



打造現代化資料中心 改變數位客戶體驗

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Agenda

- NetApp Data Fabric
- NetApp All Flash
 - All Flash FAS Series
 - EF series
 - SolidFire Series
- NetApp HCI
- NetApp AltaVault



Great Place to Work Institute (卓越職場研究機構) 評比

2017 年大中華區最佳職場：第 2 名

連續六年獲得大中華區最佳職場



2017 Gartner 通用儲存魔力象限

NetApp 再次被 Gartner 2017 Magic Quadrant 的通用儲存磁碟陣列評為領導者

Magic Quadrant


Figure 1. Magic Quadrant for General-Purpose Disk Arrays



- 2017 年10月31日，Gartner 在全球發佈《通用磁碟陣列存儲魔力象限分析報告》
- NetApp 再一次位居領導者與遠見者位置
- Gartner：「NetApp 利用 Data Fabric 願景成功提升了敏捷靈活性，從存儲與資料管理角度說明客戶探索混合雲潛力……。」

NetApp 位居台灣企業外部儲存市場第一名

IDC 全球每季企業級儲存系統追蹤報告



#1

Leader

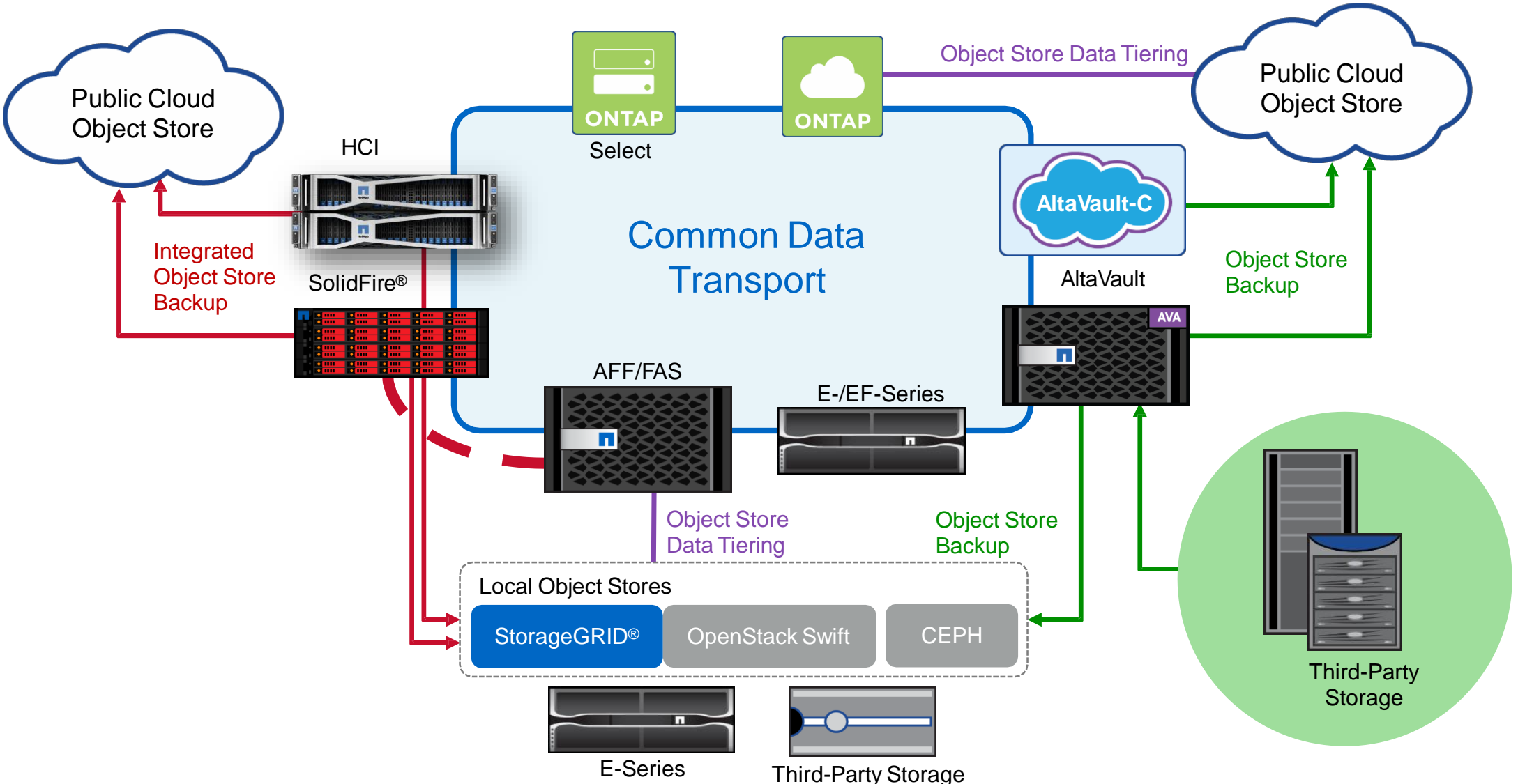
蟬聯 七 連冠

2015 年第 4 季

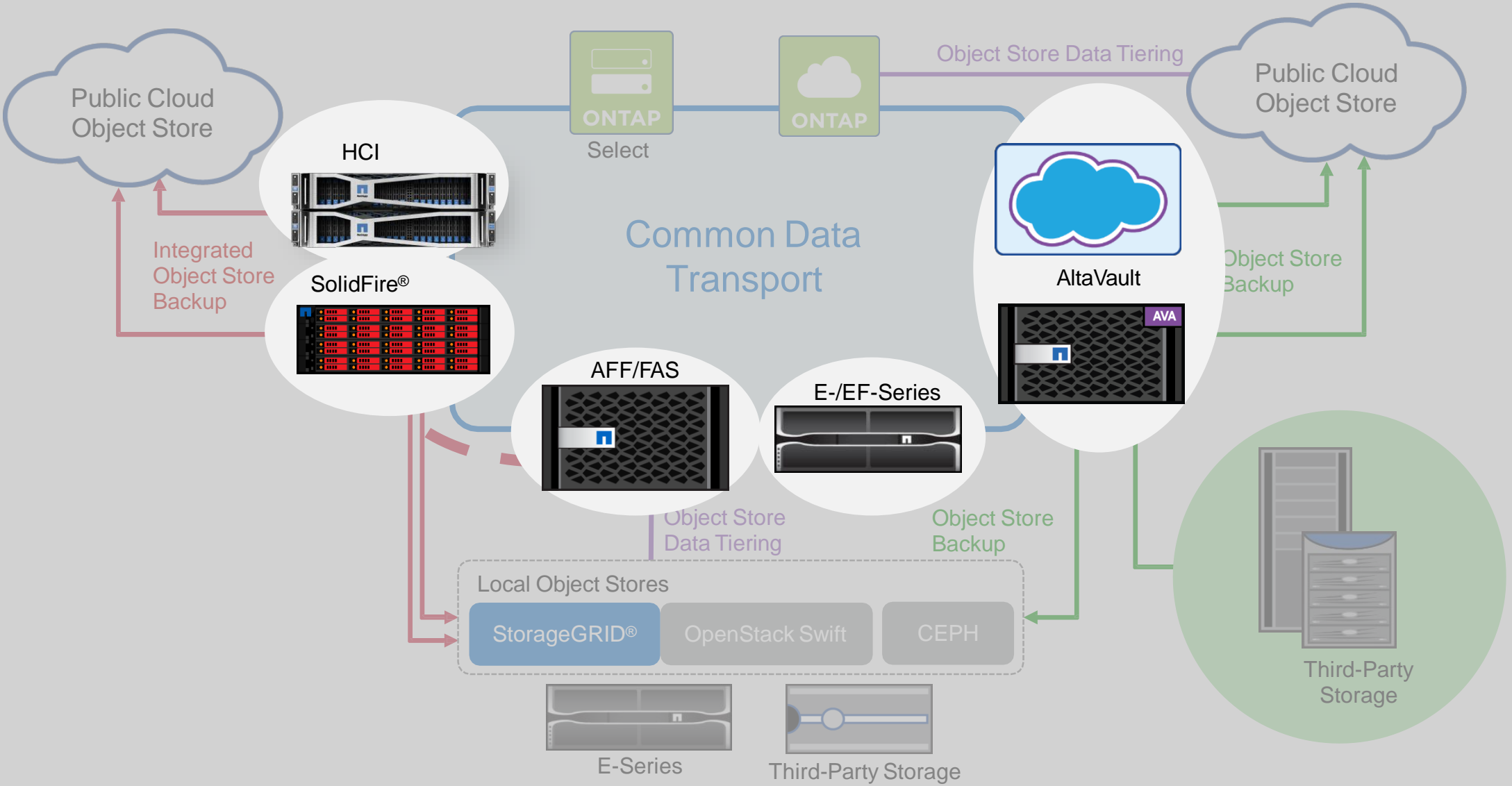
2016 年第 1 至 4 季和 2017 年第 2 季

* 根據 IDC 資訊，市佔率的差距小於 1%。NetApp 和 HPE 在 CY16Q2、CY16Q3 和 CY17Q1 並列第 1 名。

The NetApp Data Fabric Ecosystem



The NetApp Data Fabric Ecosystem

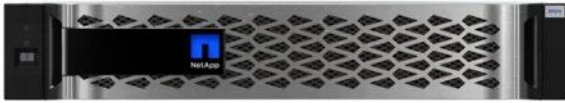




NetApp All Flash

All-flash overview

NetApp's robust portfolio of all-flash storage arrays provides your customers with the peak performance and management tools they need to run enterprise applications



