Datasheet

NetApp HCI for Service Providers

Hyper Converged Infrastructure for Multitenant and Private Cloud Deployments

Key Benefits

Multiple Deployment Opportunities

- Dedicated private cloud for easy deployment for customers requiring the compliance benefits of dedicated infrastructure
- Multitenant cloud and hosting, scaling individual resources granularly as you onboard more customers
- On-premises managed cloud to extend your reach by taking the managed cloud hosting infrastructure experience directly to your customer's on-premises data center

Guaranteed Performance

- Consolidate mixed workloads
- Deliver predictable performance
- Provide granular control at VM level

Flexibility and Scale

- Optimize and protect existing investments
- Scale compute and storage independently
- Eliminate HCI tax

Automated Infrastructure

- Automate and streamline management
- Deploy rapidly
- Simplify using comprehensive API ecosystem

NetApp Data Fabric

- Move data anywhere
- Provide greater data visibility across clouds
- Optimize and protect all your data

Address Cloud and Hosting Customer Needs with NetApp HCI

The NetApp® scale-out, all-flash hyper converged architecture (HCI) delivers guaranteed performance, increased agility, and easy automation to address the demanding infrastructure needs of cloud and hosting provider customers.

One of the biggest challenges in any service provider environment is delivering predictable performance, especially in the face of the randomness of customer applications and workloads, many of which can be extremely resource intensive. Any time you have multiple applications sharing the same infrastructure, the potential exists for one application to interfere with the performance of another.

NetApp HCI provides service providers with the HCI infrastructure solution to address multiple customer deployment scenarios. Based on the NetApp SolidFire® storage architecture, NetApp HCI delivers unique quality of service (QoS) limits that allow the granular control of every application, eliminating noisy neighbors, meeting unique performance needs, and satisfying all performance SLAs for all of your enterprise customers at scale.

Scale on Your Terms

Unlike previous generations of HCI, which have fixed resource ratios, NetApp HCI scales compute and storage resources independently. Independent scaling helps service providers avoid costly resource overprovisioning, simplifies capacity and performance planning, and more closely aligns your inbound revenue streams to your outbound expenses model.

NetApp HCI Runs on SolidFire All Flash Designed for Service Providers

Running on innovative SolidFire technology and delivered on an architecture designed by NetApp, NetApp HCI is the only true cloud-scale hyper converged infrastructure solution. NetApp HCI comes in a 2RU chassis with 4-node expansion slots (see Figure 1).

Increase Application Density: More Customers on the Same Infrastructure Footprint

Consolidate all of your workloads, avoiding the need for you to scale in ways that strand resources and throttle the performance required by next-generation data center applications. NetApp HCI provides the solution for performance predictability challenges with unique QoS limits that allow the granular control of every application, eliminating noisy neighbors, meeting unique performance needs, and satisfying all performance SLAs.
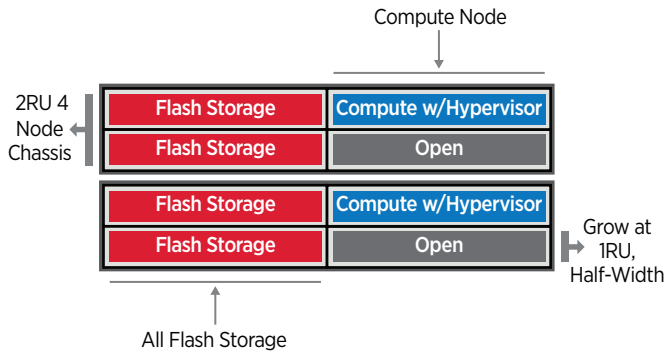
■ NetApp®

Figure 1) NetApp HCI Minimum Configuration

The per-volume QoS control of HCI storage nodes helps individual virtual machines (VMs) and applications meet I/O throughput requirements without being affected by other applications running in parallel. With QoS and data reduction efficiencies, higher application density with the shared storage infrastructure can be achieved.

Monetize Storage Like Never Before
- Sell additional services (for example, encryption) without licensing fees
- Use multiple ways to package storage: IOPS/GB, tiered, IOPS add-on

Streamline Operations
- Eliminate up to 93% of performance-related issues
- Eliminate tech refresh data migrations (cost: 54% of original purchase price)

Win More Customer Applications
- Differentiate with market-focused, specialized services that are backed by meaningful SLAs
- Target business-critical applications; 68% of enterprises run less than a fifth of their app portfolio in the cloud

Reduce Risk
- Get flash forward and efficiency guarantees
- Use movable storage and/or compute, which mean no stranded assets

Improve Customer Satisfaction
- Get happier customers, who sign longer agreements, don't churn, bring on more workloads, and tell their friends
- Offer predictable performance with guaranteed SLAs

About NetApp
NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit www.netapp.com. #DataDriven

