Virtual SAN Overview

Virtual SAN is VMware’s hypervisor-converged storage software that creates a shared data store across SSDs and HDDs using multiple x86 server hosts. By being fully integrated into VMware’s vSphere operating system, Virtual SAN aggregates locally attached storage from each ESXi host in a cluster without adding the management overhead of SAN-connected storage.

SSDs Boost Virtual SAN Performance

High availability is key to the success of Virtual SAN. Adding a minimum of one Flash-based SSD per physical server to Virtual SAN reduces delays (or latency) when reading or writing data to hard drives—boosting system performance.

- **Read Caching:** Caching commonly accessed data in the Flash device significantly reduces READ latency because it is faster to retrieve data directly from the cache than from slow, spinning HDDs.

- **Write Buffering:** Temporarily buffering all writes in the Flash device significantly reduces WRITE latency. At regular intervals, the write data is then moved to HDDs. Because Flash is nonvolatile, data is retained during a power loss or a server failure; at least one additional copy of the data is stored in the write buffer on a separate physical server. This copy ensures that no data loss occurs and that continuous availability is maintained.

Micron Virtual SAN-Certified Products

Micron’s P320h and P420m PCIe 2.5-inch and half-height, half-length (HHHL) SSDs have been certified for use in VMware’s Virtual SAN. See VMware’s Virtual SAN Compatibility Guide for a list of Micron’s Virtual SAN-approved products: