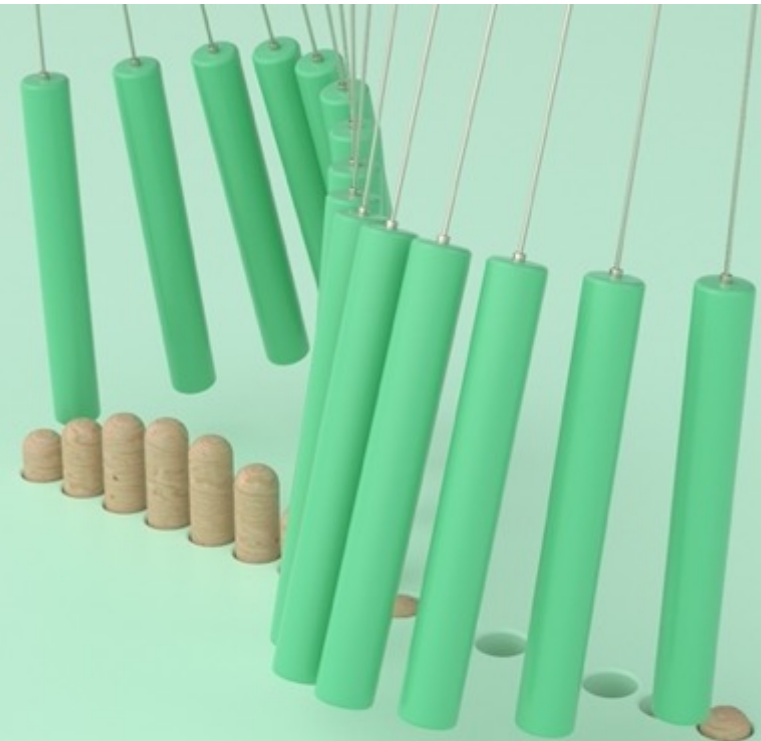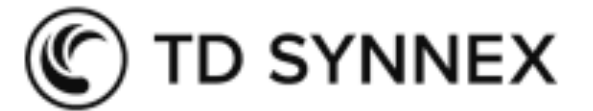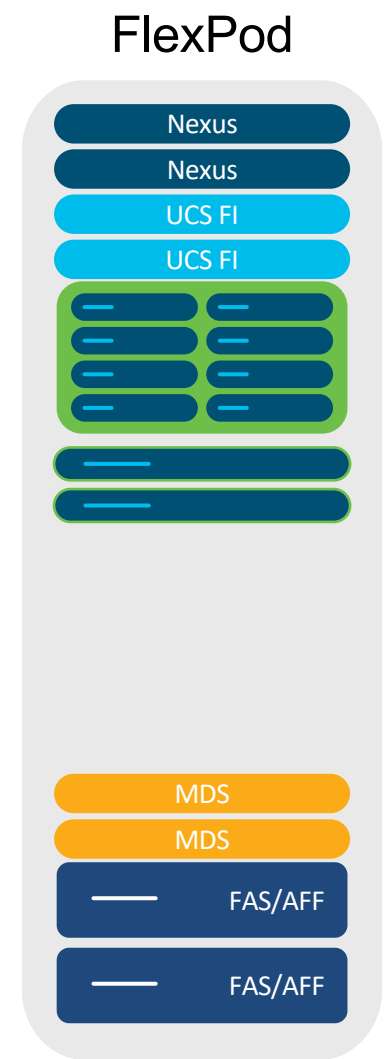# FlexPod Webinar Series
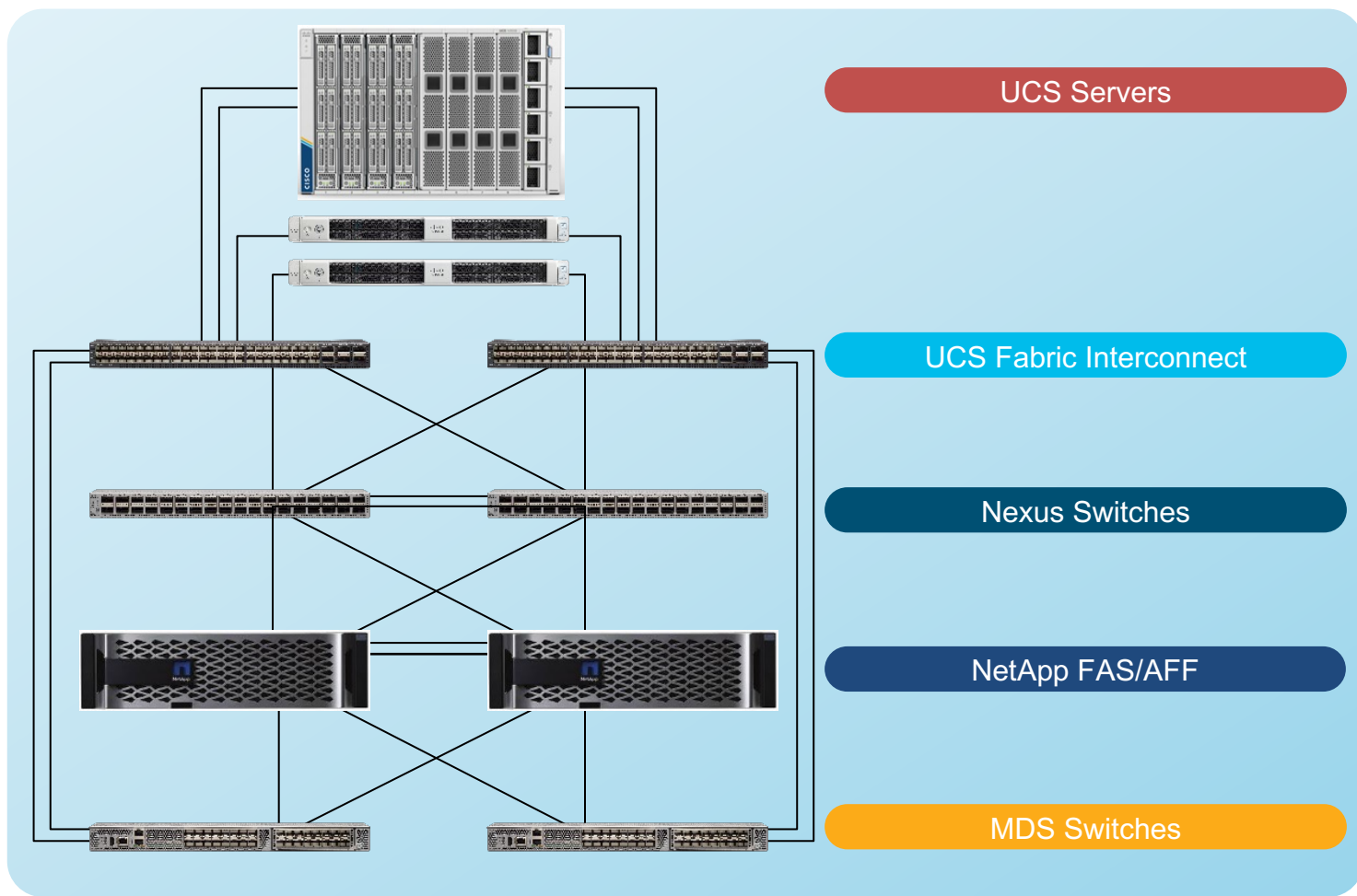
VMware

