

# Improving storage performance for enterprise applications and databases

In the last ten years, datacenter technology has experienced a major sea change with the normalization of virtualization. Originally a technology limited to development and test environments, it has emerged as the core building block of private clouds for all types of applications. In most organizations, it is now standard practice to deploy on virtual servers by default.

However, this mainstream adoption of virtualization has created a significant amount of pressure on storage to support growing enterprise workloads. Databases and applications such as Microsoft SQL, Microsoft Exchange, Oracle, and SAP can present a big challenge for IT organizations moving towards a fully virtualized environment. As more applications like these are consolidated onto fewer physical servers, they are still sharing the same physical storage resources, often leading to having insufficient storage performance to meet the enterprise demands. This can trigger slowed virtualization adoption as well as dissatisfied and less productive users.

Fortunately, there is a solution to these problems for any application and database environment. Infinio's storage acceleration platform creates a distributed performance layer across VMware hosts, offloading a significant amount of I/O from the storage systems. This improves application performance and ensures that the most business-critical applications and databases get the storage performance they require.

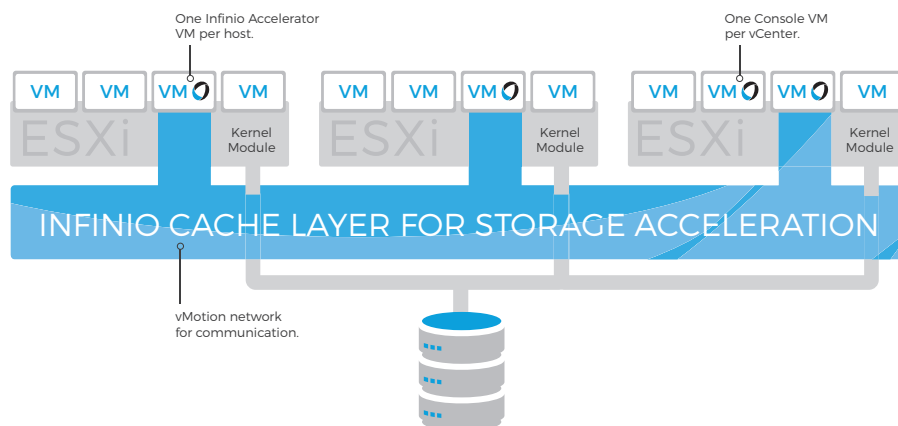
## WHY INFINIO FOR ENTERPRISE APPLICATIONS

- 10x improvement in latency.
- SSD-class performance without any additional hardware.
- Reduced storage costs.
- 30 minute non-disruptive deployment.
- No changes to the existing environment.

## Increase application performance

With today's complex multi-tiered applications, performance is a function of several datacenter resources, including CPU, memory, and network bandwidth. However, it is often storage performance that is the culprit when applications under-perform. The impact of insufficient IOPS or high storage latency in an application's ability to deliver users' required performance shouldn't be underestimated.

Typical solutions for these scenarios include expensive and complex hardware investments, such as adding flash devices or additional shelves of drives, and in some cases prompting the purchase of new array hardware. While these approaches may solve the problem of application and database performance, they can add a significant burden to IT operations and OPEX costs.



Infinio installs in your VMware vSphere environment in minutes. Using RAM already in your servers, Infinio creates a shared caching layer. Content-based and globally deduplicated, it holds OS files, application data and boot images.

Infinio Accelerator offers an alternative approach to improving application performance in virtualized environments. With a simple installation of Infinio's Accelerator across a VMware cluster, storage performance can improve by 10X by serving a significant number of I/O requests directly from local RAM-based cache without traversing the storage network. Organizations supporting SQL, Exchange, Oracle, SAP, or other databases and applications can deliver the performance required without increasing their investment in complex infrastructure.

### Support virtualization of tier-one applications

While most organizations recognize the benefits of virtualizing their tier-one applications – high availability, resource optimization, mobility – there can be several obstacles to implementing it successfully. Insufficient storage performance is a common barrier to tier-one application virtualization, leaving administrators frustrated with only partially-implemented environments. The costs of improving performance can be prohibitive.

With the Infinio Accelerator platform, IT organizations can deliver the required performance for tier-one databases and applications like SQL, Exchange, Oracle, and SAP without the costs or complexity that typically accompany a solution to this. By creating a distributed performance layer within a VMware environment, Infinio is able to deliver the high storage performance that application owners are accustomed to in a physical model. Often, additional hardware is not required to meet the stringent requirements of applications that a business relies on; rather, a lightweight performance layer can absorb most of the highest performance requirements and pave the way for virtualization of the most important tier of applications.

### Control storage costs

Storage is often the most expensive portion of a datacenter infrastructure. Even once capacity requirements have been met by a storage system, performance requirements continue to drive up the cost of storage. Often, administrators purchase shelves of drives just to have enough spindles to support performance requirements. Alternatively, some organizations opt for purchasing costly SSD and flash devices to meet these performance requirements.

With Infinio, administrators no longer need to purchase storage performance and storage capacity hand-in-hand. With Infinio's software, organizations get a distributed cache that is shared by all the applications and databases in a VMware cluster. In this model, the cost of performance is driven down by leveraging commodity-priced flash technology on the server side. The cost of capacity is also driven down by offloading substantial I/O from the storage system, enabling shared storage to be sized exclusively for capacity and data protection needs, eliminating the over-purchasing of storage for performance.

### Conclusion

Supporting enterprise applications and databases in a virtualized environment can present a set of distinct challenges. Delivering the storage performance that applications and databases such as SQL, Exchange, Oracle, and SAP require in a shared resource environment can be difficult, and the traditional OS and application optimizations aren't necessarily effective. Infinio's innovative architectural approach to storage performance can aid IT organizations in meeting application owner requirements while enabling a shift to a more fully virtualized architecture in the datacenter.

[Learn more and see a demo at www.infinio.com.](http://www.infinio.com)