EF-Series and All-Flash E2800

Streamlined architecture optimized for low-latency workloads

- Big data analytics
- Bare metal applications
- Value-based buying decision
- Lowest latency, highest bandwidth in dense form factor



All Flash FAS

Performance, robust data management, shared general IT

- Mixed applications
- Test/dev use cases
- Virtual infrastructure
- Cloud-ready



SolidFire®

Scale-out, service-oriented flash storage for innovative architectures


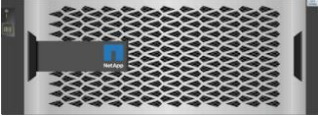
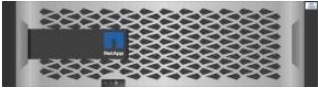

- Cloudlike infrastructure
- Enterprise XaaS/service providers
- Massive scalability and QoS
- Advanced virtualization

For more details, visit the [Accelerate Enterprise Applications with Flash binder](#) on Field Portal.

AFF A-Series overview

- Fastest unified all-flash array
 - 7M IOPS at 1ms latency within a cluster
 - 850K IOPS with an HA pair (AFF A700/A700s)
- Best density with compact form factors
 - 1PB effective in a 4U flash array
 - 1PB effective in a 2U add-on shelf
- Different designs to fit any needs
 - Modular design and compact design
 - Internal SSDs and external shelves
 - Different I/O expandability
- Extend flash benefits to MSB



	Systems with External SSDs	Systems with Internal SSDs
High-end	 AFF A700 8U modular	 AFF A700s 4U compact
Midrange	 AFF A300, 3U	
Entry-level		 AFF A200, 2U

AFF A-series: what's new

More powerful ONTAP 9.3

Increased performance

- 850k IOPS per HA pair: fastest unified AFA
- 2x the IOPS at half the latency for Oracle database than previous generation
- **First to support both 40GbE and 32Gb FC** connectivity
- **As much as 40% improvement delivering** best SAN performance for both FC and iSCSI

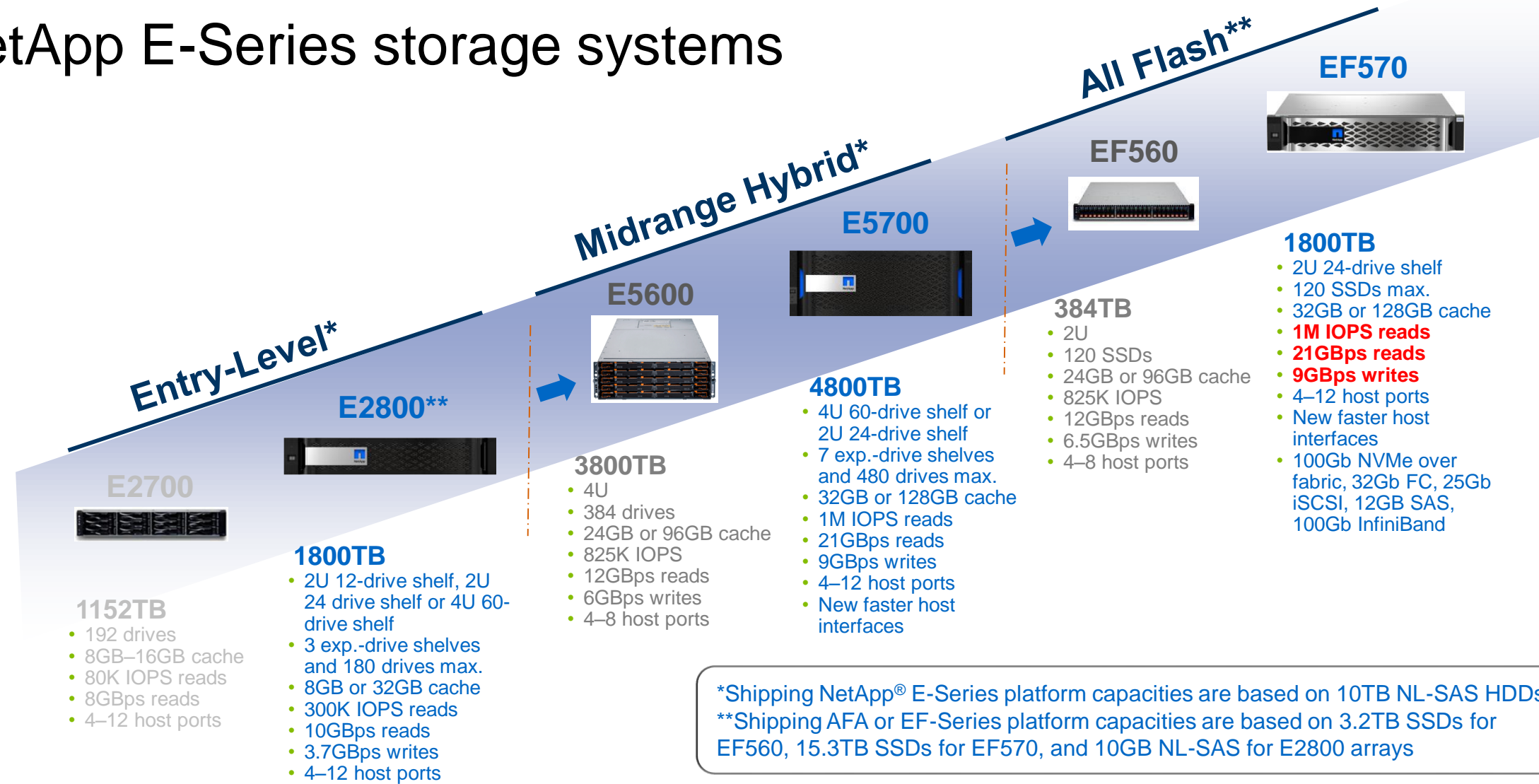
Simpler and more efficient

- Greater serviceability with AFF A700 modular design
- **10-minute setup**, now includes SAP HANA
- **Up to 30% increase in storage efficiency** with expanded and enhanced deduplication

More flexible

- First to support multistream-write (MSW) SSDs: 42% increase in usable capacity combined with ADP
- Software encryption: NetApp® Volume Encryption (NVE)
- Massively scalable NAS container: NetApp ONTAP® FlexGroup
- Automatic data tiering between on premises and the cloud: FabricPool

NetApp E-Series storage systems



*Shipping NetApp® E-Series platform capacities are based on 10TB NL-SAS HDDs.
 **Shipping AFA or EF-Series platform capacities are based on 3.2TB SSDs for EF560, 15.3TB SSDs for EF570, and 10GB NL-SAS for E2800 arrays

Note: See the [Hardware Universe](#) for a full listing of available drive types and capacities

EF-Series solution focus areas

EF570 is ideal for big data analytics

Backup and Recovery

Platforms

E2800, E5700

Market

\$3B, 11% CAGR



Video Surveillance

Platforms

E2800, E5700

Market

\$8B, 17% CAGR



Technical Computing

Platforms

E2800, E5700, EF570

Market

\$5.6B, 9.4% CAGR
(commercial)