August 2023

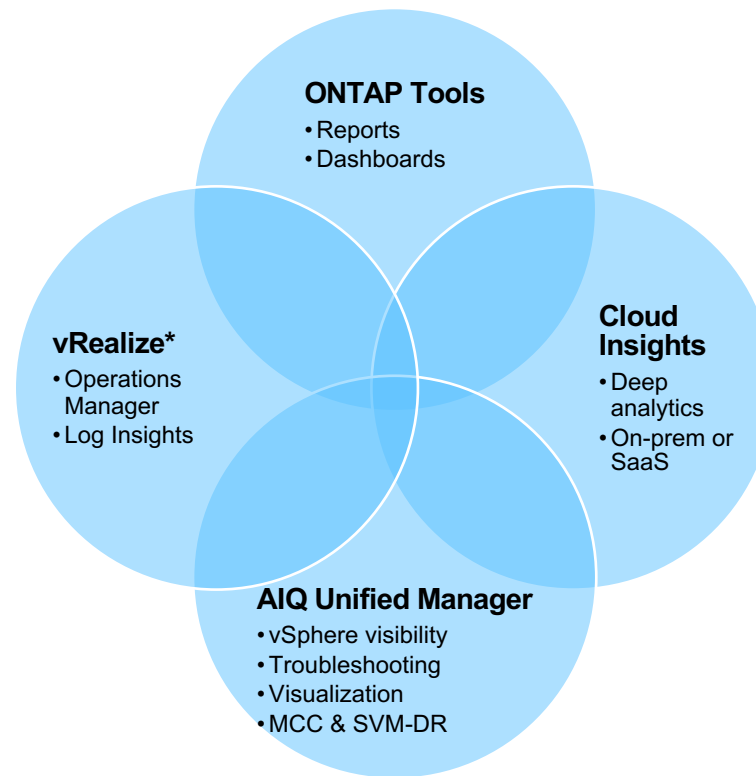# FlexPod Design – One Model

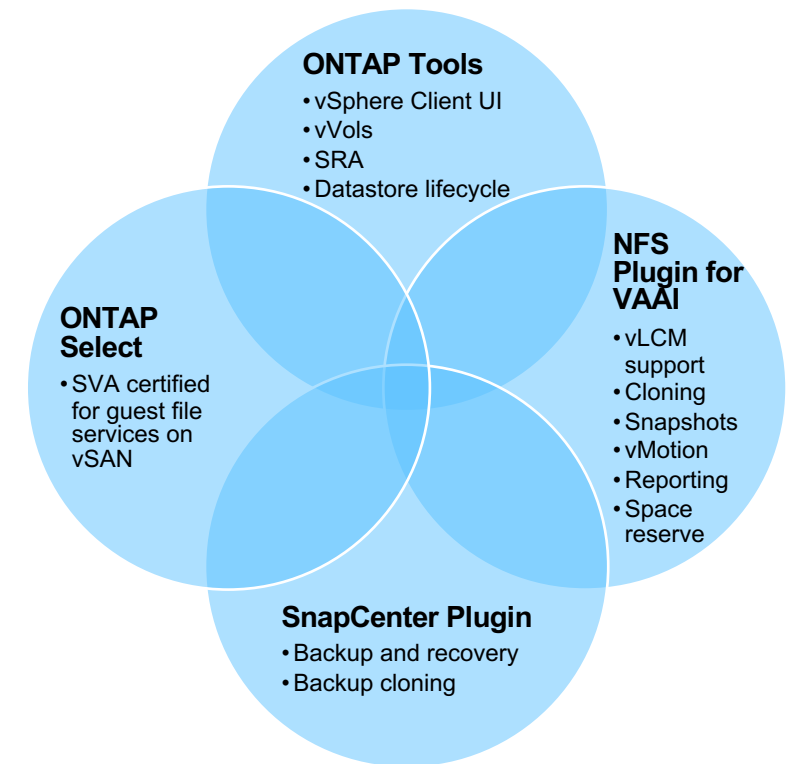
FlexPod

UCS Servers

UCS Fabric Interconnect

Nexus Switches

NetApp FAS/AFF

MDS Switches

Nexus
Nexus
UCS FI
UCS FI
MDS
MDS
FAS/AFF
FAS/AFF

FlexPod®

NetApp

vmware

Automation

ONTAP Tools
- REST APIs

Ansible modules
- Configuration management
- vRealize Automation

SnapCenter Plugin
- PowerShell
- REST API

PowerShell
- Rapid Cloning Utility
- NetApp PowerShell Toolkit

Monitoring

ONTAP Tools
- Reports
- Dashboards

Cloud Insights
- Deep analytics
- On-prem or SaaS

vRealize*
- Operations Manager
- Log Insights

AIQ Unified Manager
- vSphere visibility
- Troubleshooting
- Visualization
- MCC & SVM-DR

Integration

ONTAP Tools
- vSphere Client UI
- vVols
- SRA
- Datastore lifecycle

NFS Plugin for VAAI
- vLCM support
- Cloning
- Snapshots
- vMotion
- Reporting
- Space reserve

