



MARKET NOTE

NetApp Finally Joins the Red-Hot Hyperconverged Market with its HCI Solution Engineered on SolidFire, Data Fabric, and ONTAP

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: NetApp HCI – NetApp's First Hyperconverged Infrastructure Solution

Storage and data management provider NetApp enters the hyperconverged market space with its enterprise-class solution NetApp HCI. The product will be generally available in Europe from the fourth quarter of 2017.

Key Takeaways

- NetApp's entry into the European hyperconverged infrastructure (HCI) market comes at a time when it is already established but is still red hot, poised to grow by 32% CAGR until 2020 to almost \$1.5 billion.
- NetApp HCI, with its Data Fabric integration and automation capabilities, is aligned with NetApp's broader vision of elevating beyond storage infrastructure to becoming a data enabler and a hybrid cloud facilitator.
- It is based on SolidFire's Element OS technology and leverages AFA Software's quality of service (QoS) capabilities to deliver performance guarantees for multiple workloads. Another feature is its flexible, component-based scaling, making its offering more appealing to enterprises looking to break from linearly scaling technologies and save licensing costs.
- NetApp should not discount fierce competition in the hyperconverged space as early providers are investing in plugging the gaps to appeal to large enterprises. It should focus on its key differentiators such as the mature data services, seamless data movement, and flexible scalability.
- The features in NetApp HCI has the potential to help European enterprises overcome some of the key barriers to hyperconverged adoption they cited in IDC's 2017 survey. However, it will need to enable partners and demonstrate with use cases that its hyperconverged solution is not just a "me too" offering. It will also need to keep up the momentum of product innovation by extending support to hypervisors beyond VMware ESXi as many European enterprises have heterogeneous virtual infrastructures.

Source: IDC, 2017

IN THIS MARKET NOTE

This IDC Market Note assesses NetApp's hyperconverged solution NetApp HCI and the vendor's entry in the hyperconverged infrastructure space in the context of the EMEA competitive landscape and end-user expectations from hyperconverged solutions.

IDC'S POINT OF VIEW

NetApp debuted in the fast-growing hyperconverged infrastructure (HCI) market with its solution NetApp HCI.

The European HCI market has been growing significantly for the past couple of years, thanks to the technology's promises of simplicity and ease of deployment as it colocates both compute and storage services on the same server-based storage with software-defined controls. As per IDC's 2017 datacenter predictions, hyperconverged solutions will account for 60% of server, storage, or network deployments by 2020.

IDC's EMEA Integrated Systems Tracker data shows that in 2016, the European HCI market grew 88% year on year (YoY), and it continues to be red hot. We estimate that the EMEA HCI market (including hyperconverged hardware, hyperconverged software, and system infrastructure software) will grow at a CAGR of 32% until 2020 to pass \$1.46 billion. Among the three components, we forecast hyperconverged software and system infrastructure software to grow at accelerated rates – 37% and 52% CAGRs, respectively – compared with HCI hardware (27%). This will enable HCI vendors with strong engineering capabilities in the software-defined storage, data management software, and infrastructure software space to dominate the market as competition intensifies.

NetApp HCI comes at a time when the hyperconverged market is entering the next phase of evolution. IDC's *European Datacenter End-User Survey* shows that fewer organizations (33%) expect speed or ease of deployment as the top advantage of HCI compared with nearly 40% in 2016.

NetApp HCI: Key Features and Differentiators

NetApp HCI is based on SolidFire's all-flash storage and ElementOS technologies. It is currently compatible with VMware ESXi, with support for other hypervisor technologies in the pipeline. HCI will be generally available from the fourth quarter of 2017, although some NetApp Lighthouse customers are already testing it.

The hardware resources for compute come in half-rack unit sizes, which allow four nodes in a 2U enclosure. The minimum configuration is two chassis with two compute and four storage nodes (4RU), with the flexibility to mix and match the node types and sizes based on customer needs.

Billed "enterprise scale," NetApp envisions HCI as a strategic datacenter technology suitable for multiple enterprise-grade applications rather than just for single workloads such as virtual desktop infrastructure (VDI). The key features of NetApp HCI are:

- **Guaranteed performance.** The underlying storage technology in NetApp HCI is SolidFire's ElementOS that includes quality-of-service features. QoS ensures HCI will deliver guaranteed application performance for multiple workloads, allowing customers to consolidate many applications on it rather than using it for single workloads and creating more silos in the datacenter. SolidFire also brings mature data services and integration capabilities such as integrated replication, data protection, data reduction, and high-availability services to HCI. Another highlight is SolidFire's API integrations on VMware

stack, allowing simple centralized management through a vCenter plug-in that gives full visibility and control over the entire infrastructure. HCI also supports ONTAP Select out of the box, giving NetApp ONTAP users the opportunity to continue using it on HCI. As workloads are dynamic and unpredictable, customers should use performance monitoring tools and metrics to correctly provision storage and compute to ensure performances,

- **Flexible, component-based scaling.** Many first-generation HCI solutions feature rigid resource scaling, meaning each time users need more storage capacity in their hyperconverged solutions, they will also have to scale compute nodes, resulting in higher VM licensing fees and massive overprovisioning. NetApp HCI configurations can be scaled flexible (small, medium, or large) with users adding only capacity or only compute nodes depending on the need. IDC believes this granular, component-based scaling can attract many more enterprises to HCI as it overcomes the overprovisioning challenge and brings the advantages of converged systems to hyperconvergence, making NetApp HCI almost a "hybridconverged" offering, sitting in a sweet spot.
- **NetApp Data Fabric integration.** Data Fabric is NetApp's gateway to facilitate hybrid cloud and multicloud infrastructures. Based on ONTAP 9, it allows users to move data seamlessly and securely between different locations and infrastructure – whether on-premises or on the public cloud. In our opinion, Data Fabric makes dynamic data movement within infrastructures easier and provides higher scalability. Integration with HCI brings benefits such as better data portability, visibility, and protection while optimizing existing infrastructure investments.
- **Automated deployment and management.** IDC has long recommended that datacenter automation, especially automation of routine tasks such as VM creation or provisioning or backup, is crucial for higher degrees of efficiency and fewer downtimes owing to human errors. Automation also paves the way for newer processes such as DevOps and agile IT. A quick demo witnessed by IDC saw how NetApp Deployment Engine (NDE) shrinks (almost 400) manual steps down to 30 steps to deploy HCI. The integration with VMware vCenter plug-in makes ongoing management simple and intuitive, while SolidFire APIs also enable integration into higher-level management, orchestration, backup, and disaster recovery (DR) tools.

The Road Ahead for NetApp HCI: Competition, Challenges, and Recommendations

IDC believes the hyperconverged space remains fluid in EMEA. Some of the key players in the market include Nutanix, HPE + SimpliVity, Pivot3, and Dell EMC, as well as HCI software vendors such as VMware (vSAN) and DataCore (virtual SAN).

Notable vendor announcements over the past few months include:

- NetApp's HCI targeting multiple workload consolidation and enterprise-grade data services
- HPE's SimpliVity acquisition
- Nutanix's validation of Actifio's data services to plug its data management features limitations, Nutanix extending support of Nutanix Enterprise Cloud on Cisco UCS blade servers in November 2016
- Cisco releasing hyperconverged appliance HyperFlex based on Springpath in March 2016
- VMware vSAN 6.6 software launch
- HDS launching VMware vSAN-based HCI offering
- VCE VxRack becoming part of the Dell EMC joint portfolio in October 2016

As a late entrant to hyperconvergence, NetApp will need to showcase that it can innovate and differentiate further on its core strengths around hybrid cloud enablement. IDC believes that NetApp is not undermining the competition in this space and is already differentiating its offering by

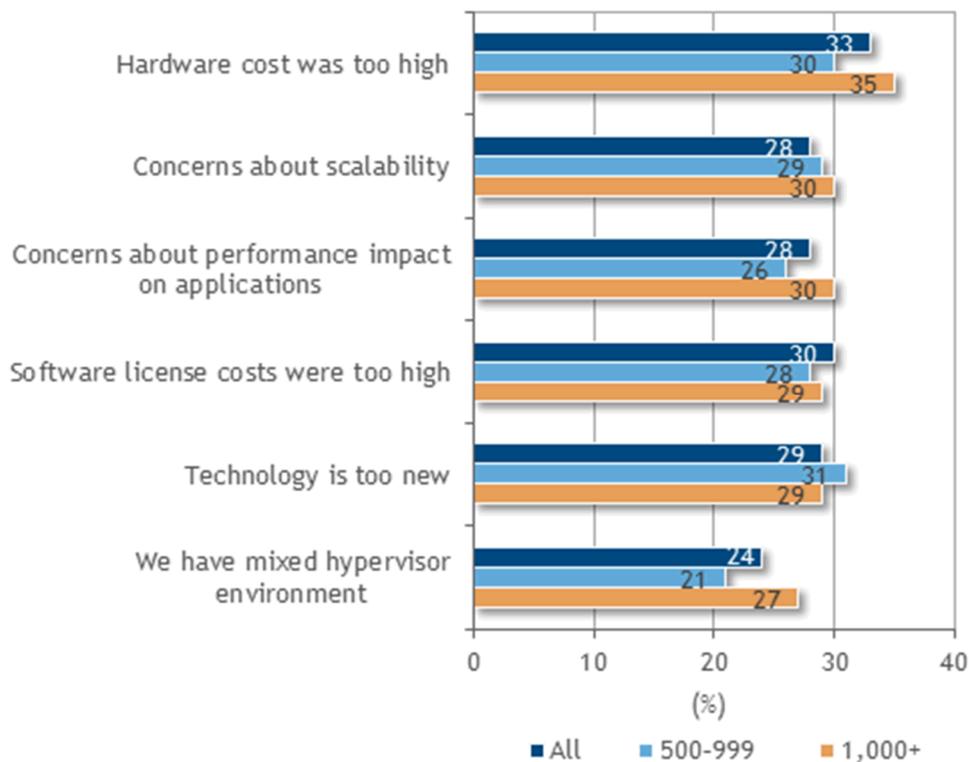
adding flexible scaling, Data Fabric integrations, and is going for a more strategic hybrid cloud play. It also has a busy road map including support for other hypervisors, more data management features, and container compatibility.

