

오라클 클라우드 상에서의 VMware 클라우드 및 하이브리드 방안

VMware Cloud SDDC and Hybrid
Migration

강홍석

Cloud Solution Architect, VMware

Jan, 2021

Agenda

VMware SDDC on Cloud

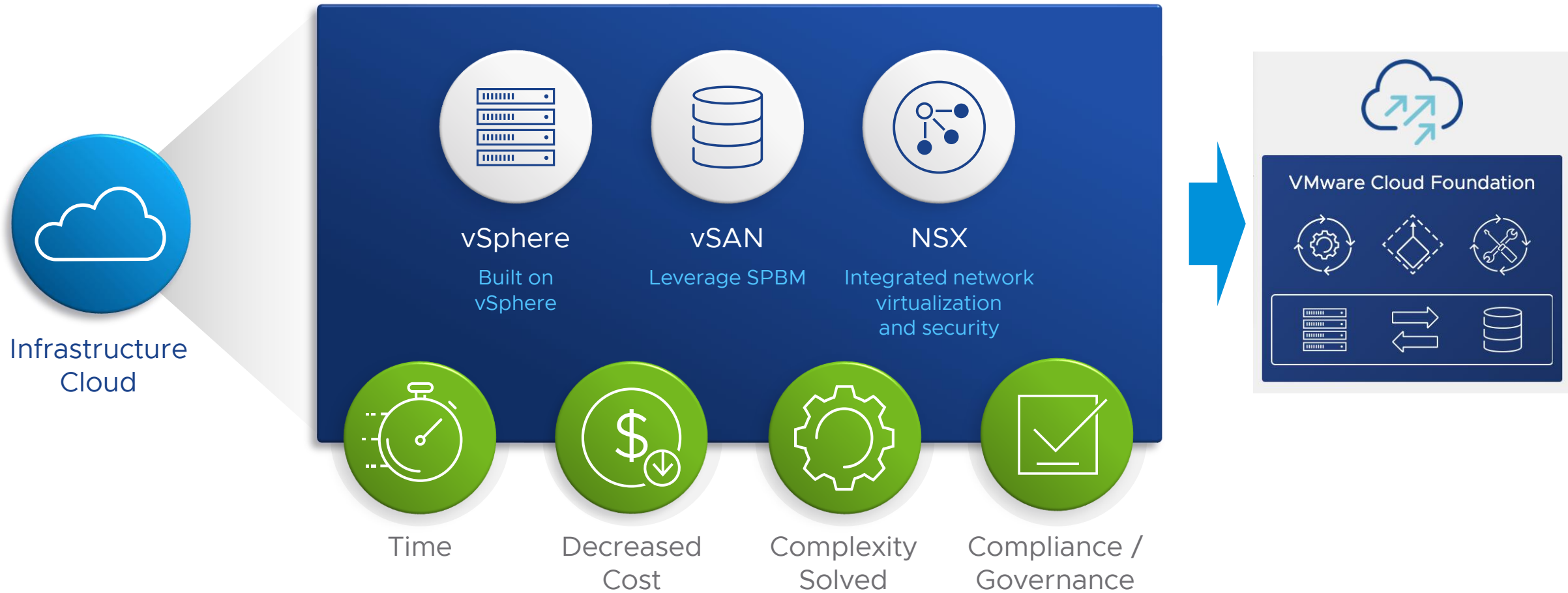
Hybrid Cloud with VMware SDDC

VMware Cloud in Real World (사용 사례 및 데모)

