FLASH

NetApp Expands Its All-Flash Offerings with the Acquisition of SolidFire

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IN THIS FLASH

This IDC Flash discusses the expansion of NetApp's portfolio of all-flash offerings through the acquisition of SolidFire. On December 21, 2015, NetApp announced the pending acquisition of SolidFire, an all-flash array (AFA) vendor, in an all-cash deal valued at $870 million. This development caps a year of maturation for the AFA market that saw the announced acquisition of EMC (with the AFA market share leader XtremIO product) by Dell, the initial public offering (IPO) of Pure Storage, the beginning of a transition to the use of AFAs as a general-purpose primary storage platform for mixed workload consolidation, and the entry of additional vendors (Oracle, Tegile, and Tintri) into this space. IDC expects the acquisition of SolidFire to significantly strengthen NetApp's all-flash portfolio.

SITUATION OVERVIEW

On December 21, 2015, NetApp announced the pending acquisition of SolidFire, an AFA vendor, in an all-cash deal valued at $870 million. NetApp stated publicly that SolidFire's executive team plans to stay with NetApp and that the deal should close in NetApp's fourth fiscal quarter (which ends in April 2016). IDC views this as a positive deal for NetApp in that the acquisition of SolidFire gives it a very competitive entry in the AFA market, a space where NetApp was not yet a player in IDC's opinion.

This deal, in combination with Dell's pending acquisition of EMC, marks a milestone in the maturing of the AFA market. Of the six major enterprise storage players (Dell, EMC, HDS, HP, IBM, and NetApp), all now have a very competitive AFA with the exception of HDS. EMC (XtremIO) and IBM (FlashSystem) purchased start-ups (XtremIO and Texas Memory Systems, respectively) and have made those products ready for broad use as a primary storage platform in the past several years. HP chose to flash optimize an existing platform (3PAR) rather than build an AFA from scratch, and IDC recognizes the HP 3PAR StoreServ 7450 and the newer 8450/20450/20850 platforms as AFAs. Dell and NetApp followed similar paths to HP, although at the time this document was written IDC still viewed their all-flash products (the Dell Compellent Storage Center and the NetApp All Flash FAS) as all-flash configurations of hybrid flash arrays (HFAs). Dell's pending acquisition of EMC gives the company the XtremIO platform, the leading AFA product in the market in terms of revenue. NetApp's acquisition of SolidFire gives the company an AFA platform recognized for its scale-out design, multitenant support (in particular its quality-of-service [QoS] capabilities), and ease of scalability. HDS does ship all-flash configurations of its Virtual Storage Platform, but IDC views these today as HFA/A (all-flash configurations of HFAs) products.

NetApp has followed a somewhat circuitous path in the all-flash arena. Its first all-flash offering was the EF-Series, a system built as a dedicated application platform that uses an operating environment (SANtricity) different from NetApp's hugely successful FAS offerings (which use Data ONTAP [DOT]

and clustered Data ONTAP [CDOT]). In 2015, NetApp entered beta with FlashRay, an all-flash platform built from the ground up for flash media that featured yet another operating environment (Mars). As the AFA market began to shift its deployment model from "dedicated application" to "mixed workload consolidation," purchase criteria began to shift more toward platforms with rich and proven data services. HP has been able to tap into this trend to achieve high growth rates with its AFAs based on the 3PAR operating environment, and NetApp began to benefit from this trend as well with all-flash configurations of its FAS products. NetApp made significant flash optimization enhancements to its DOT/CDOT environment and in 2015 introduced the All Flash FAS (AFF) platform, and enterprise buyers looking for more mature flash-enhanced platforms with rich data services intended for mixed workload consolidation took note. NetApp achieved considerable success selling the EF-Series and AFF products — at the end of its fiscal 2Q16, it announced that it was on a $370 million annual run rate (based on 2Q16 revenue) with revenue growing 165% year over year. With the acquisition of SolidFire, NetApp has now evolved to an enterprise flash strategy that makes a lot of sense for the various IT buyers in the 3rd Platform computing world.