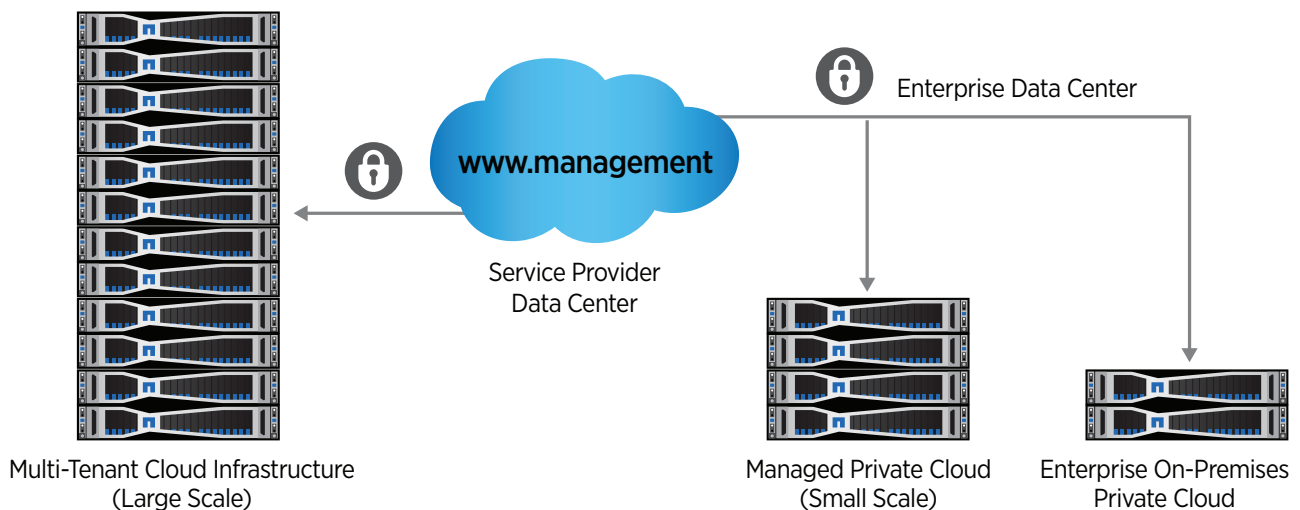## Expand Your Cloud and Hosting Services with NetApp HCI

Figure 2) Service Provider HCI Deployment Opportunities

NetApp HCI Specifications

Storage Nodes

	SMALL H300S	MEDIUM H500S	LARGE H700S
SSD	6 x 480GB	6 x 960GB	6 x 1.92TB
Effective block capacity*	5.5TB–11TB	11TB–22TB	22TB–44TB
Performance per node	50,000 IOPS	50,000 IOPS	100,000 IOPS
Storage OS	NetApp SolidFire Element® OS 10.0		
Base networking	2 x 10/25GbE (SFP 28)** 2 x 1GbE RJ45**		
Optional out-of-band management	1 x 1GbE RJ45		

Compute Node

	SMALL H300E	MEDIUM H500E	LARGE H700E
CPU	2x Intel E5-2620v4, 8 cores, 2.1GHz	2x Intel E5-2650v4, 12 cores, 2.2GHz	2x Intel E5-2695v4, 18 cores, 2.1GHz
Cores for VMs	16	24	36
Memory	384GB	512GB	768GB
Hypervisor	VMware vSphere 6.0		
Base networking	4 x 10/25GbE (SFP 28)** 2 x 1GbE RJ45**		
Optional out-of-band management	1 x 1GbE RJ45		

Power and Dimensions (per Chassis)

Rack units	2 RU
Nodes	1 RU, half-width: Mix and match four NetApp HCI nodes per chassis
Power Input	220–240VAC 1+1 redundant***
Max watts/current per power supply	2200W/220–240V/12–11A
Node physical dimensions	39.20mm/1.54 in H 196.25mm/7.73 in W 587.55mm/23.13 in D ~ 3.60kg/8.0 lbs
Chassis physical dimensions	8.80cm/3.46 in H 44.70cm/17.60 in W 73.00cm/28.74 in D ~ 24.70kg/54.45 lbs

Environmentals

Operating temperature, altitude, and relative humidity	10°C to 35°C (50°F to 95°F); at <= 914.40m (at <= 3,000ft) elevation; 1°C derating per 1,000ft; 8% to 90% relative humidity, noncondensing
Nonoperating temperature and relative humidity	–40°C to 70°C (–40°F to 158°F)
Heat dissipation	Typical BTU/hr: small 2,730; medium 3,412; large 4,129 Worst case BTU/hr: small 3,856; medium 4,982; large 6,142
Certifications	FCC, UL, IEC 60950-1, CE, VCCI, KCC, SABS LOA (South Africa), BSMI, SONCAP, KEBS, KSA, TBS, UNGS

 * NetApp HCI 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.

 ** Cables and transceivers not included.

*** Certain configurations support 100–120V.