Big Data Analytics

Platforms

E2800, EF5700, EF570

Market

\$13B, 24% CAGR



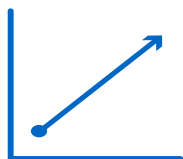
Aligned with E/EF-Series core strengths

Performance, value and reliability, simplicity



SolidFire

專為次世代資料中心打造：**橫向擴充**、**保證效能 QOS**、**易於管理**



橫向擴充



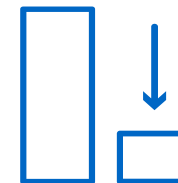
保證效能



自動化管理



資料保證



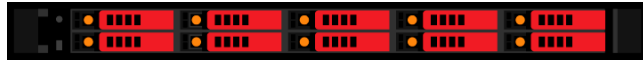
整體效率

獲得全球最嚴苛的服務
供應商與企業資料中心的
實證肯定



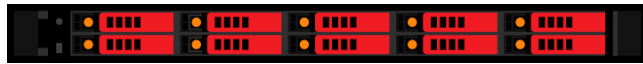
SolidFire Scale Out

Add New Nodes to Scale Capacity and Performance



4805

- 10TB effective capacity*
- 50,000 guaranteed IOPS



9605

- 20TB effective capacity*
- 50,000 guaranteed IOPS



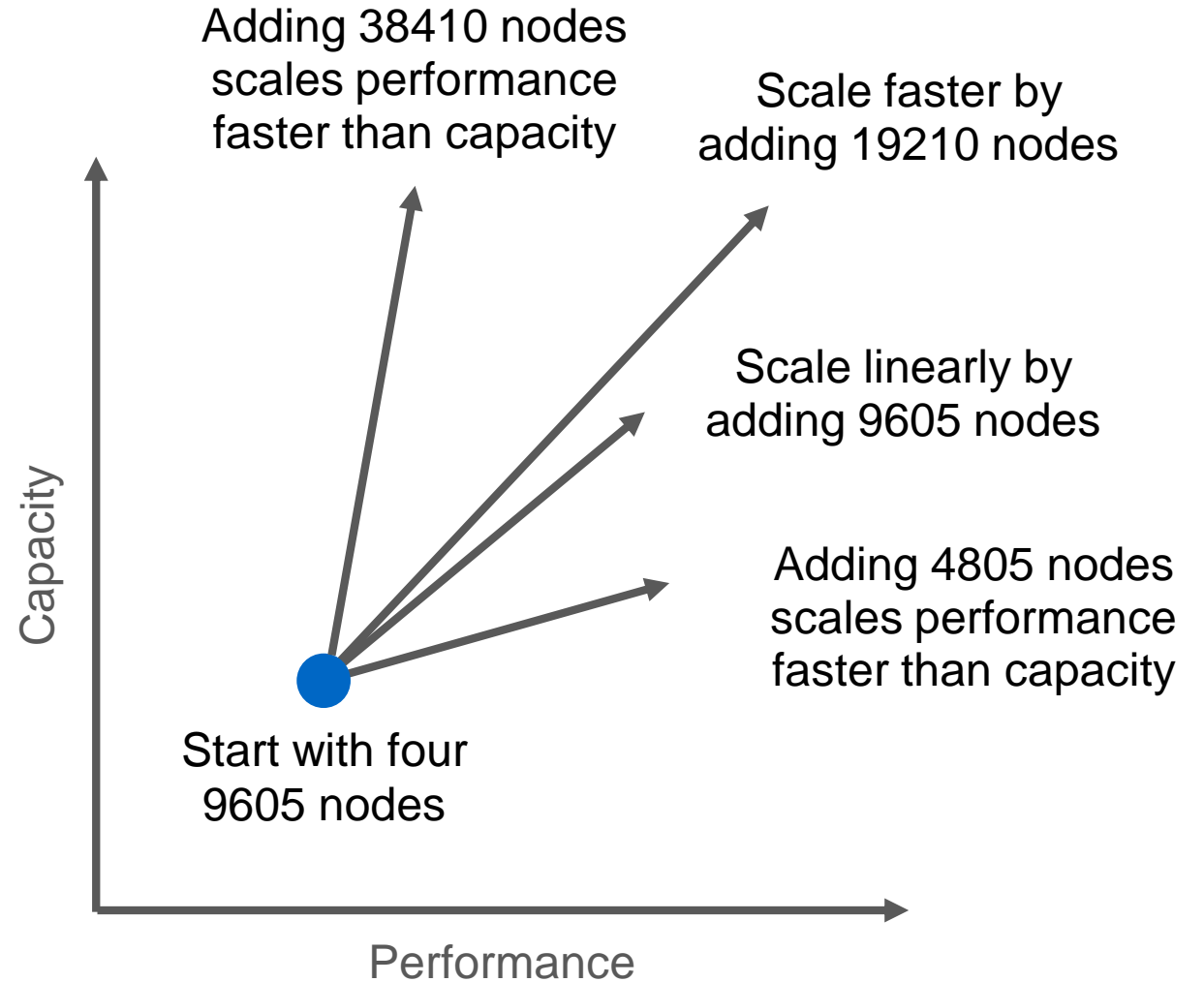
19210

- 40TB effective capacity*
- 100,000 guaranteed IOPS



38410

- 80TB effective capacity*
- 100,000 guaranteed IOPS

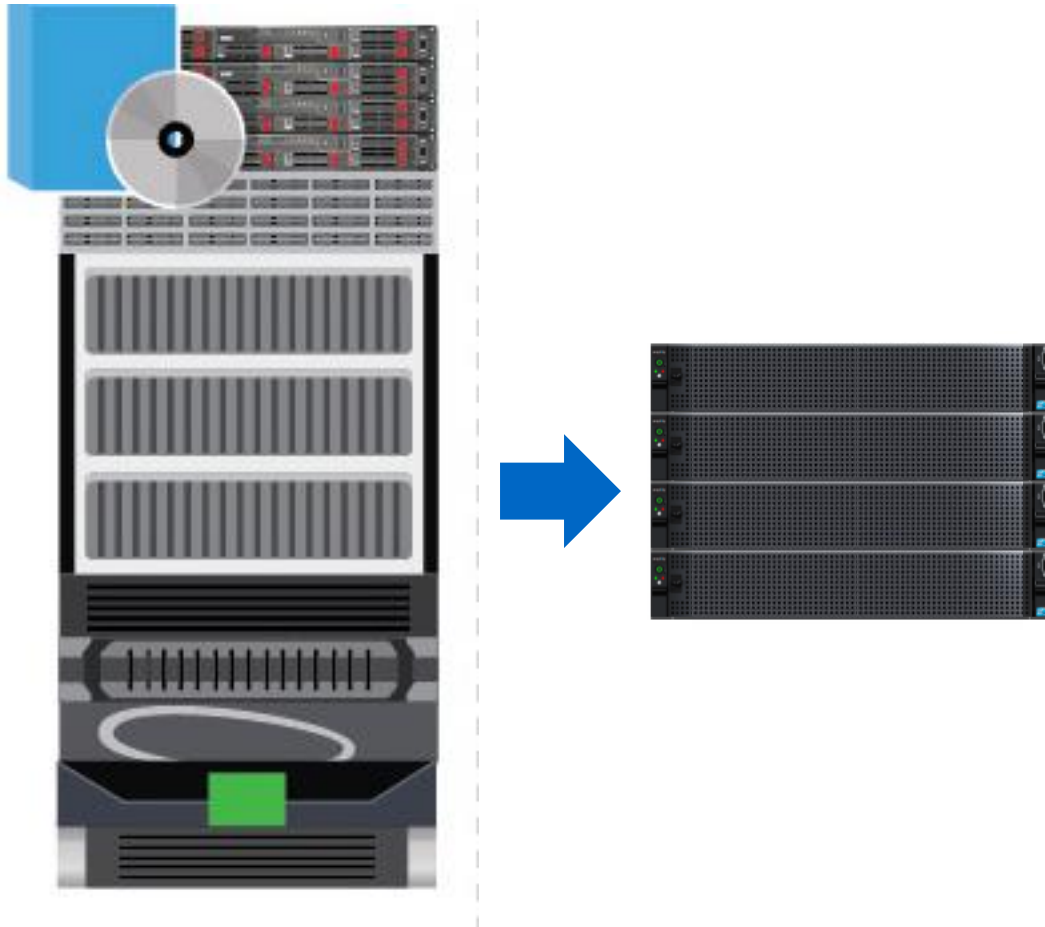


* SolidFire's Effective Capacity calculation accounts for Helix data protection, system overhead and global efficiencies including compression, deduplication and thin provisioning. SolidFire customers typically achieve an effective capacity range of 5x to 10x the (usable) capacity depending on application workloads. The above capacity calculations show 5x efficiency gains



NetApp HCI

Hyper Converged Infrastructure 1.0



What it is today...

- Consisting of software-defined compute, networking and storage
- Easier to manage; intuitive hypervisor-aware storage
- Shared-core approach for low entry point
- Rapid response to the business via fewer integration points
- Simple and rapid deployment and management
- Pay-as-you-go expansion and economics
- One size fits all architecture

NetApp HCI. Enterprise-Scale.



