

# Hyperconvergence for Virtual Desktop Infrastructure

## Solution Brief

SimpliVity's revolutionary technology, powered by the Data Virtualization Platform, was designed from the ground up to support IT environments of all sizes at a global level especially those with high-throughput and high performance requirements, such as Virtual Desktop Infrastructure (VDI).

Many organizations have opted to centralize their end-user data and applications due to rapid technological development, the demand for high performing and reliable computing solutions, and a unified IT strategy with disaster recovery and enhanced data security. The VDI initiative, however, is not without its underlying challenges.

### Common Challenges with Infrastructure Supporting VDI

1. The high cost of infrastructure (storage) needed to support VDI projects outweighs the cost benefits of desktop administration
2. Performance is degraded and often unpredictable due to boot storms and other desktop operations not designed for a shared platform
3. Due to special workload requirements, VDI often runs on siloed infrastructure
4. Data protection for VDI environments is expensive with legacy infrastructure
5. Difficulty scaling and deploying without wasting resources
6. Poor system response time and performance negatively impacts user experience

### The SimpliVity Solution – Hyperconvergence

SimpliVity's offers a scalable, modular, 2U building block of x86 resources with all the functionality of enterprise IT infrastructure in one device. SimpliVity is an all-in-one, IT infrastructure platform that natively combines storage, compute, networking, hypervisor, real-time deduplication, compression, and optimization, powerful data management, data protection, and disaster recovery capabilities. The critical enabling technology is SimpliVity's Data Virtualization Platform (DVP), which is made up of two components:

**1. Inline Deduplication, Compression, and Optimization at Inception:** SimpliVity performs inline data deduplication, compression, and optimization on all data, at inception, across all phases of the data lifecycle (primary, backup, WAN, archive, and on the cloud), across all tiers within a system. SimpliVity delivers significant benefits to VDI environments as it eliminates redundant I/O, provides capacity optimization, and WAN optimization by intelligently avoiding all redundant data transfers between datacenters and remote locations.

**2. Global Unified Management:** Global Unified Management is an intelligent network of collaborative systems that encompasses massive scale-out capabilities, VM-centric management, and a single interface for the entire global infrastructure – the federation. Administrators seamlessly manage all SimpliVity systems from within VMware vCenter.

### Key Benefits of VDI with SimpliVity

- Hyperconvergence reduces TCO
- An improved user experience promotes acceptance of VDI projects
- Native data protection improves RTOs and RPOs
- Non-disruptive scale on-demand to predict costs and performance
- Eliminates VDI limitations - boot storms and patch operations



## Benefits of VDI with SimpliVity

**1. Scale as you grow:** By simply adding new x86 building blocks to your existing environment you can non-disruptively scale as you grow, from a just a few VDI seats up to many thousands. This enables customers to start with a small technical footprint and lowers cost while being able to more accurately predict further investments and performance as additional desktops are virtualized.

**2. Native Data Protection:** VDI no longer needs to be relegated to “second class citizen” status in the data center. IT Organizations can commit to, and fulfill, service level agreements (SLAs) to the business while improving recovery time objectives (RTOs) and recovery point objectives (RPOs) for VDI. SimpliVity provides full VM-backup and restore functionality – eliminating additional data management software products. SimpliVity backups do not incur additional overhead. Backups can be done during production hours without any penalty. Also, SimpliVity’s native VM-replication functionality offloads backups to remote sites or to the cloud, improving business continuity for desktops. In the event of a disaster, virtual desktops can quickly be brought up from these backups.

**3. Simplified Operations:** Cloning of virtual desktops is typically a very resource intensive for existing infrastructure components leading to decreased performance or even total outages. With SimpliVity’s native VM-clone functionality no data is moved during a clone process. SimpliVity can perform clones of virtual desktops at any time, with no performance penalty. This helps to rapidly create pools of hundreds to thousands of desktops and also quickly provide single desktop clones for test and development activities.

**4. Performance Matters:** Most virtual desktops are identical in terms of the operating system images, applications provisioned and workloads. With SimpliVity’s inline deduplication and compression, much less data needs to be written to or read from disk. This reduces performance degradation from “boot storms”, “login storms”, or other IO-intensive tasks like patch/update operations, and application/OS upgrades. SimpliVity stores data in its most efficient state across all tiers, guaranteeing efficient use of internal resources, like SSDs, serving up multiple logical terabytes of data with low latency. This eliminates costly and complex performance tuning of storage systems and servers and enables a consistent and predictable desktop experience.

“According to Gartner, businesses have been quick to discover the benefits of virtual desktops, but have been slow to adopt the technology due to the overwhelming cost. Although license costs are fixed, other costs, such as for storage, servers, endpoint clients, and networking hardware, are flexible. To reduce the high cost of desktop virtualization, Gartner challenges organizations to look outside of the technologies that they have been using for years in server virtualization and instead look into emerging technologies that seek to change the cost model.”

### VDI Customer Testimonial

The [National University of Namibia](#) (UNAM) implemented SimpliVity and refreshed their entire legacy infrastructure. UNAM’s IT initiative was based on VDI requirements with over 500 physical desktops. UNAM realized the value within one week of deploying SimpliVity along with a 75% increase in performance, VDI functionality, and native data protection.

**Solution Summary:** SimpliVity is the optimal IT platform for VDI environments. The simple management and linear scaling of SimpliVity allows for a dramatic reduction in total cost of ownership. The ability to predict performance is highly beneficial to administrators and end-users. Global Unified Management further simplifies the management of thousands of desktops. Improving the overall acceptance of VDI, SimpliVity enables its customers to successfully implement and fine-tune VDI in their enterprise.