VMware SDDC on Cloud

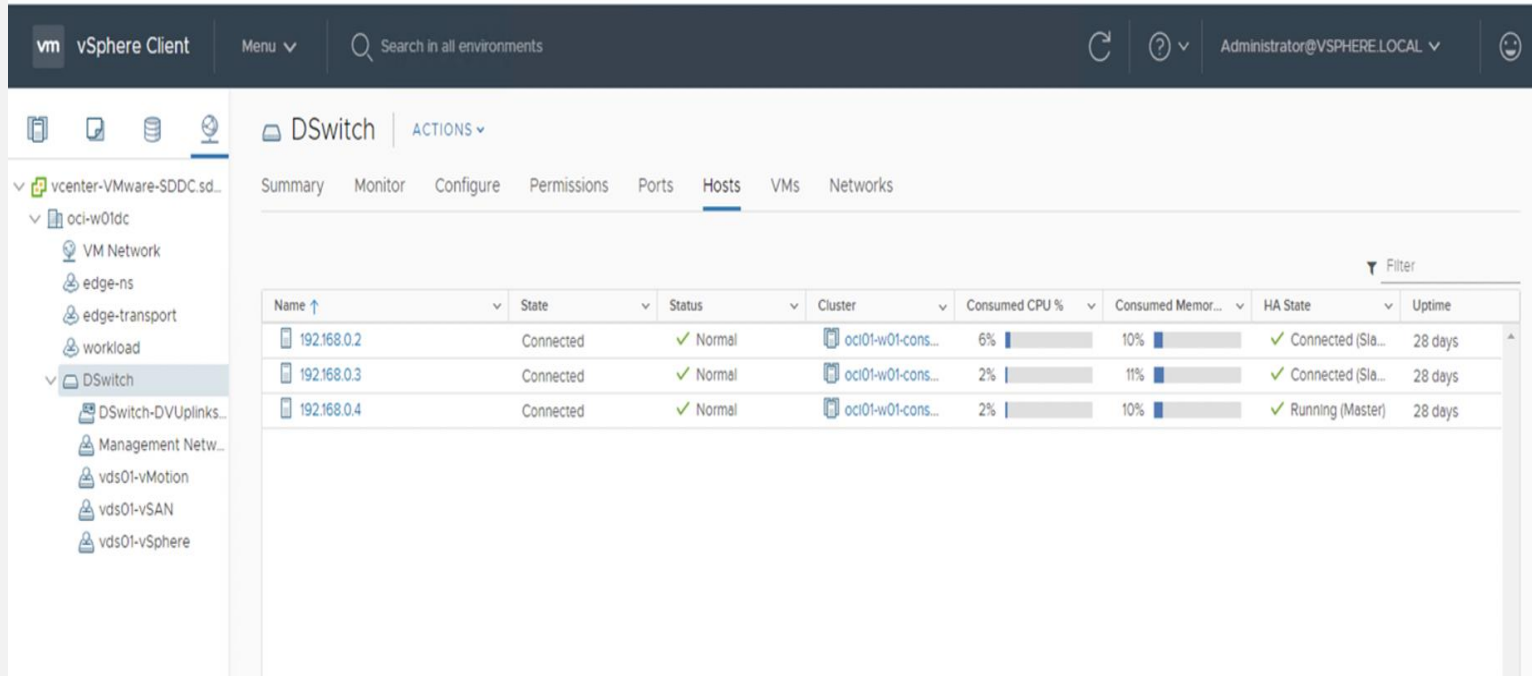
VMware SDDC(Software Defined Data Center)

Cloud Agility On-Premises



핵심 관리 Platform으로서의 vSphere

신뢰성 있는 뷰, 잘 알려지고 익숙한 운영 기술



The screenshot shows the vSphere Client interface. The left sidebar displays a tree view of the environment, including 'vcenter-VMware-SDDC.sd...', 'oci-w01dc', and 'DSwitch'. The main content area is titled 'DSwitch' and shows the 'Hosts' tab. A table lists the hosts connected to the DSwitch.

Name	State	Status	Cluster	Consumed CPU %	Consumed Memor...	HA State	Uptime
192.168.0.2	Connected	✓ Normal	oci01-w01-cons...	6%	10%	✓ Connected (Sla...	28 days
192.168.0.3	Connected	✓ Normal	oci01-w01-cons...	2%	11%	✓ Connected (Sla...	28 days
192.168.0.4	Connected	✓ Normal	oci01-w01-cons...	2%	10%	✓ Running (Master)	28 days

검증된 서버 가상화 기술인 vSphere 를 그대로 이용하실 수 있습니다.