ONTAP Select
- SVA certified for guest file services on vSAN

SnapCenter Plugin
- Backup and recovery
- Backup cloning

- ONTAP vRealize management and content packs available from VMware (formerly Blue Medora)
- Third-party applications offer deep ONTAP integrations, such as Cisco Intersight, Commvault Complete Backup and Recovery, Veeam Backup and Replication, and many more
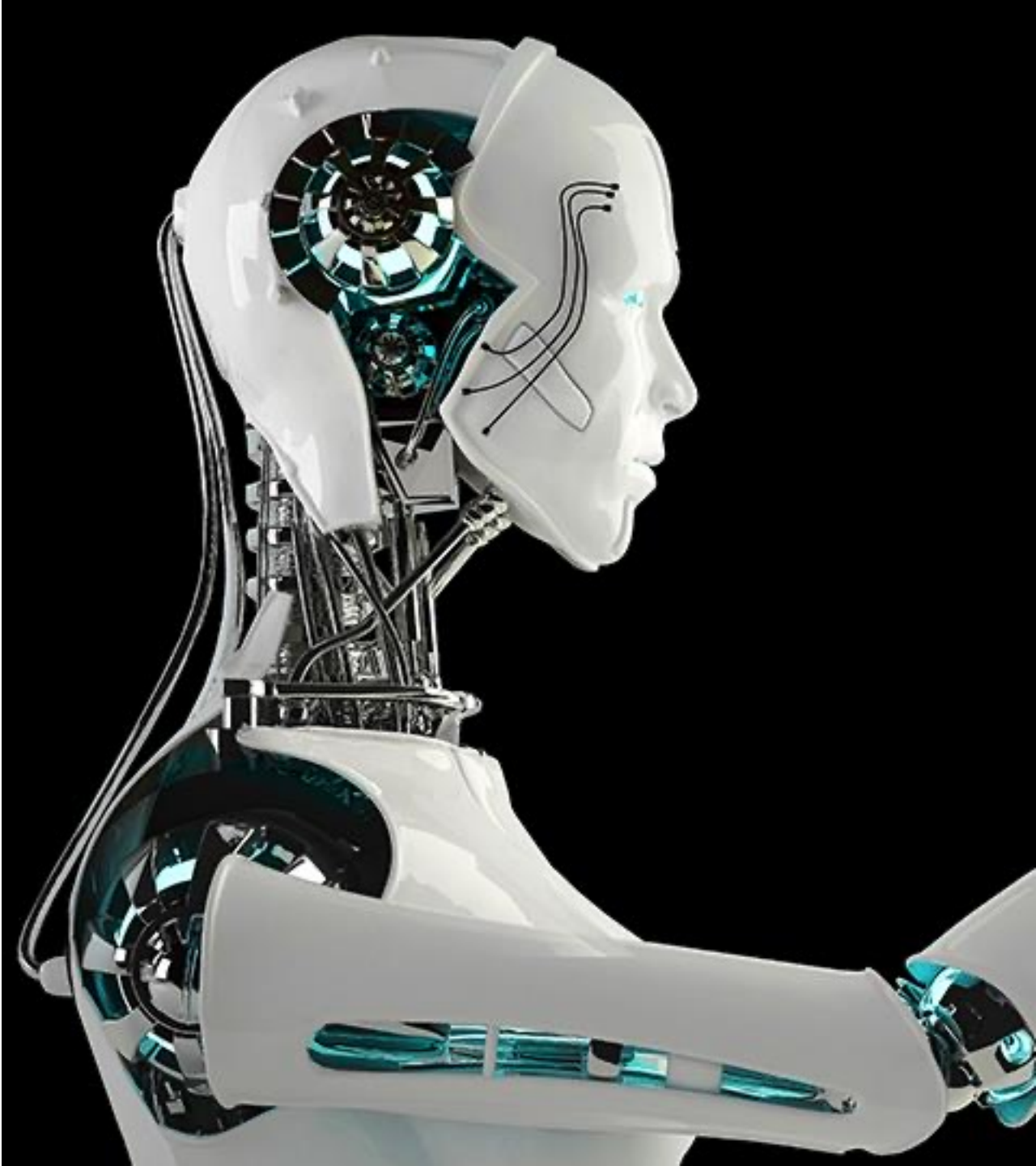
NetApp ONTAP Tools for VMware vSphere

Integrating management applications into a single virtual appliance

vCenter UI and API server

VASA provider

Storage replication adapter
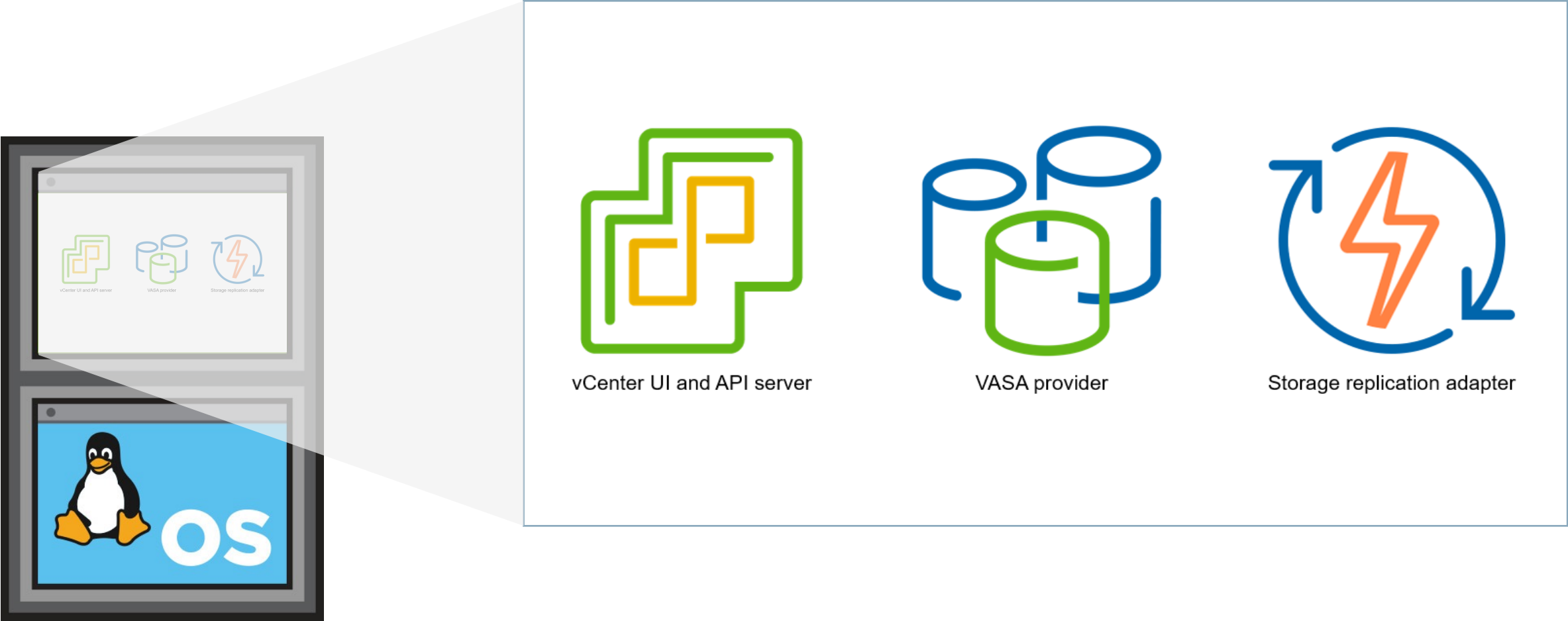
ONTAP Tools for VMware v9.12