Guaranteed Performance

Deliver All Your Applications with
Confidence



Flexibility & Scale

Scale On Your
Terms



Automated Infrastructure

Transform & Empower
Your IT Operations

NetApp Data Fabric

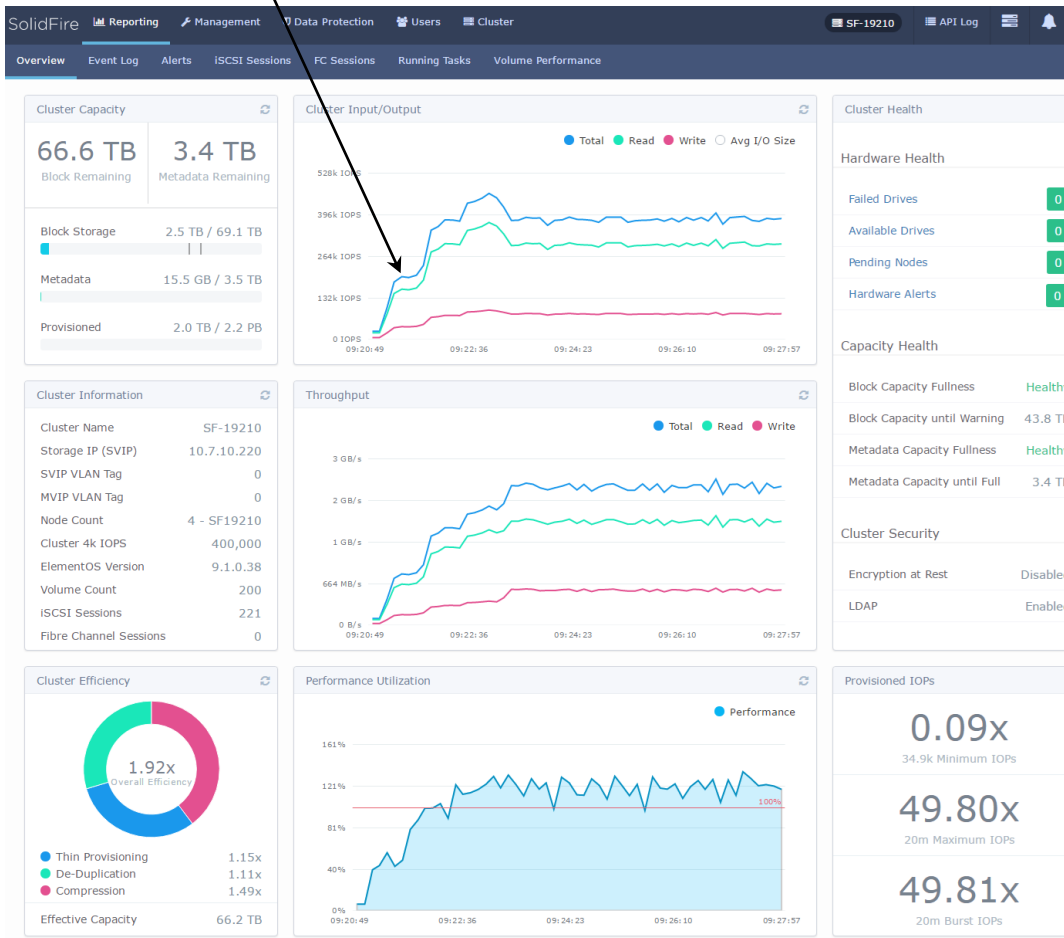
Unleash the Power of Data to Achieve a New Competitive Advantage



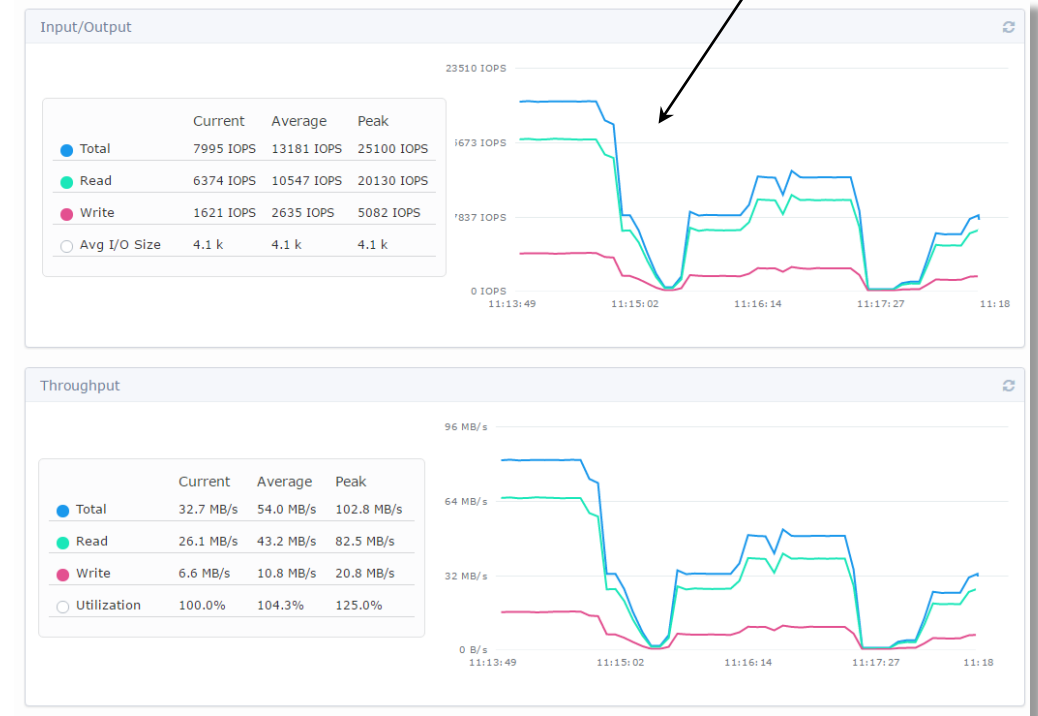
Deliver Predictable Performance

Eliminate Noisy Neighbors

Overall Utilization Increases



Application not protected due to low Guaranteed Performance minimum

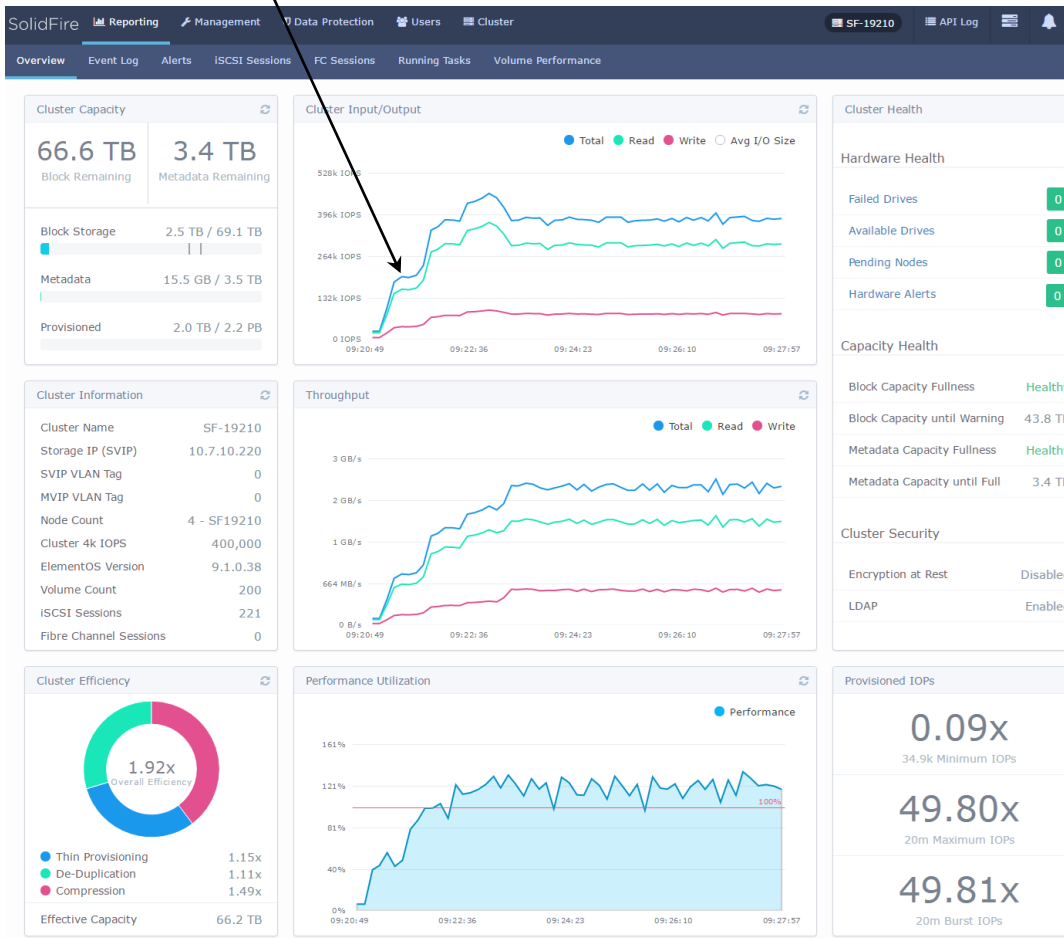




Deliver Predictable Performance

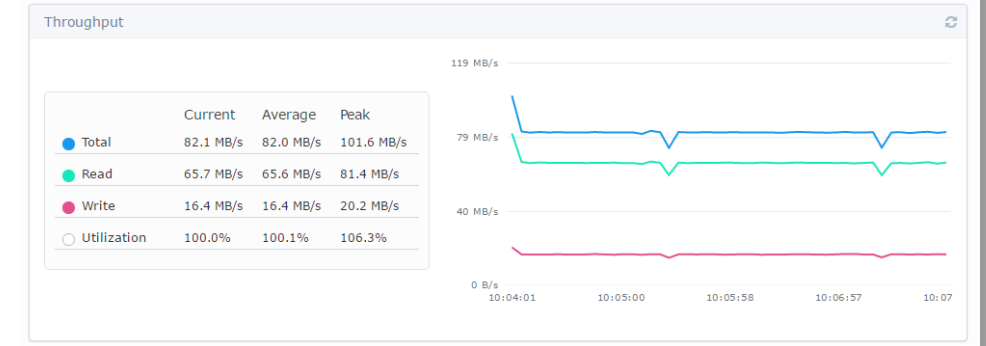
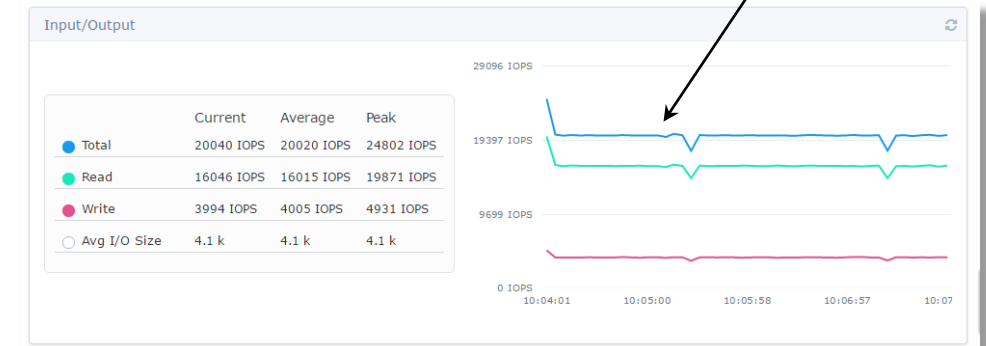
Eliminate Noisy Neighbors