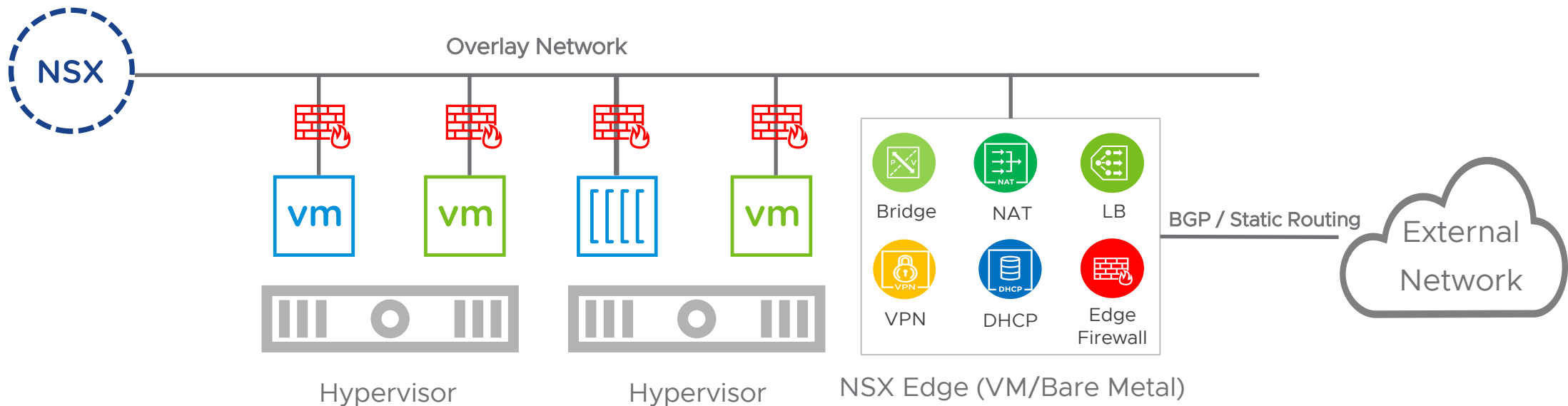
vSphere 에서 제공되는 vMotion, vSphere HA, DRS 등 기능들을 그대로 이용 가능하므로 운영 일관성을 유지할 수 있습니다.

Software 기반의 네트워크/보안 서비스

VMware NSX

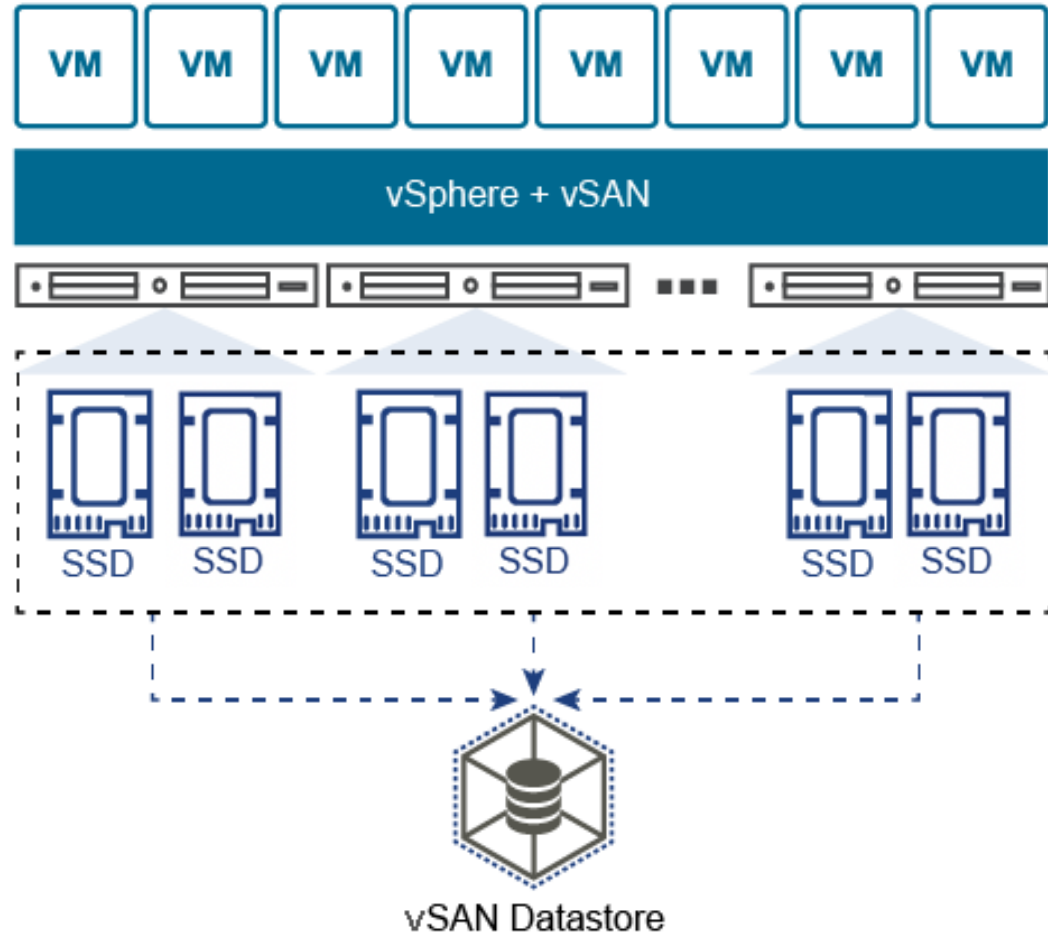
NSX 는 Software 기반의 Overlay 네트워크 구성이 가능하며, 기존 인프라 IP 제약에 따른 이동성을 제공합니다.