What's New

- **vSphere 7.x & 8.0 Support**
  - Validated performance and placement
  - Interop qualification
  - Virtual Storage Console support

- **Increased max LUN, file, & volume size with ONTAP 9.12.1P2**
  - 128TB LUN size
  - 128TB file size
  - 300TB Volume size

- **NVMe-oF vVol Support**
  - vSphere 8.0 required

- **SnapMirror Quick Resync Support**
  - enables faster resync times for Site Recovery Manager's (SRM) Reprotect and Restore operation

Natively integrate storage management into the vCenter UI

Storage at a glance through easy-to-understand dashboards

ONTAP tools for VMware vSphere   vCenter server vc1.demo.netapp.com ⌄   ⓘ ⌄

Getting Started | Traditional Dashboard | vVols Dashboard

Last refreshed: 04/26/2023 17:43:00
Next refresh: 04/26/2023 18:13:00

ⓘ The dashboard displays metrics obtained from vCenter Server (IOPS, space utilized, latency and commited capacity) and ONTAP (space savings).

🖧 Overview   4

Datastore capacity

- Used: 40.92 GB
- Free: 116.58 GB

Total: 157.50 GB

Aggregate space savings

Aggregate   All ⌄

1.28 : 1

○ Logical space used: 65.14 GB
● Physical space used: 51.03 GB
Space saving: 14.12 GB (21.67%)

IOPS

0
Read IOPS

0
Write IOPS

0
Total IOPS

🗄 Datastores   3

Top 5 datastores by   Space Utilized ⌄   High to Low ⌄

Type ● All   ○ NFS   ○ VMFS

nfs3		29.55%
nfs1		26.02%
iscsi1		8.62%

🗄 Storage Systems

Clusters: 1   SVMs: 1
✓   ✓

View all storage systems

▤ Virtual Machines   4

Top 5 VMs by   Committed Capaci... ⌄   High to Low ⌄

OTV1	9.44 GB
scv-1	5.63 GB
SiteA-vm01	2.87 GB
vCLS-e4ee0253-58d0-4952-b462-6ee69bdabcdc	360.86 MB

