HP is poised to be a disruptive force in storage

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HP has made a series of announcements that add weight to its claims that it is becoming a major – and disruptive – force in enterprise storage. Built on the foundation of the 3PAR business, the company is branching out into multiple other storage areas with a 'polymorphic' strategy that it believes offers a blueprint for the future of enterprise storage in a rapidly changing IT world. In this report, we provide an overview of its evolving storage strategy.

The 451 Take

Historically regarded as something of an afterthought, storage is now viewed in a very different light at HP, and finally seems to be on the ascent. Based on a decision by Meg Whitman to make storage a strategic focus area, the company is building out an impressive set of technologies and capabilities that are grounded in a return to internal R&D and innovation. But while 3PAR is the foundation of HP's storage turnaround, the wider opportunity is to grow wallet share through a broader portfolio play. The initial signs around 'polymorphic storage' look promising, although HP still has plenty of work ahead of it to deliver on its vision. Meanwhile, the planned separation of HP into two entities – HP Inc and Hewlett-Packard Enterprise – should result in an even greater focus on storage from a corporate level.

Financial

From a financial perspective, the HP storage business is still very much in transition. Overall storage revenue has been declining for the past couple of years – due to a combination of declining sales in legacy product areas, and the general spending squeeze that is impacting all major storage

suppliers at present – although HP believes it is faring better than all its key rivals, with strong growth in its newer range of 'converged storage' products.

Overall storage revenue was down 4% year-on-year to $796m in its most recent quarter (Q3 of FY2014), although it said converged storage sales were up 9%, while 'traditional storage' sales declined 14%. Combined sales of 3PAR, XP and EVA were down 7% year-on-year.

A turnaround built on 3PAR

Central to the turnaround is 3PAR, the storage systems business that HP paid $2.4bn for after a bidding war with Dell back in 2010. 3PAR gave HP a focus and rallying point, with an established, proven and differentiated primary storage play that promises enterprise-class RAS at a substantially lower price point.

As a stand-alone company, 3PAR was mostly focused on large enterprises and service providers, but HP has since extended the 3PAR business from the high end down into the midrange, providing it with a long-overdue successor to the EVA platform. HP believes 3PAR has taken substantial market share in the past year, and is the number two Fibre Channel system in the midrange market (although it doesn't break out specific revenue from this product line) and number one in EMEA. In particular HP claims to be taking share from its nemesis in storage, EMC, across both its high-end VMAX product lines and midrange VNX systems.

Meanwhile, HP continues to invest in developing new features and capabilities for 3PAR. Perhaps the most important of these are in the area of Flash, where the 3PAR story has evolved considerably in the past 18 months. As we have detailed, 3PAR is one of very few 'pre-flash' enterprise storage systems that can be deployed as a competitive all-flash array (AFA). Indeed, with its new data optimization technologies, HP can credibly claim to offer all-flash performance that is comparable with other leading players, but at a substantially lower price point, of less than $2/GB (assuming 4:1 data reduction; a ratio HP believes could actually be much higher for some use cases).

Emphasizing its desire to be seen as an innovator pushing the boundaries in flash storage, HP more recently unveiled an entry-level 3PAR-based AFA that starts at $35,000 – roughly half the cost of most competing entry-level AFAs. HP has promised that further optimizations for flash – and on 3PAR in general – are on both its short-term and long-term roadmaps.

HP's storage portfolio play

But it would be inaccurate to characterize HP's storage strategy as something of a one-trick pony. There are multiple moving parts, but HP believes it's the only major storage OEM that is helping customers manage the varied (and often conflicting) storage challenges via a single strategy. It says this 'Converged Storage' strategy is built on a 'polymorphic architecture,' and it essentially is an attempt to deal with the fragmentation that exists in enterprise storage with a technology approach that can be boiled down to as few architectures as possible.

HP's strategy is to build an end-to-end storage portfolio around two core architectures – one that is driven chiefly by performance and service levels ('service-refined storage' in HP parlance), and one that is about optimizing for cost/efficiency, where HP believes 'software-defined storage' (SDS) will primarily play. From a product and branding perspective, the key areas are 3PAR/StorServ for 'service-refined storage,' and StoreVirtual VSA – the 'hyperconverged' virtual storage appliance that HP inherited via its $360m LeftHand Networks acquisition in 2008 – for SDS.

HP's long-term play is to evolve both these platforms into a position where they can span almost all enterprise storage use cases. Clearly, there is some way to go; both platforms primarily offer block storage today, but HP plans to add support for file and object storage over time. And while the StoreVirtual VSA may have been the first product in its class to come to market, HP still needs to invest in raising awareness about its capabilities here. Its recent decision to offer a free 1TB license on any x86 server running Intel's new Haswell Xeon processor should help in this regard.

Additionally, there will be some degree of portability between the two architectures, and eventually some commonality in terms of data services such as replication. HP acknowledges that not all use cases are black-and-white, and there are plenty of shades of gray between the two. On top of this, HP is promoting its OneView management stack as a common management layer, as well as a basis for API-driven provisioning, automation and orchestration in the future.

