# All-Flash Array Alternative
Replace Your AFA with VergeOS

verge.io

Traditional SANs and all-flash arrays (AFAs) deliver performance but come with complexity, rigid architectures, and high costs. The AFA Replacement Kit from VergeIO and Solidigm offers a powerful and cost-effective alternative—delivering simplified management, greater flexibility, and superior economics without sacrificing enterprise-class performance.
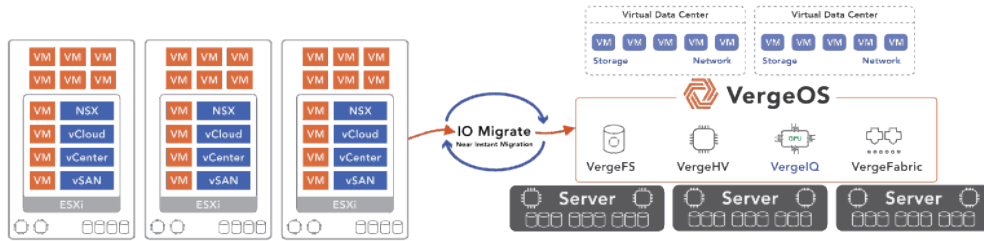
SAN Refresh and VMware Exit in Three Steps

Step 1: Install Solidigm NVMe SSDs
Install Solidigm enterprise-class NVMe SSDs—TLC or QLC—into existing x86 servers. VergeOS supports flexible configurations, including storage-dense nodes or hybrid environments. For servers with limited local capacity, deploy additional Solidigm-based storage nodes. VergeOS allows compute nodes to access remote storage natively, removing the need for a dedicated SAN.

Step 2: Migrate with ioMigrate
Use VergeIO's ioMigrate tool to move virtual machines from VMware environments to VergeOS. ioMigrate integrates with VMware's Backup API, enabling the direct copying of VM data from the existing SAN to the new server-based storage running on Solidigm SSDs. No conversions are required. Once the migration is complete, virtual machines operate natively on VergeOS, often with improved performance compared to aging arrays.

Step 3: Sync and Retire the SAN
After validation, run a final sync using change block tracking to capture any changes made since the initial migration. Once complete, the SAN can be shut down or repurposed for less demanding workloads such as backup or archiving.

1 INSTALL NEW DRIVES — Insert Solidigm server-class drives into existing servers...or buy a set of storage-only servers

2 INSTALL VERGEOS — ...install VergeOS and create a server-side SAN using VergeFS

3 MIGRATE VMS — ...migrate the VMware VMs using a VMware Backup API-compatible migration process

FAST FACTS

- **Replace Complex AFAs and SANs**
  Eliminate SAN complexity and rigid architectures by consolidating storage, compute, and networking into one integrated platform with VergeOS.

- **Server-Based Storage Benefits**
  Reduce latency, simplify management, scale easily, and lower total costs by aggregating NVMe storage capacity directly within your existing server hardware.

- **Flexible Three-Step Migration**
  Quickly migrate workloads off traditional AFAs and VMware environments in three streamlined steps: install NVMe drives, migrate workloads seamlessly, and retire legacy SANs.

- **VergeFS: A Better Approach than HCI**
  VergeFS, natively integrated into VergeOS, avoids HCI performance bottlenecks by removing software layers, enabling superior storage and infrastructure efficiency.

- **Optimized Cost and Performance with VergeOS-Solidigm Bundle**
  Leverage a specialized bundle from VergeIO and Solidigm, combining VergeOS with high-performance Solidigm NVMe SSDs, delivering exceptional cost-efficiency, improved performance, and simplified deployment.
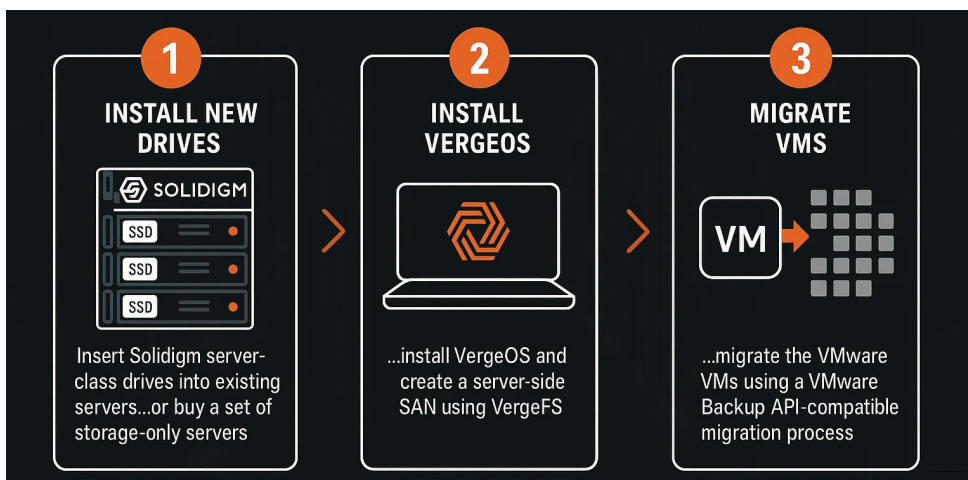
Why Server-Based Storage is the Smarter Alternative

Server-based storage links directly to your servers, aggregating their capacity into a unified volume to create a virtual storage area network (vSAN). This simplifies setup and provides distinct advantages:

- **Reduced Latency** – data served directly from local NVMe drives, cutting out network overhead
- **Simpler Operations** – no zoning, LUN management, or Fibre Channel complexity
- **Improved Scalability** – easily expand storage and compute capacity by adding standard servers
- **Lower Total Cost** – reduced hardware footprint, lower power consumption, and less administrative overhead

> *With VergeOS, we added a few SSDs to our existing servers and extended their life while reducing licensing and storage costs.*
> — Brian Bazzell, IT Director, City of Saint Peters

Key Advantage of Verge FS vs. HCI

Hyperconverged infrastructure (HCI) is often considered for SAN refresh projects, but it typically layers storage as a separate service on top of the hypervisor. This adds complexity, reduces performance, and limits flexibility. VergeFS, by contrast, is natively integrated into VergeOS, eliminating layers, improving performance and efficiency, and allowing full control over storage, compute, and networking within a single operating environment.

- **Unified Infrastructure** – combine storage, compute, and data protection in one easy-to-manage data center operating system.
- **Affordable Performance** – enterprise-grade speed and resilience at lower costs
- **Use Existing Server Hardware** – leverage current server assets rather than purchasing proprietary arrays
- **Flexible Node Configurations** – nodes can be balanced or dedicated to storage or compute
- **Intelligent Storage Tiering** – seamless data placement across multiple tiers, such as TLC and QLC drives, optimizing cost and performance

VergeOS TCO Advantages

√ 1 License Not 4+
√ Licensed by server, not socket or core
√ Use existing hardware
√ Requires fewer servers
√ No Resource Reservations
√ Triple Protection in Three Nodes
√ 2+ Node Failure Support with 1 ioGuardian Server