▤ ESXi Host Systems   1
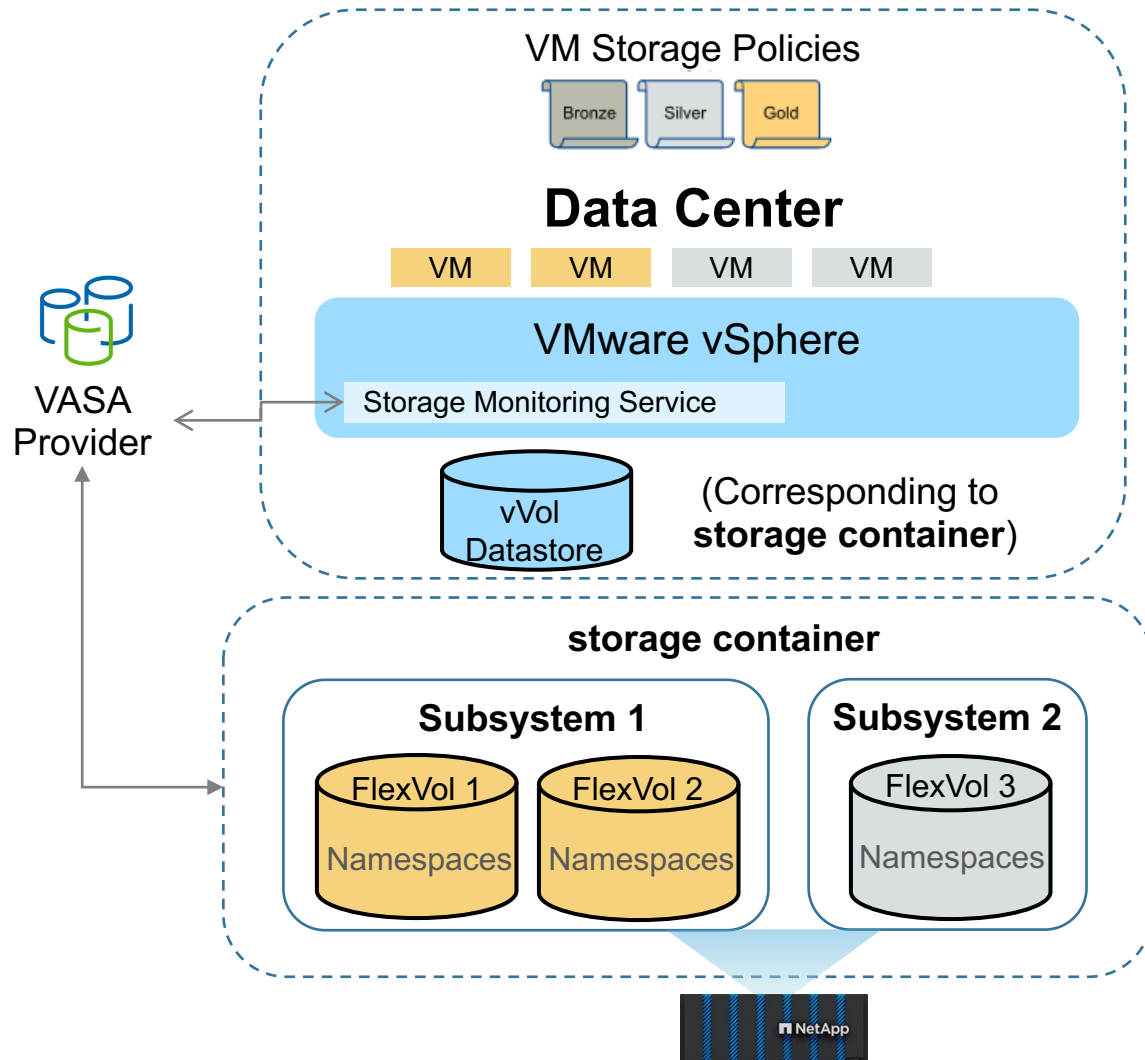
NFS settings: 1   MPIO settings: 1   Adapter settings: 1
✓   ✓   ✓

Edit ESXi host settings

Introduction to NVMe-oF vVols

An architectural overview

- Six key components (more detail in slide notes)
  - VMware vSphere
  - ONTAP tools VASA Provider
  - vVols datastore
  - Storage container
  - Virtual Protocol Endpoint (vPE)