Overall Utilization Increases



Min IOPS	✓	15,000
Max IOPS		20,000
Burst IOPS		25,000

Application protected due to correct Guaranteed Performance minimum

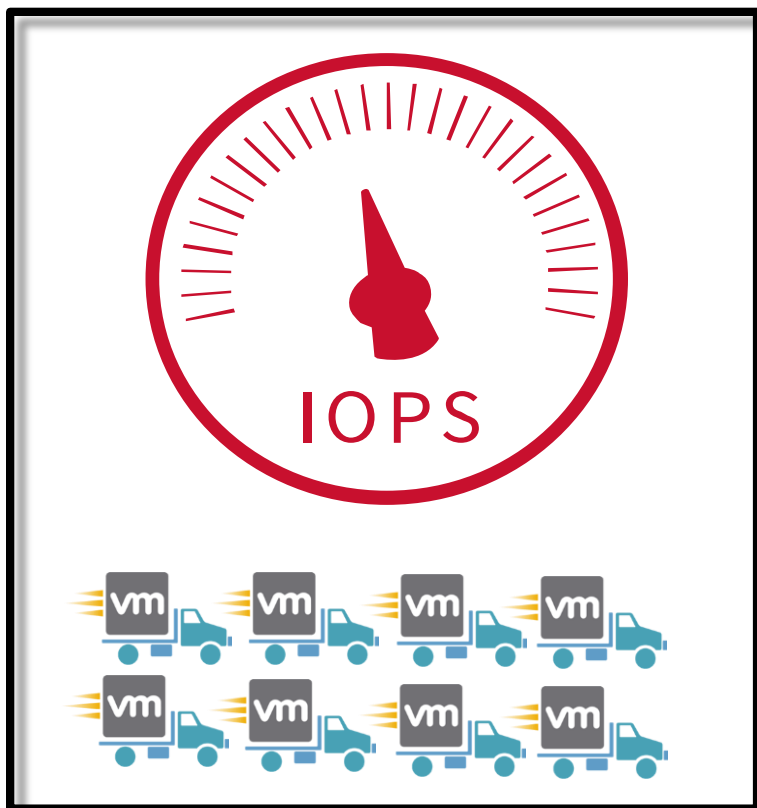




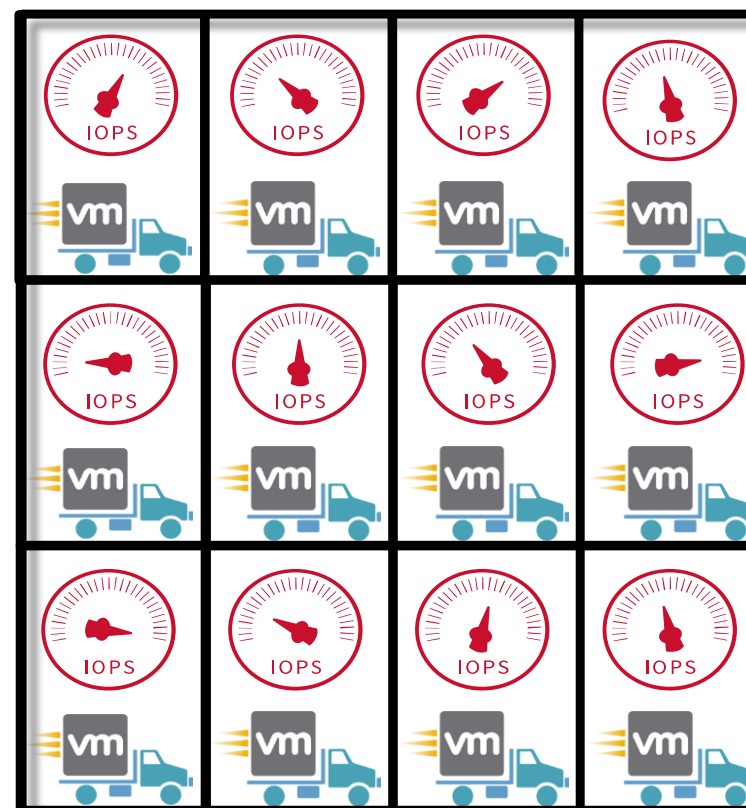
Provide granular control at VM level

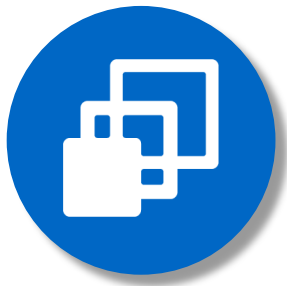
- Prevent any VM from impacting the performance of another

Without Control



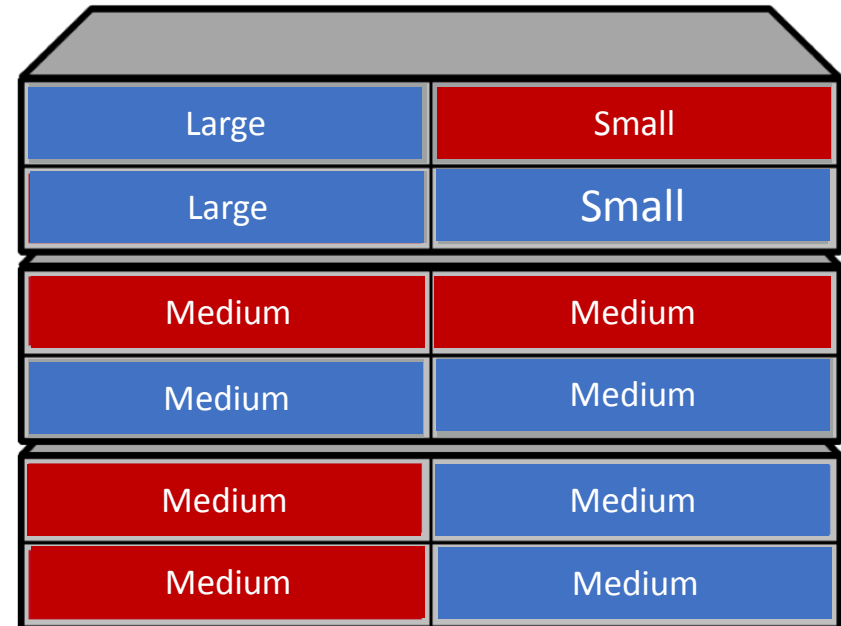
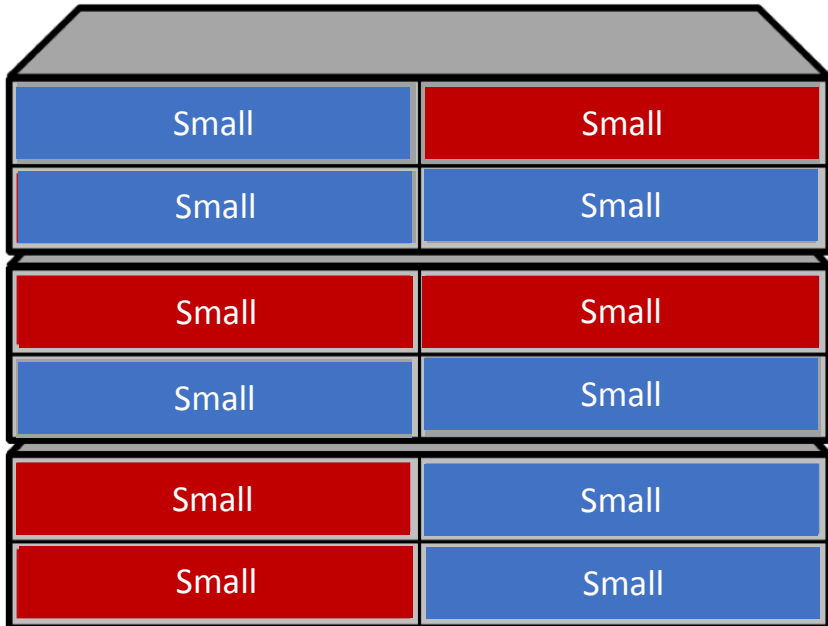
With Control (VVOls)