IDC believes HPE SimpliVity will be the primary competitor for NetApp in EMEA in 2017/2018 in the hyperconverged space, especially as both companies have a stronghold of the German market, followed by the U.K. and France, and both are eyeing the data services space for differentiation. In our opinion, HPE may require significant engineering efforts to integrate the SimpliVity technology to unify and create a single data management platform across all its storage layers. NetApp has already made its HCI Data-Fabric-aware, giving its solution an edge in this space. However, NetApp should be mindful that other vendors such as Nutanix are plugging that gap through collaborations with data management vendors. NetApp should focus on addressing the barriers to HCI adoption in EMEA to win more customers.

FIGURE 2

Main Inhibitors to HCI adoption

Q. What do you think are (or would be) the main inhibitors or challenges with implementing a hyperconverged infrastructure in your organization?



n = 640 (2017)
Source: IDC, 2017

Figure 2 shows the barriers to HCI adoption from IDC's 2017 *European Datacenter End-User Survey*. Large enterprises – the key target for NetApp HCI – are most worried about performance impact on applications and scalability than smaller organizations. This is because many large companies want to consolidate their applications portfolios on HCI and simplify their IT environments, but they find that the first generation of HCI systems do not deliver consistent high

performance for mixed workloads. NetApp needs to clearly demonstrate with proofs of concept (PoCs) and use cases around performance, scalability, and licensing cost savings to win the confidence of large enterprises. As a next step, it is important to note that mixed hypervisor environments is another obstacle (cited by 27% of large companies) to adopting HCI solutions (Figure 2). NetApp will need to accelerate its engineering efforts in adding more hypervisor support whilst retaining performance guarantees to continue differentiating in the HCI space.

A quick look at the barriers indicate that NetApp's focus on performance guarantees, scalability, data services, and enterprise-grade features are good bets.

In conversations with customers, NetApp will need to steer clear from comparing its HCI with the "first generation of HCI" because many early providers have started making great strides in improving the features in their HCI offerings. IDC believes NetApp's HCI strengths truly lie in Data Fabric integration, QoS, and robust performance for multiple workloads, as well as component-based scalability. It should lead with those messages as that directly relate to infrastructure and business outcomes within enterprises. NetApp should also boldly share its future road map and vision for the solution enabling more enterprises to buy into the product and grow with it as they plan their multicloud and hybrid IT strategies.

In our opinion, the EMEA channel is overwhelmed with HCI and inundated with solutions. NetApp will need to clearly position its solution – as a platform for almost all virtualized applications with guaranteed performance and data protection – to win channel commitment. It should also enable partners to amplify the features most relevant to the potential stakeholders. For instance, a CTO will be more keen on the flexible scalability feature as it can help save application licensing costs, but a line-of-business manager will be more keen on data portability and hybrid cloud features.

Conclusions

NetApp's entry into the hyperconverged space is long overdue, and the solution will create excitement among its key customer accounts. IDC believes NetApp's decision to use SolidFire's technology as the foundation for HCI is proof that it is betting more on the new generation of storage technologies that enable digital transformation. Its Data Fabric integration shows that NetApp can weave its hybrid cloud and data movement vision across its solutions, giving all customers the opportunity to progress seamlessly in their hybrid IT plans. Lastly, its flexible scalability features suggest that NetApp did not want to hurry and launch a "me too" HCI product, but to truly address the cost challenges that HCI customers face.

As the vendor celebrates 25 years in the industry, it is reinventing itself as a data enabler, and its engineering capabilities are steered in that direction. Besides, its all-flash array market shares in EMEA is growing astoundingly (193% in EMEA in 1Q17, as per IDC's latest ESS tracker data) instilling confidence among customers about the company's stability and future.

Expanding its breadth and mindshare as an HCI provider amid stiff, established competition will be the more crucial, harder task for NetApp. But it has all the technology cards, engineering vision, and the will to get there. It now needs to execute emphatically if it is serious about business opportunities beyond flash storage.

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Synopsis

This IDC Market Note discusses NetApp's debut in the fast-growing hyperconverged infrastructure (HCI) market with its solution NetApp HCI, which leverages SolidFire, Data Fabric, and ONTAP technologies to deliver enterprise-class performance and data management for mixed workloads.

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