또한, Hypervisor 기반의 분산 서비스와, 다양한 네트워크/보안 서비스를 단일 플랫폼으로 구성할 수 있습니다.



Industry-Leading Software Defined Storage for HCI

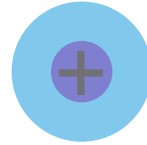
VMware vSAN 은 ESXi 커널단에 포함되어 있는 소프트웨어 정의 스토리지 (SDS) 솔루션입니다.



- VMware vSAN™은 로컬 또는 직접 연결된 데이터 저장 장치를 통합하여 vSAN 클러스터의 모든 호스트에서 공유되는 단일 저장소 풀을 생성합니다.
- SPBM (Storage Policy based Management) 정책 정의
 - 스토리지 정책별 보호 수준과 성능을 정의
 - VM 또는 VMDK 단위로 적용
- All-Flash Hardware
 - SSD 장치를 Cache 및 Capacity 용도로 사용합니다.
 - SSD Cache 용도는 100% Write-Back Buffer 입니다.
 - All-Flash 환경에서만, 아래 기능을 지원합니다.
 - Erasure Coding (RAID 5/6)
 - 데이터 중복제거 및 압축
- iSCSI Target Service 및 Multi-write vmdk 지원
 - Oracle RAC 뿐만 아니라 Windows Server Failover Cluster (WSFC) 도 vSAN 6.7 iSCSI 서비스에서 지원합니다.

Advantages of VMware SDDC on Oracle Cloud

Cloud Advantages



On Premises Advantages



Increased Agility

Self service provisioning and elasticity of resources



Simplified Operations

Offload management and automated host mgmt.



Accelerated Innovation

Increased developer velocity and access cloud services



Mitigate Risks

Comply with data residency and regulatory requirements



Controlled Costs

Predictable cost model and resource transparency



Increased Performance

Low data latency and high performance networking

Hybrid Cloud with VMware SDDC

VMware Customers are Saying...



- Operating Across Multiple Clouds
- Migrating Applications
- Modernizing App Dev / Kubernetes
- Scaling / Temp Capacity