Independently Scale Compute & Storage

Mix and Match to Fit Your Needs



Compute Node Components

- Specifications per node

Small

Medium

Large

	Small	Medium	Large
RU	1RU, half-width	1RU, half-width	1RU, half-width
Cores for VM's	16	24	36
CPU	Intel 2620 - 2.1G	Intel 2650 - 2.2G	Intel 2695 - 2.1G
Memory	384 GB	512 GB	768 GB
Boot Device	2 x 240GB MLC	2 x 240GB MLC	2 x 240GB MLC
Base Networking	4x 10/25 GbE SFP 28 + 2x 1GbE RJ45	4 x 10/25 GbE SFP 28 + 2x 1GbE RJ45	4x 10/25 GbE SFP 28 + 2x 1GbE RJ45

Storage Node Components

- Specifications per node

Small

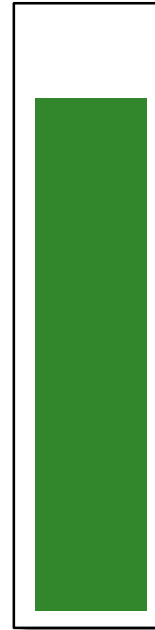
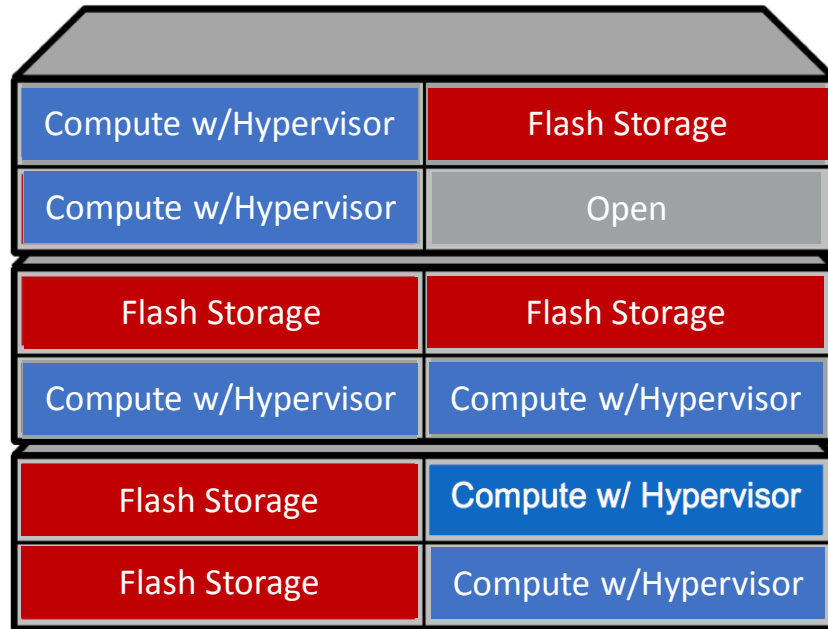
Medium

Large

RU	1RU, half-width	1RU, half - width	1RU, half - width
IOPS	50,000	50,000	100,000
Boot Device	1 x 240GB MLC	1 x 240GB MLC	1 x 240GB MLC
Base Networking	4 x 10/25 GbE SFP 28 + 2x 1GbE RJ45	4 x 10/25 GbE SFP 28 + 2x 1GbE RJ45	4 x 10/25 GbE SFP 28 + 2x 1GbE RJ45
SSD	6 x 480 GB	6 x 960 GB	6 x 1.92 TB
Effective Block Capacity*	5.5TB – 11TB	11TB – 22TB	22TB – 44TB

Compute and storage scaled independently

By node



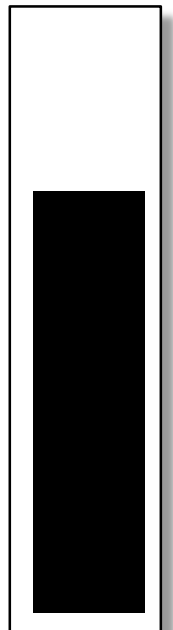
PERFORMANCE



CAPACITY



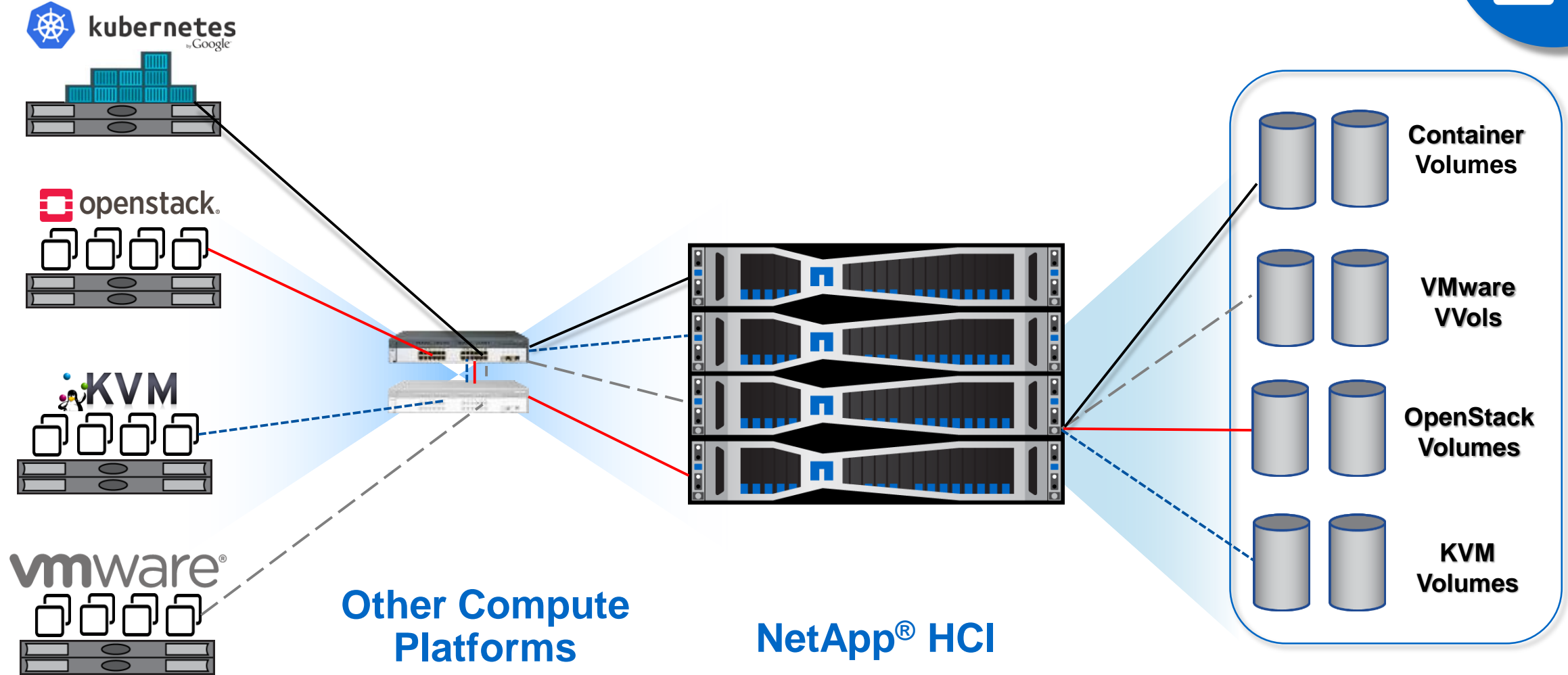
MEMORY



CPU

Open storage model

Flexibility to integrate external compute systems with NetApp HCI storage targets



Day 0: get up and running in 30 minutes

Intuitive deployment engine reduces 400+ inputs < 30



NetApp

Welcome to HCI



The following wizard will guide you through your HCI setup.