  - vVols NVMe namespaces

- Automatic end-to-end configuration shifts complexity away from the admin and into software

- Eliminate noisy neighbor issues and let SPBM automate QoS policy configuration

- Not constrained by normal VMFS limits

SnapCenter for VMware

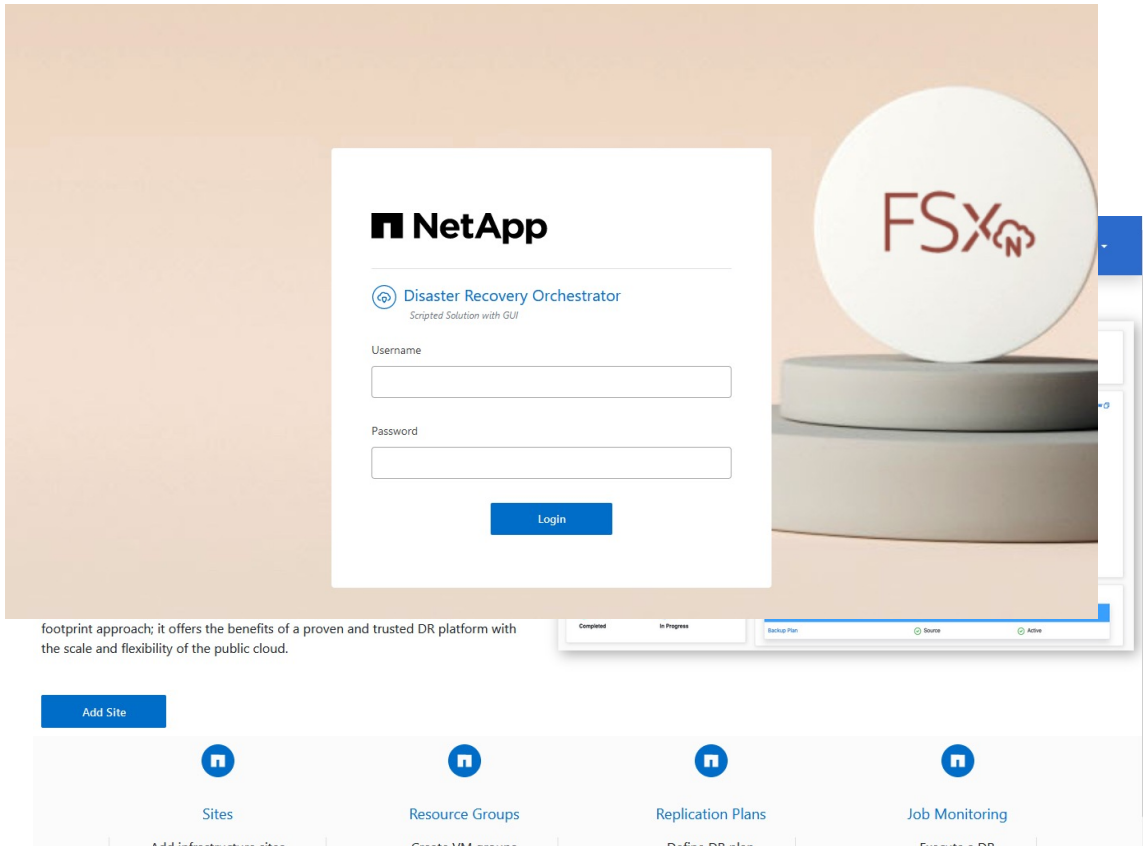Storage snapshots at a glance through easy-to-understand dashboards