Workload Migration and Mobility Challenges

클라우드로 Workload를 전환하려는 고객들이 마주하는 도전 과제들



Compatibility,
Interoperability



Networking and
security issues



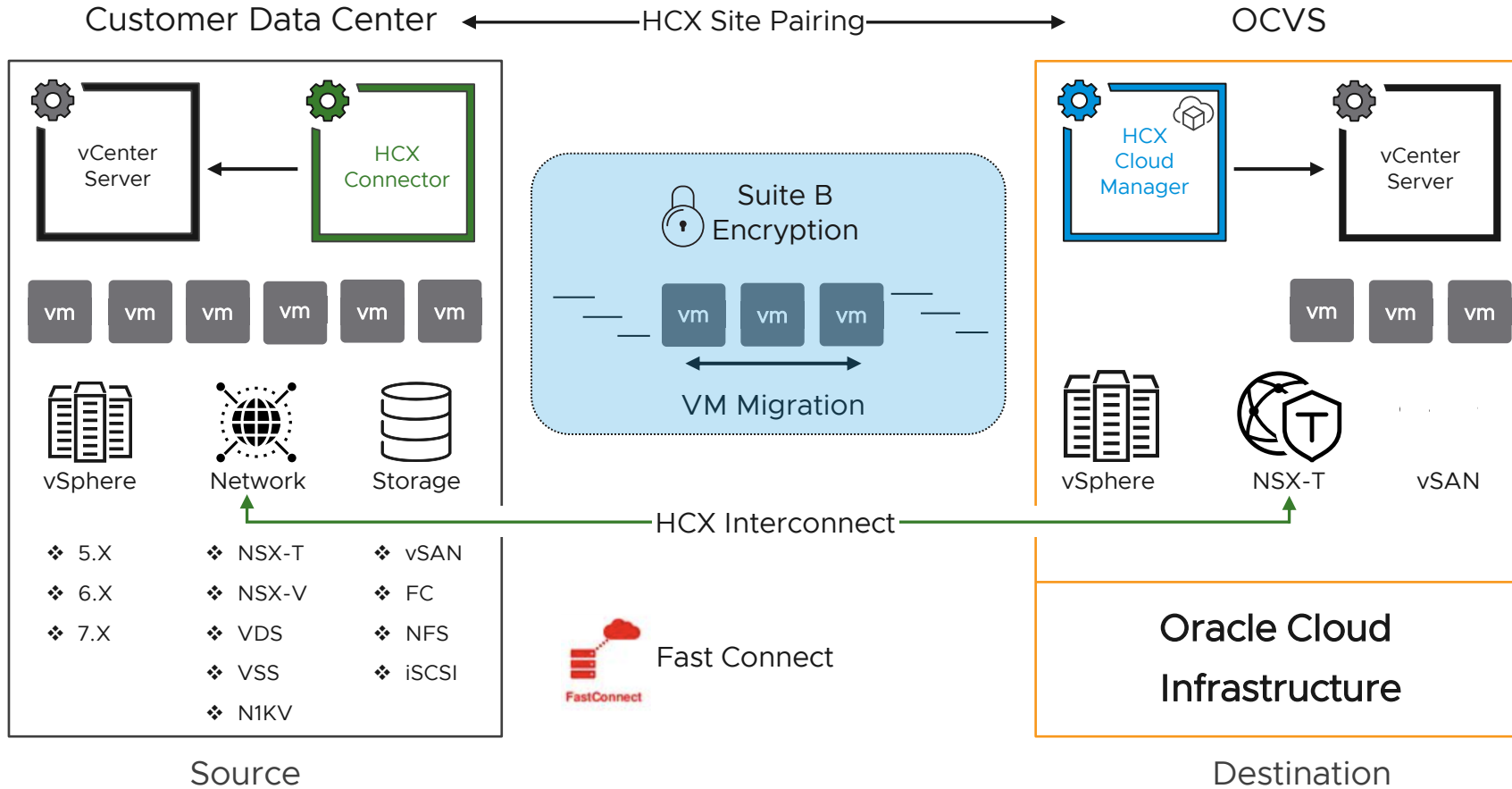
Application
Dependency Mapping



Business
Disruption,
Downtime

VMware HCX

규모에 적합한 애플리케이션 이동성, 인프라 하이브리드, 대규모 마이그레이션



- Onprem 의 다양한 vSphere 5.x, 6.x, 7.x 버전 지원
- Online and offline VM migration at scale options
- Agnostic to on-prem vMotion network design
- Built-in WAN Optimization, De-Dupe, & compression
- Accessible via
 - vSphere HTML5 plugin
 - HCX standalone client
 - HCX API & PowerCLI