Get Started



Initializing

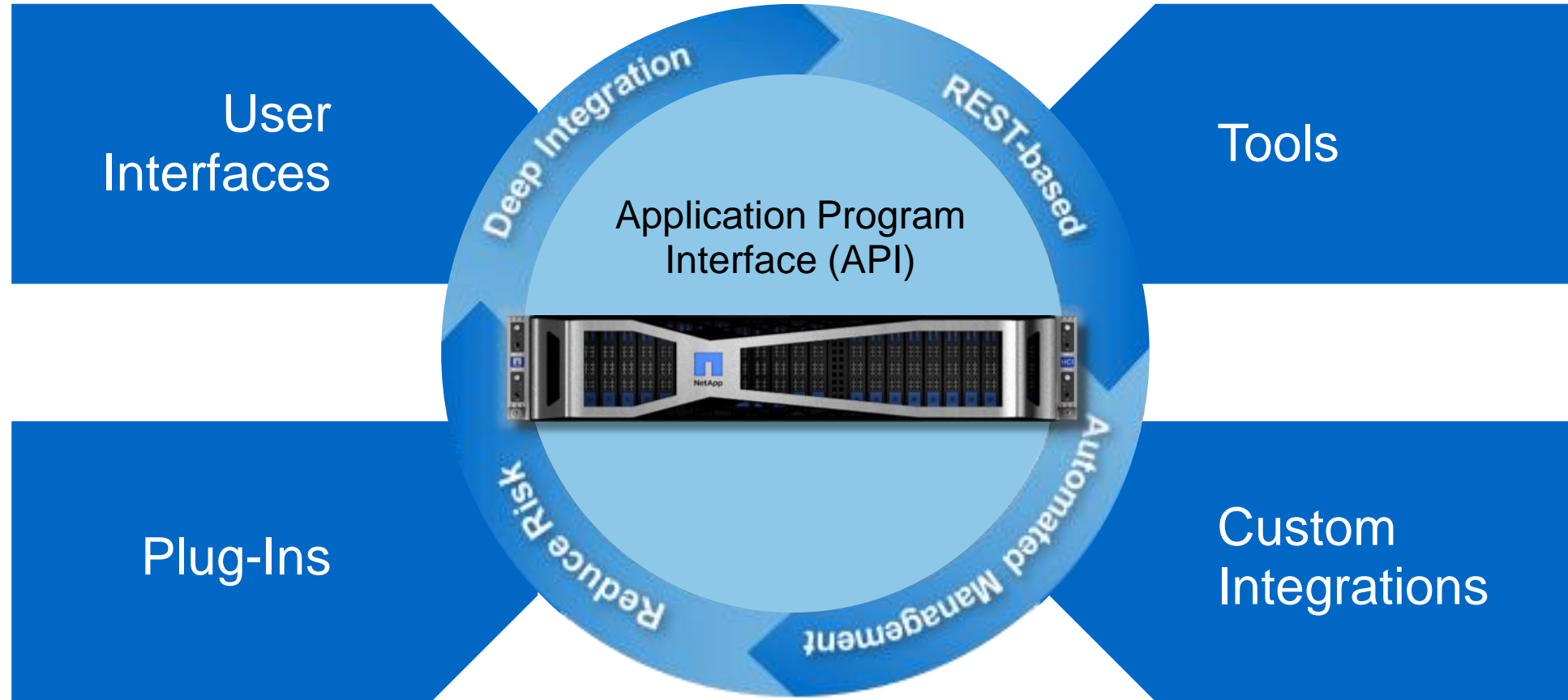
Configuring

Building

Finishing

Day 1+: simplified management

Comprehensive set of robust APIs

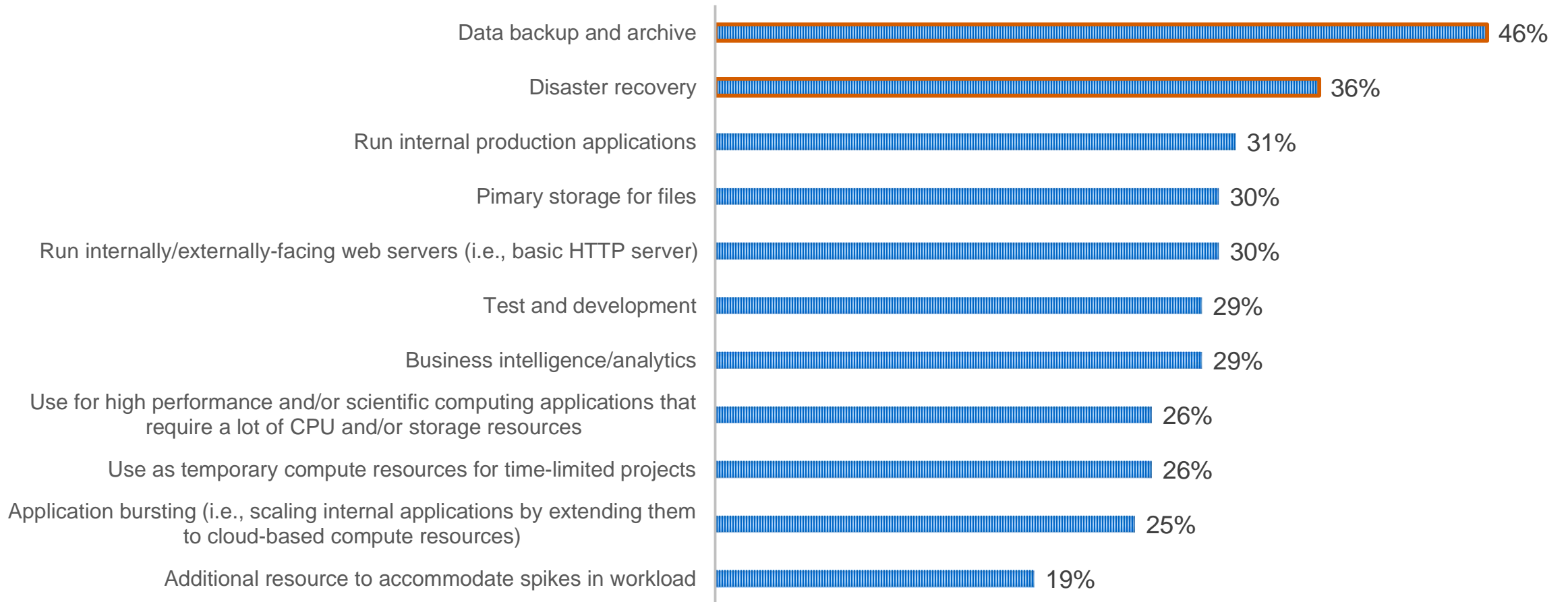




NetApp AltaVault

Backup and archive are the first workloads to move to the cloud

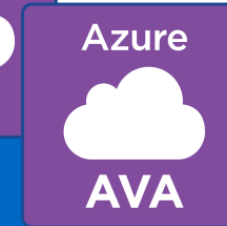
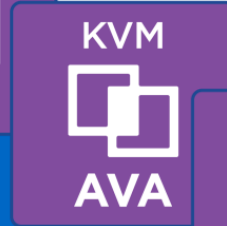
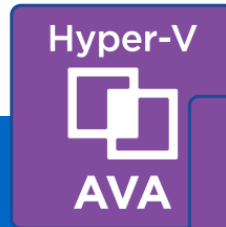
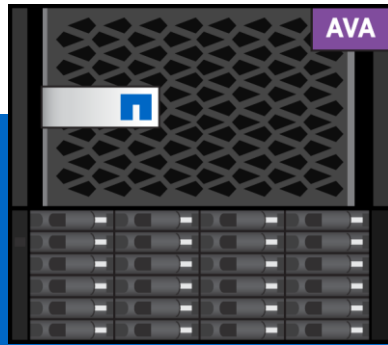
For which of the following purposes does/did your organization use cloud infrastructure services?



N=319, multiple responses accepted

Source: ESG Research Report, *2016 IT Spending Intentions Survey*, February 2016

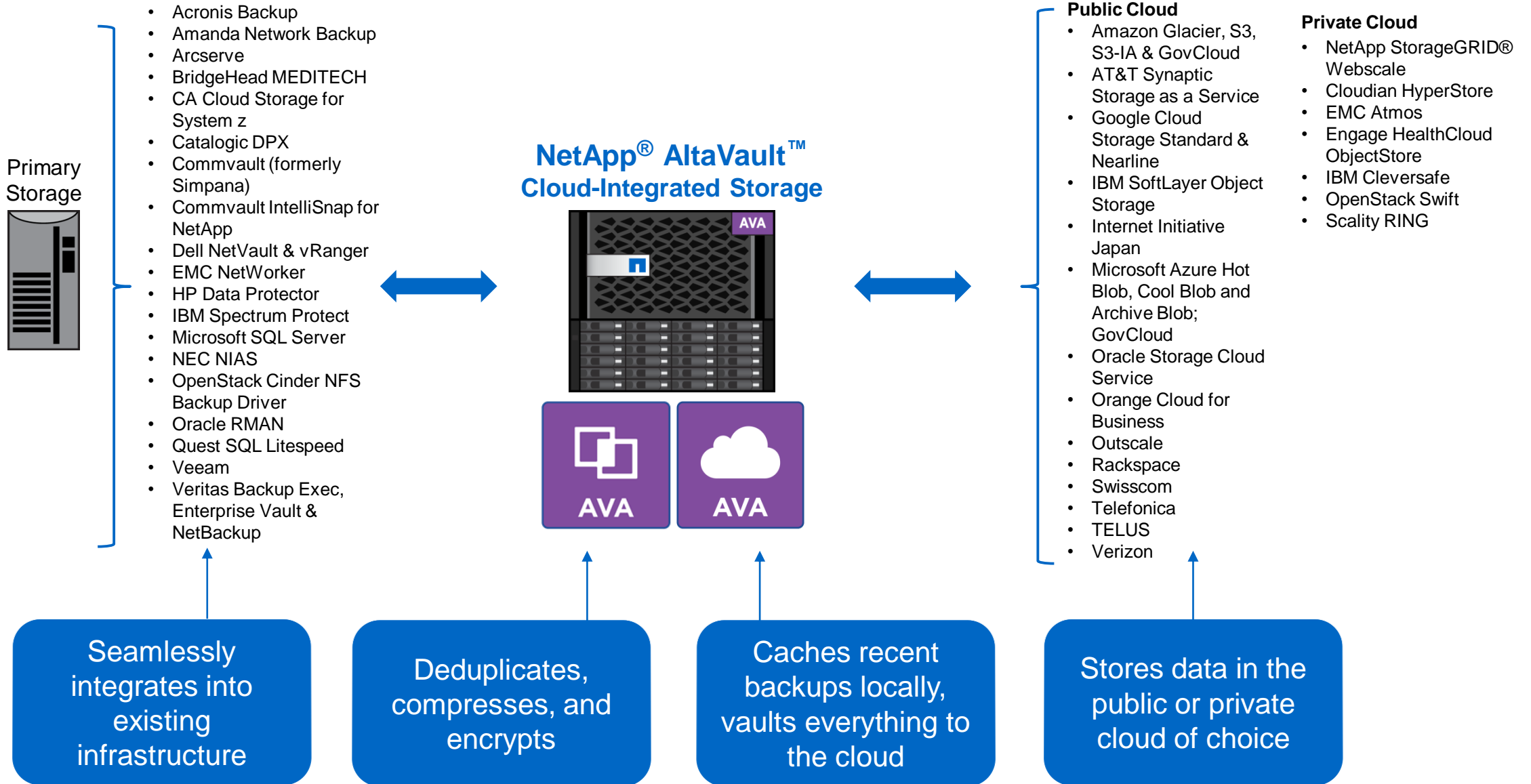
NetApp AltaVault cloud-integrated storage