Running across both of these architectures is HP's portfolio of backup, data-protection and archiving products. Although HP has historically had a very large tape business – a business that has been in fairly sharp decline in recent years as dedupe-enabled disk-based backup (DBBU) has replaced tape as the primary backup target – it has increased its focus on growth areas such as DBBU. And while it's coming to market much later than players such as EMC Data Domain, HP has some impressive capabilities – such as federated deduplication – that come entirely from internal R&D within HP Labs (for our recent overview of its capabilities here see our earlier report), which HP says are starting to translate into growing market traction.

Products here currently exist as three brands: StoreOnce (DBBU), StoreAll (disk-based archiving, explained in more detail here), and StoreEver (tape products). Once again, HP's intent is to drive integration and simplicity wherever possible; it's already possible to run StoreOnce as a VSA, for example. We expect to see plenty more announcements, as well as further consolidation of products and brands, in the near future.

HP pitches this strategy as a platform for what it calls 'the new style of IT,' where customers are looking to transform their environments into more agile, flexible and service-oriented stacks that can support higher-level goals around cloud, convergence and the software-defined datacenter. Of course, not all enterprises are looking to transform all of their environment – there are still a good many 25-year-old (or older) mission-critical applications running on mainframe and other legacy platforms that need to be supported, and not tampered with. Thus, HP will continue to offer the high-end XP platform (based on an OEM arrangement with Hitachi Data Systems that has stood since the late 1990s) for this type of requirement. At the other end of the spectrum, there's the MSA platform, which HP continues to invest in for the low-end market.

In addition, and recognizing that some (but certainly not all) customers are interested in buying infrastructure IT as an integrated stack, HP offers an evolving ConvergedSystem range of platforms that include various HP storage systems integrated with HP servers and networking, and optimized for workloads such as virtualized servers, big data, VDI, collaboration and even specific applications such as SAP.

Competition

HP's competitive focus can be summed up in two words: 'kill EMC.' Although ironic if the recent rumors of an EMC-HP merger turn out to be true (and the decision to separate HP into two businesses will probably provide more ammunition for those predicting a merger), HP is maniacally focused on reclaiming the storage share it has lost over the past decade to EMC in particular, as well as NetApp.

This is the essence of its 'polymorphic architecture.' Customers are struggling with running multiple fragmented storage products, and HP says EMC in particular is culpable, especially as the company continues to add new point products to an already large storage portfolio (it dismisses EMC's ViPR SDS platform – arguably EMC's boldest attempt to simplify storage at the management level – as nothing more than a ControlCenter replacement designed primarily to protect its existing franchise). Although this has been an argument used by NetApp against EMC in the past, HP notes that NetApp is also expanding rather than consolidating its portfolio with products such as the

E-Series and its new FlashRay AFA. Ditto IBM. And while Dell does also offers multiple storage products, it is working to consolidate them.

Those of a more cynical persuasion might note that HP has four primary block storage platforms (3PAR, StoreVirtual, XP and MSA), not to mention virtually nothing in file/NAS storage, and only a tentative foot in the object space. But HP's intent is to get customers to buy into a vision of a simpler future in enterprise storage – it might take it a while to get there, but this is an appealing idea for customers drowning in operational complexity in storage.

Meanwhile, there's plenty of competition at a much more tactical level in storage, especially in the flash market. Here, HP claims – with some merit – a compelling story that offers differentiation on a pricing and performance basis, as well as enterprise-class data services. Although it has undoubtedly arrived later to the game than most, it claims to be winning business against both established rivals and the emerging coterie of startups. Additionally, its decision to augment its existing 3PAR architecture for flash – rather than buy or build a net new 'flash-optimized' architecture (as most rivals have done) – allows it to present an AFA option based on an established and proven architecture, and in the process perhaps avoiding some of the AFA issues that have affected EMC and Cisco recently.

At the other end of the spectrum, there's a raft of new players emerging in the SDS space, especially in the fast-evolving hyperconvergence space. As noted above, HP can credibly claim that its LeftHand-derived StoreVirtual VSA was the first such product to market, all the way back in 2007. That said, it's also worth stating that this product has not been a major focus area for HP until recently, but this is undeniably changing as awareness of this market is driven by products such as VMware vSAN and high-profile startups such as Nutanix. Other products competing in this space include startups/specialists SimpliVity, Scale Computing, Atlantis Computing, DataCore and NIMBOXX, as well as EMC (with ScaleIO). HP claims that StoreVirtual has a number of advantages over competing approaches, particularly vSAN itself (such as multi-hypervisor support). Notably, HP is not an initial partner in VMware's EVO:RAIL program around vSAN; this is a market that HP seems to want to drive for itself.

SWOT Analysis

Strengths	Weaknesses
HP is building a strong storage portfolio story, with a large amount of IP in important and growing segments, especially in flash and SDS. 3PAR remains a strong foundational piece of the story.	HP's overall storage business continues to decline – although it claims not at the rate of some rivals. This is still a business in transition as revenue in areas such as tape continues shrinking.

Opportunities

In addition to high-profile technologies such as Flash and SDS, enterprises are also struggling with the fragmented nature of existing storage deployments; they will look favorably on any attempts to simplify the overall experience.

Threats

The storage market is still an ultracompetitive space with deeply entrenched incumbents. Having a differentiated technology story is nothing without a large and capable go-to-market operation.