When Your Cloud-Ready Data Center Demands Performance

With the rise of the cloud data center, businesses are looking for scalable, high-performance solutions that maximize investments while supporting management and deployment paradigms that more closely align with those employed by big hyperscale providers.

For applications demanding fast response, hyper-converged infrastructure (HCI) solutions using advanced all-flash architectures are an option; however, the complexities associated with HCI solutions may feel daunting. Micron reference architectures provide an answer to address these complexities.

As a leader in advanced solid-state storage (SSD) solutions, Micron understands the benefits SSD technology can bring to scalable workloads. Combining Micron's storage expertise together with Microsoft's leading HCI solution, this reference architecture provides key information on how to build a high-performance HCI infrastructure that can be used as part of either a private or hybrid cloud component of your overall data center strategy.

Micron's HCI Reference Architecture using Microsoft® Hyper-V® and Storage Spaces Direct illustrates an optimized, cached solution built upon Micron enterprise NVMe SSDs (as high-speed, low-latency cache) and our high-performance SATA SSDs (for capacity), resulting in a high-performance Hyper-V virtual machine infrastructure that scales. Performance test results show this cache configuration can provide high IO performance (IOPS) with better quality of service (99.99% latency) across a wide range of storage IO profiles compared to a non-cached configuration. Our reference architecture provides specific configuration and optimization recommendations for deploying NVMe cache to maximize performance. The result: small block random I/O performance of up to 1.5 million IOPS for read-intensive virtualized solutions[1].

Key Features

Better Value
Our all-flash, NVMe-cached Microsoft HCI using Storage Spaces Direct Reference Architecture is optimized at the platform level for better results and better value. With direct engineer-to-engineer collaboration, this reference architecture leverages domain expertise across software, flash storage, memory and platforms.
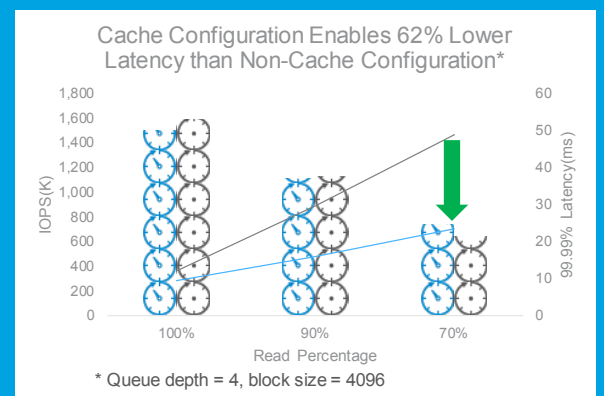
Realize the benefits of an all-flash virtual infrastructure deployment without breaking your budget. Using Micron's most performant series of NVMe SSDs as a cache and SATA SSDs for capacity, Micron's HCI reference architecture provides customers with industry-leading solutions through collaborative engineering tuning that tightly integrates compute, networking and storage into a highly scalable platform.

Flexible Delivery
Micron HCI reference architectures are designed to run on your choice of Intel-based, off-the-shelf servers. Focusing on higher-level architectures and Micron's value rather than on specific OEM offerings, this software-defined storage solution allows you to choose the option that's best for you.

Easy Deployment
We provide you with configuration details along with measured performance analysis to help you make your solution decisions and to support ease in deployment.

Cache Configuration Enables 62% Lower Latency than Non-Cache Configuration*

* Queue depth = 4, block size = 4096

Micron®

Microsoft HCI Solutions with Micron Enterprise SSDs Deliver:

Optimized x86 Design

Hyper-converged infrastructure solutions are CPU- and memory-intensive. Our Hyper-V with Storage Spaces Direct reference architectures are designed as x86-optimized solutions that unleash the full potential of these advanced resources, enabling high-density deployments that maximize performance and reduce costs.

Micron Enterprise-Class SSDs

Micron's enterprise NVMe and SATA SSDs provide extreme performance with advanced features such as a NAND architecture that provides a second layer of data resiliency with internal, transparent data path protection[1].
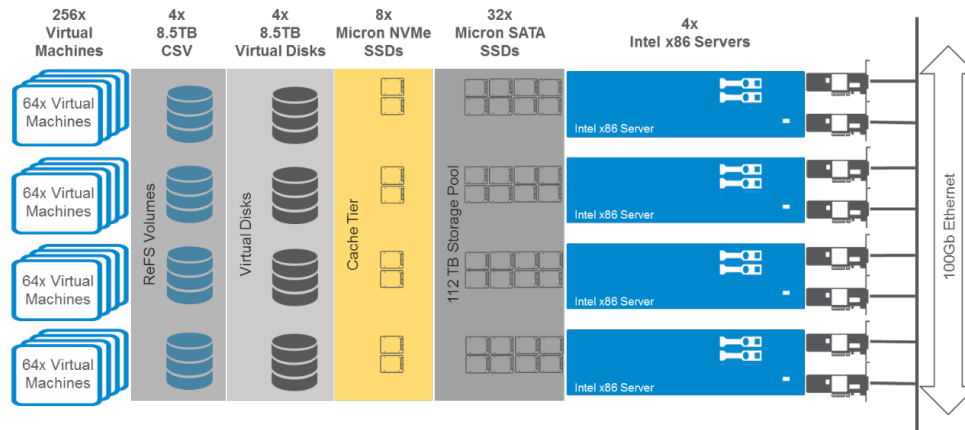
Microsoft Hyper-V

Whether you need to deploy 10 VMs or thousands, Microsoft Hyper-V offers a scalable, feature-rich virtualization service that is cost-effective and flexible, providing an advanced data center infrastructure to fit your needs.

Microsoft Storage Spaces Direct

A key component of a Microsoft Windows® hyper-converged infrastructure, Storage Spaces Direct is a flexible, software-defined storage solution that can support both virtualized and non-virtualized storage deployments.

Deployment Confidence

Optimized, prescriptive guidance with performance analysis allows you to confidently design and deploy your hyper-converged infrastructure.

Micron's Hyper-Converged Infrastructure Using Microsoft Hyper-V and Storage Spaces Direct

✓ Learn More

Visit micron.com to learn more about Micron's Hyper Converged Infrastructure Using Microsoft® Hyper-V® and Storage Spaces Direct with Micron® Enterprise NVMe and SATA SSDs Reference Architecture.

To see all of our Micron Accelerated Solutions, visit www.micron.com/accelerated-solutions.

1.https://www.micron.com/~/media/documents/products/technical-marketing-brief/brief_ssd_rain.pdf.

micron.com

Micron's Reference Architectures

Micron Reference Architectures are optimized, pre-engineered, enterprise-leading platforms that are developed by Micron with industry leading hardware and software companies.

Designed and tested at Micron's Storage Solutions Center by our software and platform partners, these best-in-class solutions enable end users, channel participants, independent software vendors (ISVs), and OEMs to have a broader choice in deploying next-generation solutions with reduced time investment and risk.

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