Key Benefits of HCX

Simplifying migration saves time and money



COST SAVINGS

FASTER MIGRATION TIME

ZERO DOWNTIME / DISRUPTION

FEWER SPECIALISTS NEEDED

MANAGE COSTS ACROSS CLOUD PROVIDERS



TIME to VALUE for SDDC Adoption

POPULATE SDDCs FASTER

ACCELERATE APPLICATION DISCOVERY

QUICKLY PLAN & SCHEDULE MIGRATIONS

REAL CUSTOMER NUMBERS

Customer modernizing infrastructure with VMware Cloud Foundation and migrating 100,000+ VMs across global datacenters.

System Integrator

6 Months
60 People
0 applications moved

with HCX

3 Months
6 people
~30,000 VMs moved

HCX Advanced

Packaged into SDDC Offerings



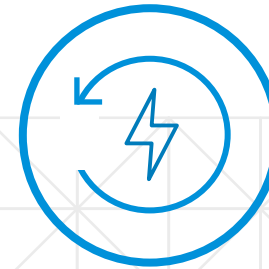
Hybrid Interconnect



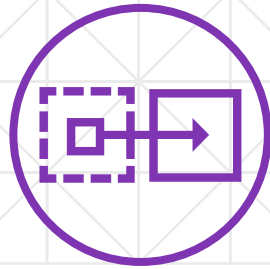
HCX Network Extension



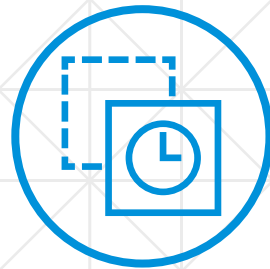
WAN Optimization



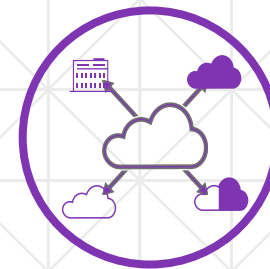
Disaster Recovery



vMotion Live Migration



Bulk Migration w/ reboot



Cloud to Cloud Migration

Best-In-Class : HCX Migration Options

Migration using HCX	VM State	Data Transfer	VM Migration	
Cold Migration	Off	NFC	Cold	HCX Advanced
HCX vMotion	On	vMotion	Live	
HCX Bulk	On	HBR	Warm	
OS Assisted Replication	On	Agent	Warm	HCX Enterprise
Replication Assisted vMotion	On	HBR+ vMotion	Live	

VMware Cloud in Real World (사용 사례)

HCX Customer Quotes

"Our customers have a complex infrastructure – legacy vSphere, VM environment. We have an **EASY button with HCX**, for customers to modernize their infrastructure and make migrations invisible with HCX."

"Leveraging the power of HCX we have **migrated approximately ½ our VM fleet** (we're up to 1776 out of ~4000) in 3-4 weeks...overall it's working extremely well to help achieve our goals."

"Who knew that it would be possible **to securely move a VM with zero-downtime between multiple VMware-based clouds**, that multi-gigabit, low latency, high security, SDN appliances could power steady state cloud workloads, and be updated with less than 20 seconds of data plane downtime? **Magical...**"

"secret sauce"

"EASY button"

"secret weapon for upgrades"

"game-changer"

"I would happily acknowledge that the project has improved the **User Experience** for us. It has changed the whole thought process about any migrations. It made life simple and error free."

Customer References

Datacenter Evacuation and Modernization

VCF 와 HCX 를 통한 기존 DC 효율화 및 현대화 추진

기존 DC 들은 여러 사이트에 분산되어 있고 vsphere 버전이 혼재되어 있음 (5.0, 5.5 , 6.0)

