



## Your Window to a Cloud-Ready Data Center Future is Open

With the rise of the cloud in enterprise data center management, more and more businesses are looking for low-friction ways to transform their existing IT management and deployment infrastructures to more closely align with those being employed by the big hyperscale providers. For those businesses heavily invested in Microsoft® Windows®-based technologies, one route to a cloud-based solution for an off-premises cloud infrastructure is Microsoft® Azure™. Recently, Microsoft released a new set of products and services called Azure Stack that enable businesses to bring Azure services into their local data centers, resulting in a hybrid cloud solution that supports moving workloads easily between on-premises and off-premises resources.

A key building block of Microsoft's hybrid cloud strategy is the software-defined data center initiative based on Microsoft® Hyper-V® with Storage Spaces Direct. Together, these two technologies support an easily deployed and managed, hyper-converged infrastructure (HCI) solution that can scale to meet most enterprise needs.

As a leader in advanced SSD storage solutions, Micron understands the benefits of SSD technology for scalable workloads. Bringing Micron's storage expertise together with Microsoft's innovative HCI solution, we've created a reference architecture (RA) that provides key information on how to create a high-performance HCI building block that can be used as part of a private or hybrid cloud infrastructure for your overall data center strategy.

The HCI using Hyper-V and Storage Spaces Direct RA illustrates a simple, single-tiered, all-flash configuration using Micron enterprise SATA SSDs and advanced DRAM to support Hyper-V virtual machines at scale. The performance test results show that this solution can provide high IOPS at low latencies across a wide range of storage I/O profiles. Small block random I/O performance of up to 1.5 million IOPS is possible for read-intensive virtualization solutions.<sup>1</sup>

## Key Features

### Value

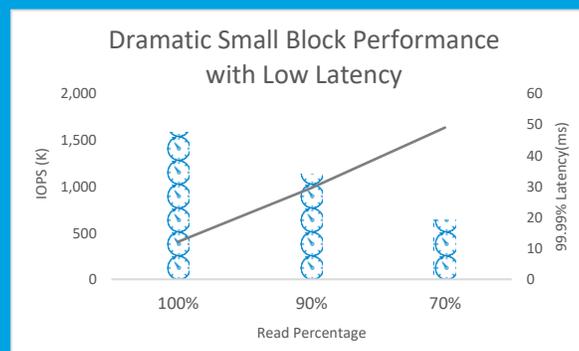
Our all-flash, all-SATA Microsoft HCI with Storage Spaces Direct RA is optimized at the platform level to provide the results you need at an acceptable cost. With direct, engineer-to-engineer collaboration, our RA leverages domain expertise across software, flash storage, memory and platforms. Realize the benefits of an all-flash Virtual SAN without breaking your budget. Using our most performant series of SATA SSDs, our HCI/SDS RA provides optimized solutions using collaborative engineering tuning which tightly integrates compute, networking and storage into a scalable platform.

### Flexibility

Micron's HCI RAs 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 configuration details, along with measured performance analysis, to help you make solution decisions and support ease in deployment.

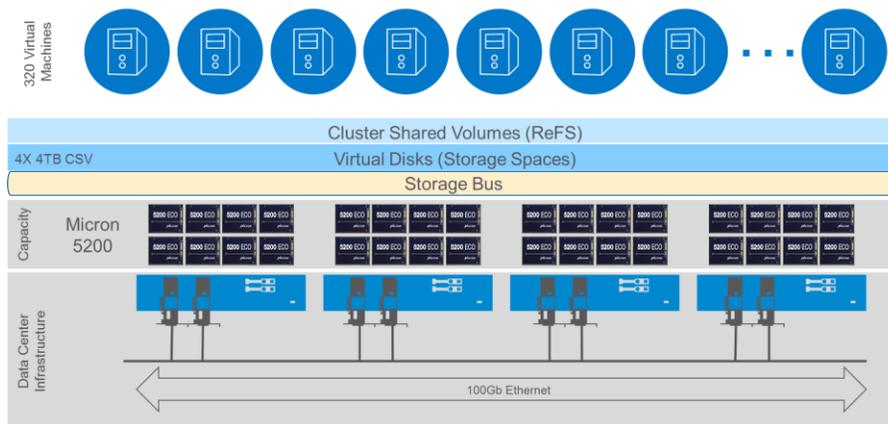


## Microsoft HCI Solutions with Micron Enterprise SATA SSDs Deliver Density

**Optimized CPUs and DRAM:** Hyper-converged infrastructure solutions are CPU- and memory-intensive. Our Hyper-V with Storage Spaces Direct RA designs are CPU- and DRAM-optimized to unleash the full potential of these advanced features, enabling high-density deployments that maximize performance and reduce costs.

**Fewer Servers to Accomplish More:** Improve efficiency in virtualized, hyper-converged and software-defined storage environments through server and storage platform consolidation and simplified IT maintenance, and improve TCO with lower power, cooling, software licensing and co-location costs.

**A Second Layer of Data Protection:** The Micron 5200 SSD adds a second layer of data resiliency with its internal, transparent data path protection and redundant array of independent NAND technology.



*Micron's Microsoft Hyper-Converged Infrastructure with Storage Spaces Direct*



### 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 engineers, 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



Learn More

See all Micron Accelerated Solutions at:

[micron.com/accelerated-solutions](https://micron.com/accelerated-solutions)

1. Performance is based on configuration documented in the Micron Hyper-Converged Infrastructure Using Microsoft Hyper-V and Storage Spaces Direct with Micron Enterprise SATA SSDs Reference Architecture mentioned and linked to in this solution brief. Your workload and solution configuration may result in different performance than documented in this brief.