Overview



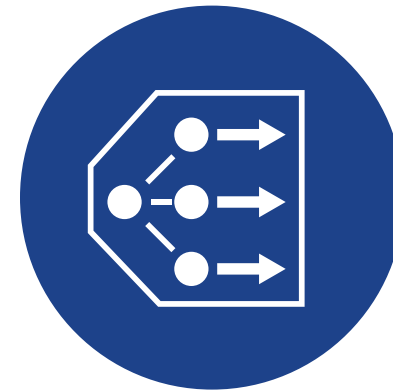
IP Address
Management



Segmented
Networking



Firewall Isolation



Load Balancing



Visibility

Multi-Cloud Mobility

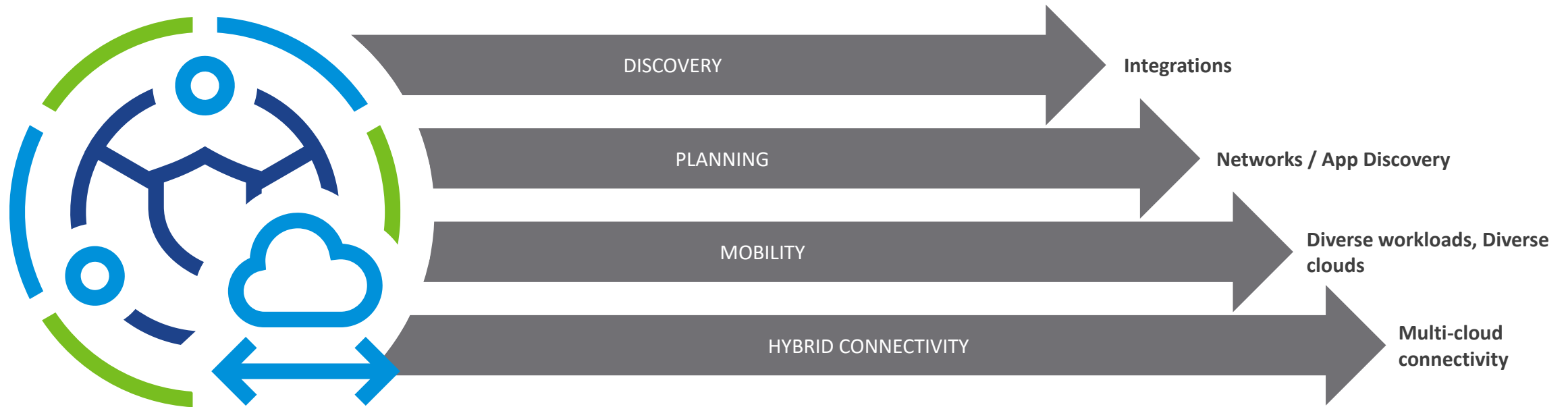
What is VMware HCX

The Application Migration and
Mobility Platform

Vision

HCX is the Mobility Platform for all workloads across all VMware SDDCs

Enable the VMware Any Workload Any Platform Strategy



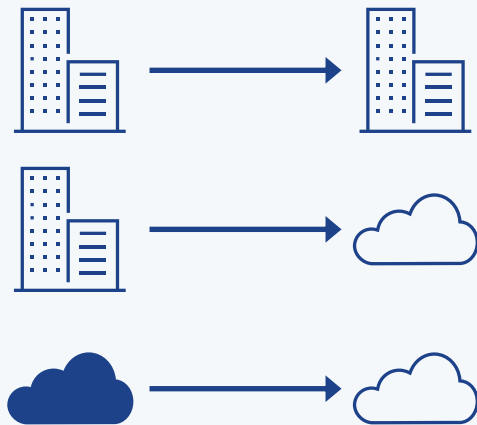
VMware HCX®

Customer-driven Use-cases

Driving business strategy and VMware value through workload mobility



Rehost

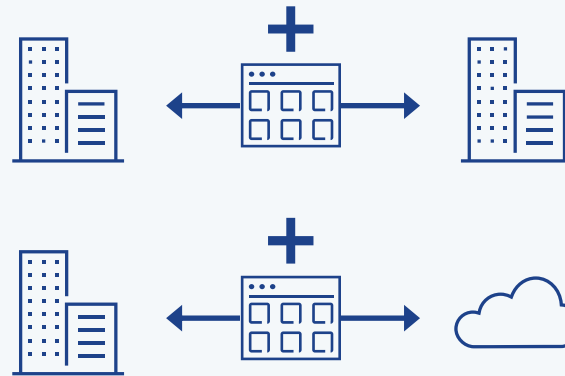


M&A/DC Consolidation

Repurpose Infrastructure

Cloud Adoption

Replatform/Upgrade

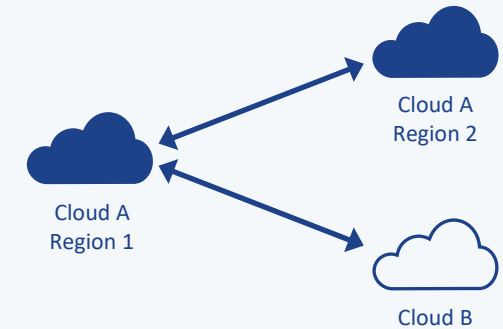


Modernize infrastructure

Capture New Workloads

Hybrid Connectivity

Rebalance



Optimize Cloud Footprint

Shift Cloud Providers

Multi-cloud Strategy

Merci!

Des questions? Contactez-nous: it-forum.ch@bechtle.com

Plus d'informations :
[bechtler.com](https://www.bechtler.com)