With the advent of flash, the enterprise storage market is in transition. While the market is clearly headed in the direction of all flash for primary storage within the next few years, today there are several distinct types of buyers:

- Enterprises looking for all-flash performance for a single application that they want to keep siloed (dedicated application deployment model)
- Enterprises looking to migrate legacy environments like relational databases, ERP/CRM, file shares, and messaging and collaboration platforms to flash-optimized virtual environments where they can take considerable advantage of workload consolidation for economic and ease-of-management reasons (mixed workload consolidation deployment model)
- Enterprises and service providers looking to host next-generation applications (NGAs) on highly scalable x86-based platforms that leverage commodity hardware and software-defined storage to deliver dynamic flexibility and Web-scale economics (Web-scale deployment model)

Should separate platforms be used for each, or should a single platform be adaptable to all environments? There are vendors credibly making both arguments, but NetApp has now clearly placed itself in the former category. NetApp's storage strategy, unveiled with the SolidFire acquisition announcement, is that the company will offer three platforms — the EF-Series for dedicated application deployment, the NetApp AFF for mixed enterprise workloads, and the SolidFire product for Web-scale deployments — and let customers choose the platform that they feel best meets their requirements. Interestingly, when SolidFire was a standalone vendor, it espoused the "single platform" strategy. NetApp's strategy encompasses more of the market, though, than SolidFire's strategy because NetApp can meet the requirements of users that feel Web scale is right for everything as adeptly as it can accommodate those that prefer separate platforms. This level of choice puts power in the users' hands and stands in sharp contrast to those vendors that can only offer a single platform to meet all requirements.

Highly flash-optimized HFAs like NetApp's AFF are increasingly being sold in a manner directly competitive with AFAs. Like HP, NetApp has made significant strides in narrowing the performance gaps between its HFA/A and other AFAs in terms of storage latencies and top-end throughput. When dense mixed workload consolidation is the ultimate goal, the comprehensive, mature data services that platforms like HP (3PAR), IBM (Spectrum Virtual), and NetApp (DOT/CDOT) offer outpace the breadth and maturity of AFA offerings (none of which were introduced in their current form prior to

2011), a reality that may tip the scale in their favor for certain enterprise customers. For these customers, NetApp has an increasingly competitive offering with AFF. But now with SolidFire, NetApp also has an excellent option for those customers that prefer a flash-optimized solution built around an emerging architecture (true scale out) that promises to figure prominently in the computing infrastructures of the future.

NetApp has also publicly announced that it will not be releasing FlashRay and will be repurposing that team's resources. Although the FlashRay project did not produce a new platform product, the effort has clearly enabled NetApp to better flash optimize its existing operating environments (DOT/CDOT and SANtricity). FlashRay produced 18 patents, with 55 patents pending, and much of this technology has found its way into these other environments, allowing them to make better use of flash media to enhance performance, reliability, and availability; improve efficiencies; and lower overall flash costs.

FUTURE OUTLOOK

In *IDC MarketScape: Worldwide All-Flash Array 2015-2016 Vendor Assessment* (IDC #US40721815, December 2015), SolidFire ranked as a major player and was in particular recognized for its QoS capabilities (implemented as they are in a scale-out storage architecture), its ability to support multitenancy, and its top-end scalability (which in 2015 was in the range of 5 million to 7 million IOPS). SolidFire has achieved considerable success selling into the service provider market with its architecture and capabilities, but it has also achieved considerable success in the enterprise space, a market it began to aggressively pursue in early 2014. The addition of SolidFire clearly improves NetApp's storage portfolio, giving NetApp good access to customers interested in Web-scale architectures for primary storage environments that it has not been able to address before.

There are areas, however, that customers should look to NetApp for guidance going forward with its enterprise flash portfolio. NetApp's enterprise storage portfolio still features three separate operating environments — SANtricity for EF-Series, DOT/CDOT for FAS, and Element OS for SolidFire. This stands in contrast to a vendor like HP, which can offer a single, fully integrated operating environment for all its enterprise storage products. Look for NetApp to outline how SolidFire can be integrated into the existing NetApp Data Fabric for the enablement of cross-platform workflows and the replication of data between different platforms — and in a manner that simplifies multiplatform management. Also look to NetApp to outline how some of the standout features of each operating platform will be cross-pollinated (e.g., SolidFire's industry-leading QoS capabilities) to help raise the overall level of functionality of all of them.

It is also interesting to note that the demands of the 3rd Platform computing environment, built as it is around virtual and cloud infrastructure, have quickly given rise to newer storage architectures built around scale-out designs. Scale-out designs tend to offer easier and more flexible scalability, better technology refresh models, and lower costs (due to Web-scale economics). Although the scale-up designs of the past have been evolved by many vendors to provide at least some scale-out characteristics, it is clear that scale out is the design of the future. NetApp now has a solid entry leveraging this architecture in the primary storage arena — one that if intelligently managed should provide an excellent pivot point as NetApp evolves to meet future storage requirements over the next five years.

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