

SIOS iQ Storage Acceleration

SIOS iQ enables IT staff to quickly and easily correct a critical application performance issue and to get the most value from their investment in storage acceleration solutions such as SSD storage and all flash arrays. In one click, SIOS iQ determines whether your application performance issue will be improved with storage acceleration hardware and provides specific recommendations for optimal configuration. The following is a common use case scenario.

The Environment

A large enterprise hosts the majority of its IT operations in a VMware environment comprising hundreds of hosts, thousands of VMs and hundreds of thousands of objects.

The Challenge

The IT department received numerous calls from end users because the performance of a business critical application is unacceptably slow. The IT department made several adjustments to the VM where the application was running but did not succeed in improving performance.

They considered the use of host-based caching (HBC), a strategy commonly used to solve storage performance problems. Companies typically configure Solid State Disks (SSD) in the host machine and establish a host-based storage cache (HBC) to offload expensive SANs and minimize storage and network contention.

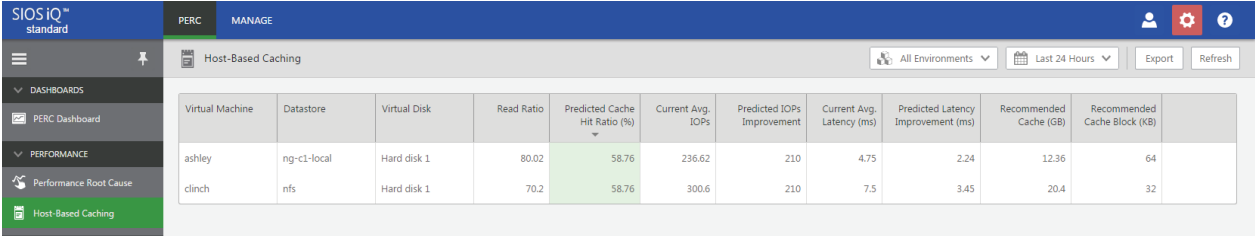
To be effective, IT admins needed to identify the hosts, virtual machines and disks in their large, complex environment that might benefit most from HBC and then configure and allocate the cache appropriately.

The Traditional Solution

Until now, IT managers had to use cumbersome, inaccurate trial-and-error methods to identify potential candidates for HBC and to size the cache.

They generated reports using a variety of tools, including application, host, and storage monitoring tools as well as infrastructure management software to determine whether host-based caching would be a viable solution.

After several hours of comparing analyses, they proceeded with HBC but did not know which hosts were the best choices for applying the SSD storage. Their HBC resulted in small improvement in performance but did not meet their goals.



Virtual Machine	Datastore	Virtual Disk	Read Ratio	Predicted Cache Hit Ratio (%)	Current Avg. IOPs	Predicted IOPs Improvement	Current Avg. Latency (ms)	Predicted Latency Improvement (ms)	Recommended Cache (GB)	Recommended Cache Block (KB)
ashley	ng-c1-local	Hard disk 1	80.02	58.76	236.62	210	4.75	2.24	12.36	64
clinch	nfs	Hard disk 1	70.2	58.76	300.6	210	7.5	3.45	20.4	32

SIOS iQ Host-based Caching screen automatically identifies the hosts that would benefit most from HBC, provides detailed recommendations for configuring SSD for HBC and predicts the performance improvements that will result.

They faced the uncertainty of deciding whether to spend more time moving the SSD storage to a different host or incur the cost of purchasing more storage.

The Simple, Intelligent SIOS iQ Solution

Host-based caching with SIOS iQ is fast and accurate. Using the SIOS PERC Dashboard™ IT staff could see in one click which VMs were ideal candidates for HBC. They could drill down to learn how much cache to use for each VM as well as the recommended cache block size. SIOS iQ also shows the predicted improvements in cache hit rate, IOPs, and latency reduction that will result if recommendations are implemented

Conclusion

SIOS iQ takes the guesswork out of host-based caching, provides specific advice and accurate predictions for improvement. In seconds, SIOS iQ can help IT staff optimize performance in large, complex VMware environments and get the most value from their investment in SSD storage.

About SIOS

SIOS Technology Corp. makes software products that provide the insights and guidance IT managers need to manage and protect business critical applications in large, complex data centers. SIOS iQ is a machine learning analytics software platform that helps IT managers optimize performance, efficiency, reliability, and capacity utilization in VMware environments. SIOS SAN and SANLess software is an essential part of any cluster solution that provides the flexibility to build Clusters Your Way™ to protect your choice of Windows or Linux environment in any configuration (or combination) of physical, virtual and cloud (public, private, and hybrid) without sacrificing performance or availability.

Founded in 1999, SIOS Technology Corp. (<http://us.sios.com>) is headquartered in San Mateo, CA, and has offices throughout the United States, the United Kingdom and Japan.



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