ALL-FLASH ARRAYS

The Storage Game Changer?

The 451 Take

With the increasing popularity of flash-based storage systems, enterprises, midsized companies and service providers alike have begun moving applications over to flash. But as customers are poised to make large investments in all-flash arrays (AFAs), what's more important is the fact that workload consolidation is now the norm, in place of flash implementations for accelerating discrete applications. According to 451 Research's 2017 Voice of the Enterprise: Storage, Workloads and Key Projects survey, 57% of respondents' organizations that have deployed AFAs did so to speed the performance of multiple applications, as opposed to just one. This trend will only further hasten AFA adoption.

Among early AFA adopters we have spoken with, databases and performance-sensitive applications are the primary workloads currently being moved to flash storage. VDI continues to be a key application, while analytics is another workload highly suitable for flash storage consideration. We believe these use cases will only multiply and grow in importance in the near future.

To be competitive in the AFA market, simply replacing hard drives with flash SSDs or cards is not enough. Advanced space-reduction features such as inline deduplication and compression, which provided differentiation for startups only a few years ago, have now become 'table stakes.' Other features are becoming more significant as well, including support for object and file protocols, and the ability to provide low-latency performance on a microsecond scale.

According to our Voice of the Enterprise: Storage, Workloads and Key Projects survey, 29% of respondents' organizations have already deployed AFAs, while another 23% are piloting AFAs or plan to implement them in the next one or two years.

Why did you choose to move to an all flash array?
Source: Voice of the Enterprise: Storage, Q1 2015, n=242

Speed Up Performance of a Single Applications

Speed Up Performance of Multiple Applications

42%

2% DON'T KNOW

57%

Business
Impact Brief

Business Impact

MEETING PERFORMANCE SLAS

In the financial services and shipping & logistics markets, flash arrays have been deployed in use cases where the existing disk-based storage infrastructure dragged down performance below SLA levels. In these cases, the SLA misses would have led to serious ramifications including lost clients, a degraded reputation for the organization and costly penalties. In one extreme logistics example, the organization likely would have gone out of business if they were unable to boost performance up to acceptable levels.

INCREASED WORKER PRODUCTIVITY

The performance of flash can also raise the productivity of knowledge workers. In some developer organizations, the deployment of flash arrays has reduced the amount of time required for code recompilations, which ultimately gave developers a few additional hours of productivity in a day. In some scenarios, this increased productivity led to faster software releases and higher software sales. Increased worker productivity was also seen in VDI deployments, where faster logins and data access provided a superior experience for clients, and effectively reduced helpdesk calls and increased satisfaction levels for customers.

FASTER ANALYTICS AND DECISION-MAKING

The accumulation of data alone will not generate a positive business value if it takes too long for organizations to reap actionable insights from the information stored in their repositories. We anticipate that the use of flash will increase for analytics and real-time applications (such as trading applications and the emerging space for streaming analytics), since faster insights will provide a competitive benefit in facilitating timely decision-making.

Looking Ahead

AFAs and Hyperconvergence

Hyperconvergence and all-flash storage are the top two innovation trends in the datacenter, and the combination of these two disruptors will have a significant impact on IT infrastructure in the years to come. The melding of flash and hyperconvergence will continue to evolve because these two innovation tracks complement each other.

While flash provides a significant performance boost over conventional disk-based storage while reducing management concerns, web-scale architectures can make the all-flash performance engine even better by adding scale-out capabilities and providing VM-level granularity for provisioning and data protection.

As infrastructures grow to handle increased workloads and data, IT organizations will need simplified management tools to quickly deliver resources and to snuff out troubleshooting issues before they can harm the productivity and reputation of an organization.

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