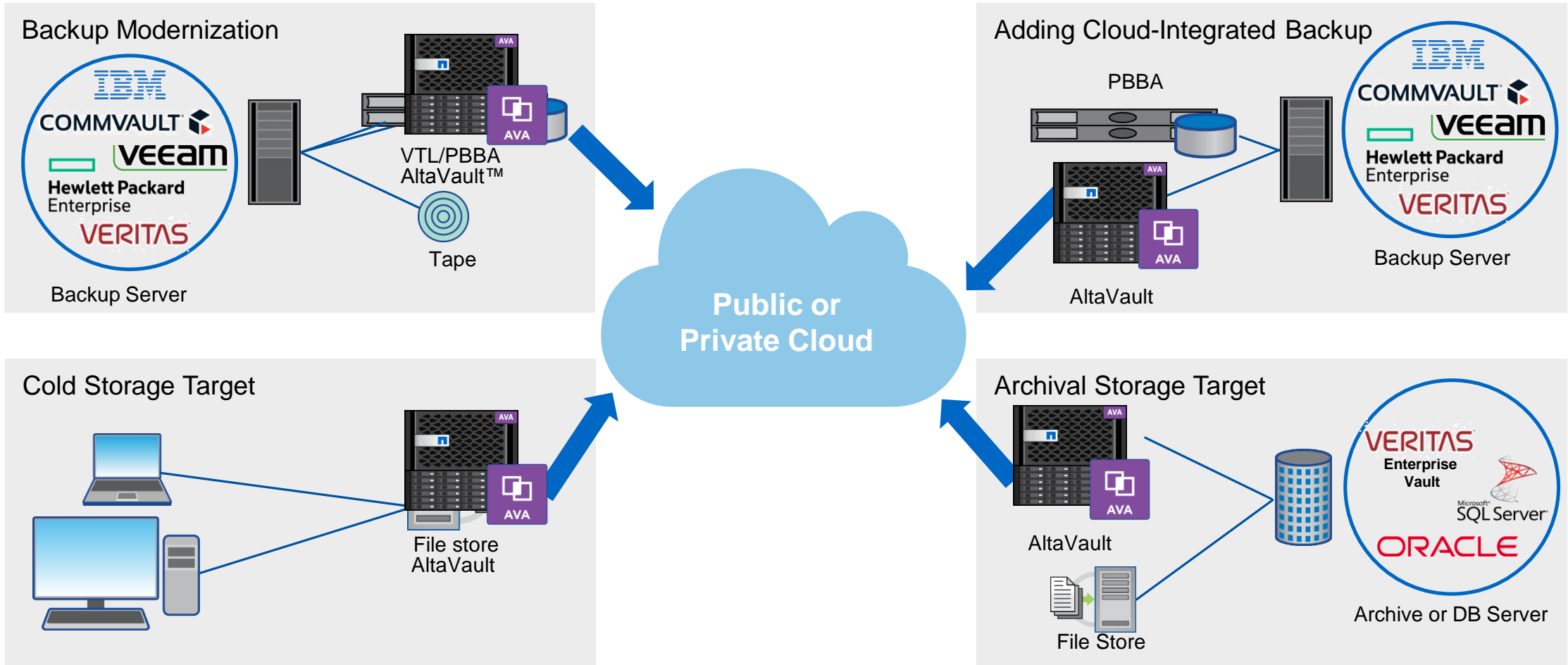
NetApp AltaVault enables customers to securely back up data to any cloud at up to 90% lower cost compared with on-premises solutions. AltaVault gives customers the power to tap into cloud economics while preserving investments in existing backup infrastructure and meeting backup and recovery SLAs.



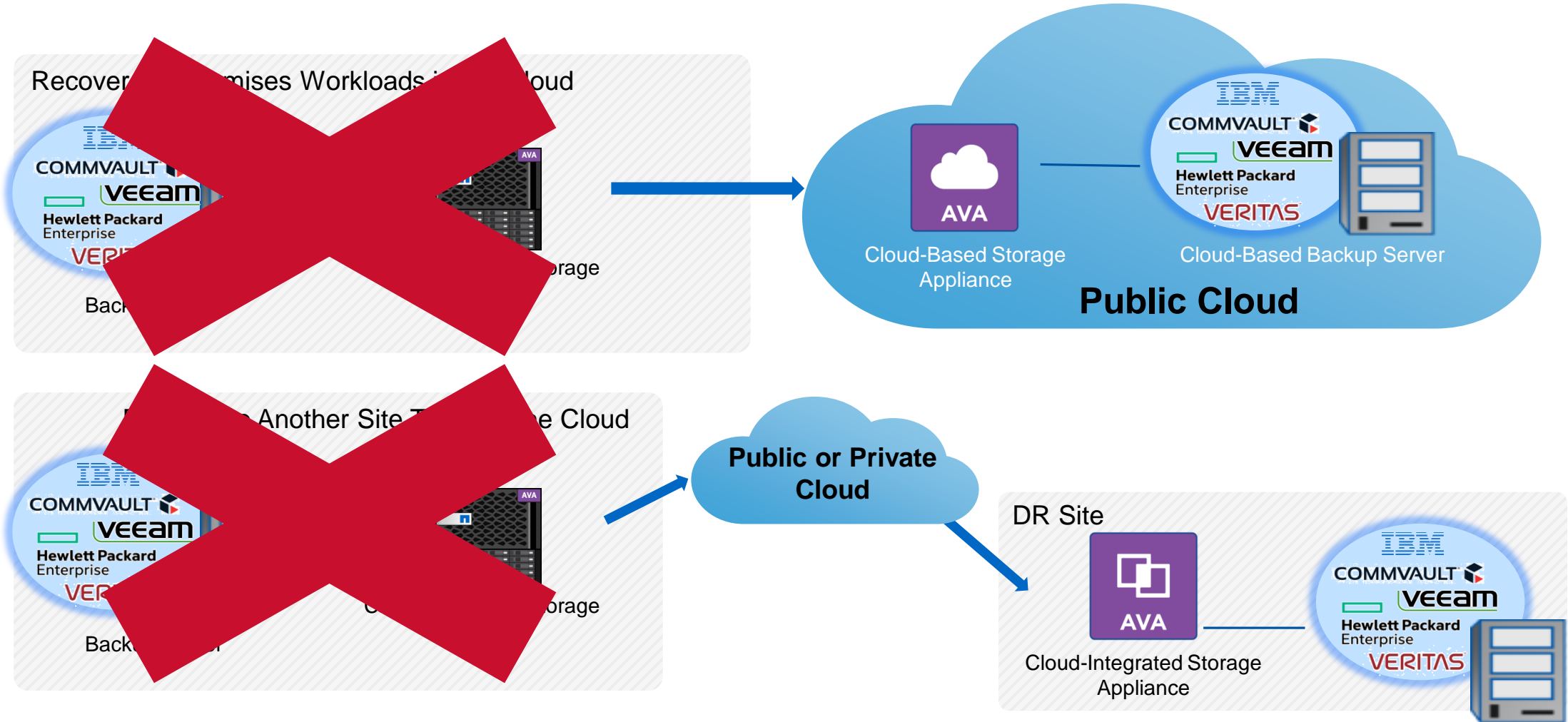
AltaVault Ecosystem



How customers use AltaVault physical and virtual appliances



Cloud can help with disaster recovery as well



Key Takeaways



- NetApp Data Fabric
- NetApp All Flash Portfolio
 - AFF - All Flash FAS
 - EF Series
 - SolidFire
- NetApp HCI
- NetApp AltaVault



Thank You