Cisco Intersight Workload Optimizer

Lower costs, automate workloads, and optimize application resources across IT
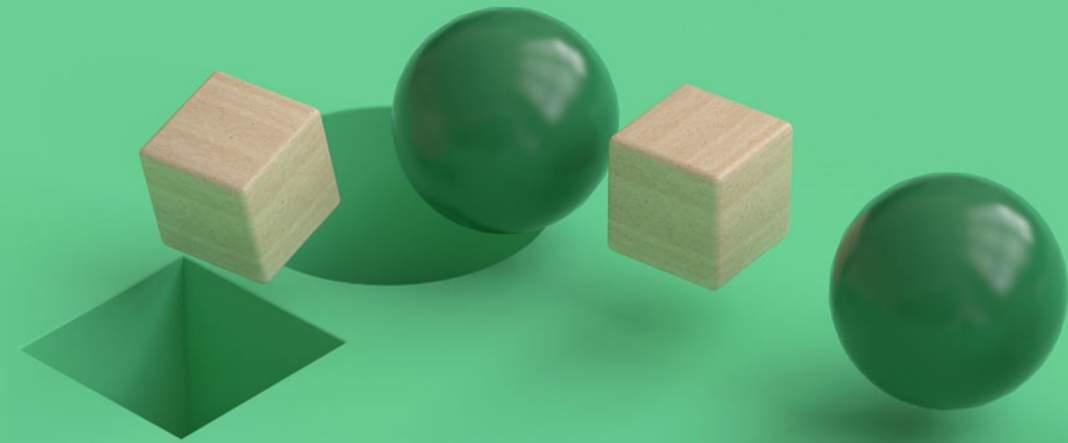
Introducing: NetApp Disaster Recovery Orchestrator (DRO)

VMC – FSxN NFS datastore

- Disaster Recovery Orchestrator
  - **Scripted solution with UI** that automates & orchestrates DR between on-premises vSphere ONTAP and VMC – FSxN
  - **Customer managed** Docker image
  - Community supported

- Features & Benefits
  - Orchestrated, on-demand DR leveraging SnapMirror for **NFS datastore**
  - Simplified deployment & administration
  - Recovery plan creation, VM grouping
  - Multiple, point-in-time recovery
  - Policy driven, continuous compliance checks
  - Orchestrated failover to VMC-FSxN using replicated datastore volumes
 - Offers predictable RTO at lower cost