마이그레이셔은 비업무 시간대로 다운 타임 최소화 필요

=> 1700 이상 VM들을 6개월이내 마이그레이션 완료

약 \$300K 비용 절감 효과

Disaster Recovery

기존 DC 화재에 따른 Cloud DR 필요

단기간에 구성이 되어야 하며, 기존 Onprem Workload 와 동일하여야 함

특정 Workload 는 Onprem Network 을 Cloud 로 L2 확장 구성

=> 기존 Workload 의 IP 변경 및 재구성 없이 기간내 DR 구성 완료

Scale On-prem VDI

COVID 19 상황에서 즉시 배포 가능하며, 기존 VDI 환경에 대한 변환이 불필요한 서비스 필요

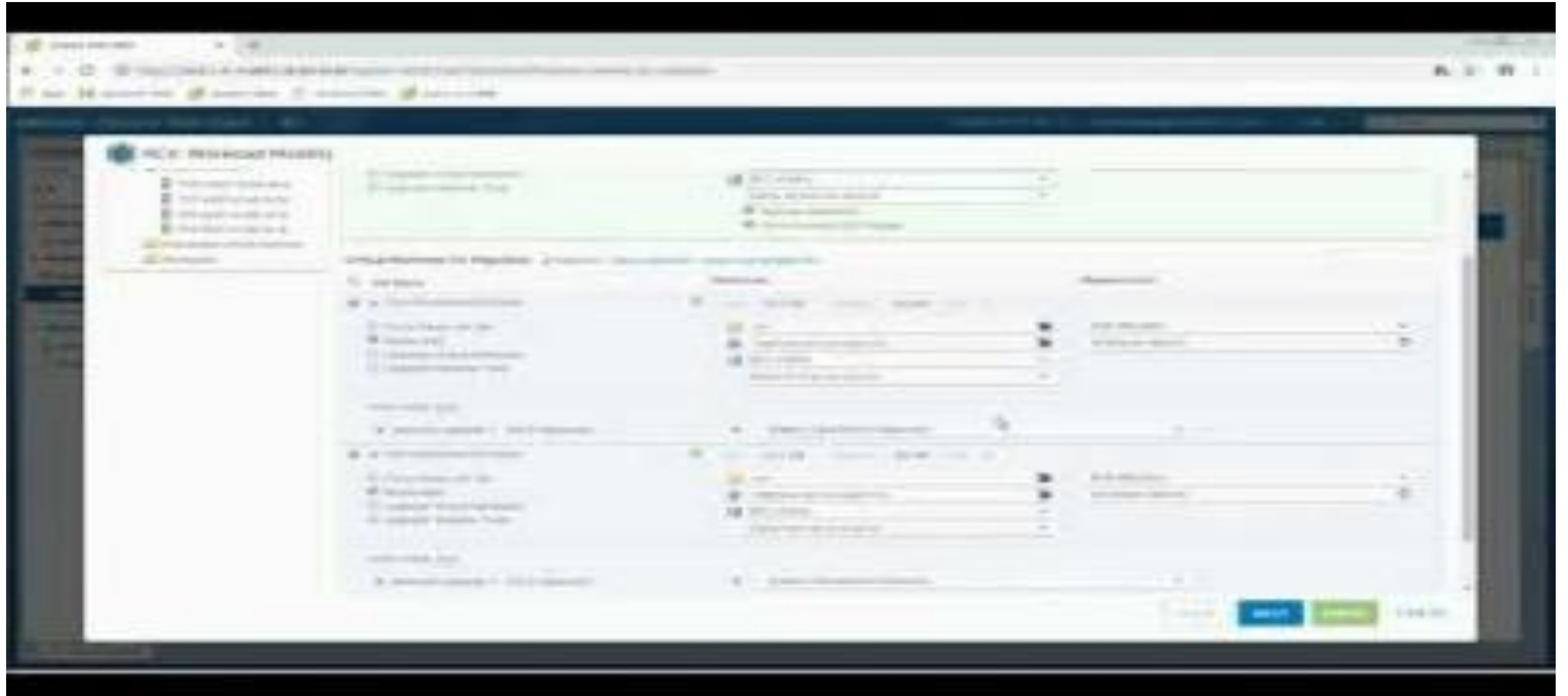
기존 운영 역량 재활용

Cloud 기반의 즉시 확장 가능한 capacity 제공

No need to refactor an Apps

Onprem 데이터센터 대비 운영 비용 절감

VMware HCX Migration demo





Thank You