BlueXP Disaster Recovery Preview of Initial Offering

DR site with VMC - FSxN NFS datastore

Availability in May

Features and Benefits

- Integrated with BlueXP control plane
- **Supports DR and migration use cases**
- Supports VMC on AWS with FSxN as DR site
- **Orchestrated, on-demand failover and failback leveraging SnapMirror for NFS datastore**
- Simplified deployment & administration
- DR site management, vCenter discovery
- Resource groupings, Replication plans
- Multiple, point-in-time recovery
- Policy driven, continuous compliance health checks
- Orchestrated failover to VMC-FSxN using replicated datastore volumes
- Low RPO and RTO
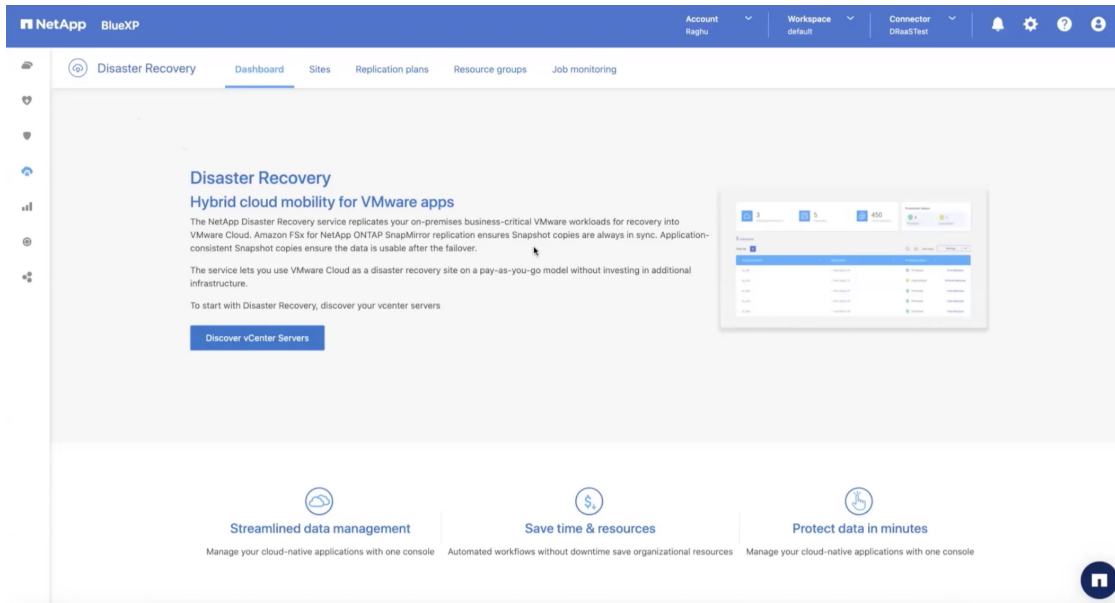
AWS FSx for NetApp ONTAP Pilot

TD SYNNEX

NetApp | **aws**

- What is the pilot program?
  - Incremental 15% discount on AWS FSxN through Oct 2024
  - Available to TD SYNNEX AWS partners
- Why AWS FSx for NetApp ONTAP?
  - Bring you storage / data protection Superpower to AWS
  - Lead the hybrid cloud conversation
  - Competitive takeout and defense opportunity
- How do I participate?
  - Already an AWS partner – reach out to your AWS specialist or Christopher.Arce@tdsynnex.com
  - New to AWS - EnterpriseCloudSales@tdsynnex.com for quick and easy onboarding

FSxN

Deploy and operate
with full governance

NetApp at VMware Explore

Come see us at Booth #307
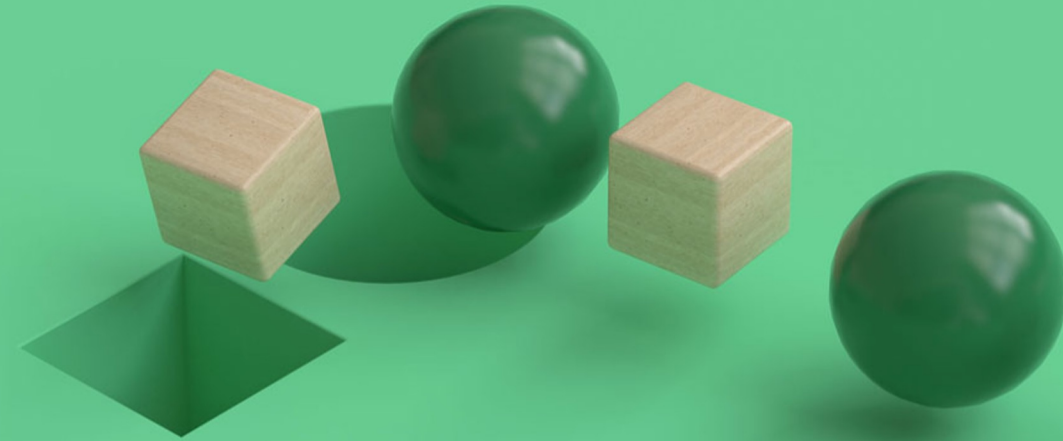
NetApp @ VMware Explore

August 21 – 24 | Las Vegas | Booth 307

Pre-event:

- Social media engagements

- 10+ Technical blogs:

  https://community.netapp.com/t5/Tech-ONTAP-Blogs/bg-p/techontap_blog

Demos:

- Demos covering on-premises, cloud and everything in-between

- Recorded demos

- Live demos

- New simulators

Mini-theater discussions

Multiple giveaways!!!

Platinum Sponsor Booth #307

NetApp @ VMware Explore
August 21 – 24 | Las Vegas | Booth 307

https://www.netapp.com/hybrid-cloud/vmware/

Resources

- [NetApp & VMware](#)

- [FlexPod VMware Design Guides](#)

- [NetApp Lab on Demand: VMware](#)

- [Cisco Intersight Workload Optimizer](#)

Questions?

vmware EXPLORE

LAS VEGAS | THE VENETIAN
AUGUST 21 – 24, 2023

NetApp

CISCO

TD SYNNEX