



# Pivot3 Flash Arrays for Virtual Desktop Infrastructure

Performance, Control and Consolidation

2-3x

LOWER LATENCY WITH PCIe FLASH

4x

LOWER COST PER VDI DESKTOP

77%

REDUCTION IN VDI RECOMPOSE PROCESS

40%

MORE VM WORKLOADS WITH QOS

Desktop management at any scale is a tedious job. Imaging, reimaging, and troubleshooting desktop systems consume valuable IT resources, and keep employees from being productive. Securing the information generated on desktops, tablets, and smartphones is no simple job either. For these reasons, many IT organizations are deploying virtual desktop infrastructure (VDI).

With VDI, desktops are virtualized and reside on the server in a datacenter. End users aren't dependent on a single physical device at the office, and can access their centralized desktop image via a multitude of devices, making them more productive. With desktops now stored in the datacenter, businesses are protected from espionage via lost or stolen devices. While managed by hypervisors on servers, the actual desktops and user data are stored on shared storage systems that require both consistent and peak performance to deliver positive end-user experience.

It is generally acknowledged that flash storage is the best storage medium to address VDI requirements, due to its low latency/high IOPS characteristics. All-flash arrays and hybrid arrays are two key solutions considered for VDI shared storage.

## Benefits of Pivot3 PCIe Flash Arrays for VDI

### OPTIMUM USER EXPERIENCE

Multi-tier flash array architecture delivers lowest latency and highest performance ensuring satisfied users

### PREDICTABLE USER EXPERIENCE

Advanced Quality of Service (QoS) allows administrators to assign service levels to categories of user

### LOWER STORAGE COST PER DESKTOP

Leverage storage used for VDI across other datacenter applications resulting in better ROI

### PEACE-OF-MIND

Deploy Pivot3 Flash Storage knowing it is tested, validated, and proven with your virtual desktop platform of choice

## Considerations Prior to Purchasing a Shared Storage Solution for VDI

### PERFORMANCE

High I/O performance and low latency are key to a successful VDI user experience. Nothing stalls VDI adoption faster than user frustration caused by slow desktop boot-ups and application response time being slower than physical desktops. It is important to note that VDI is generally characterized as write heavy. While this is not a concern with all-flash storage arrays, since all reads and writes go to flash, it can be for hybrid arrays, that do not use flash for writes.

### PREDICTABLE USER EXPERIENCE

Virtual desktop users will expect the same, if not better, user experience as they have with their physical desktops. For a storage system, this means that performance must remain consistent, even during boot storm, virus scans, and other updates. If virtual desktops are hosted on the same storage system as other applications, resource contention must not affect user experience.

### VALIDATED WITH YOUR VDI PLATFORM OF CHOICE

Having documentation that the storage is validated with your VDI platform of choice and what results should be expected takes risks and unknowns out of the VDI deployment.

### COST

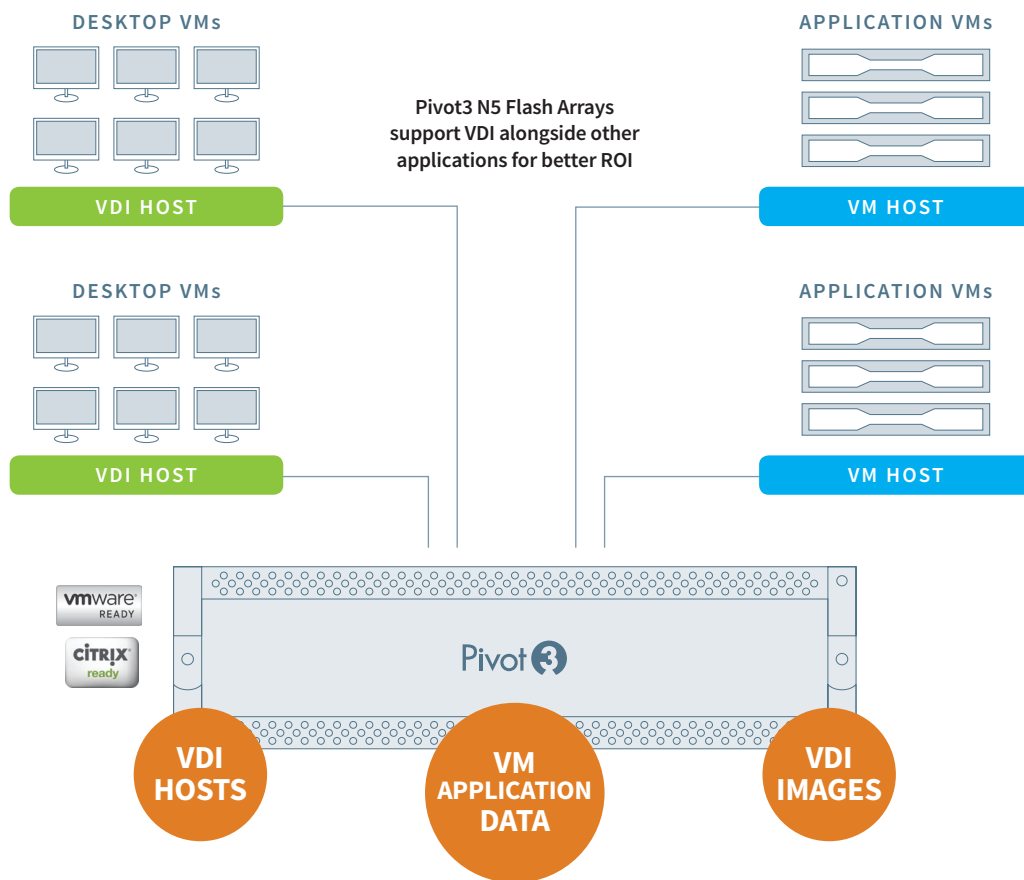
Overall storage solution cost (upfront hardware and software plus on-going administration, support and maintenance) can put the VDI project out of reach, especially if the storage can only handle the VDI workload. The higher the user count or applications the system can predictably support the lower the cost per desktop.

### FLEXIBLE SCALABILITY

Confidence that your storage system can scale to meet VDI demands is reassuring. Being able to scale performance and capacity independently allows your storage system to grow in the dimension needed without having to incur unnecessary costs. Furthermore, the ability to scale performance without swapping out controllers or needing to add flash as capacity is scaled makes scaling less cumbersome and less costly.

### STORAGE SPRAWL

The ability to run VDI alongside other applications would be a desirable capability for most companies, especially mid-sized or small-to-medium enterprises, since it reduces the costs and management complexity associated with storage sprawl across the organization.



## Why Choose Pivot3 PCIe Flash Arrays for VDI

### PCIe FLASH-FIRST ARCHITECTURE

VDI workloads can be very write-heavy. Pivot3 N5 flash arrays (both all-flash and hybrid) utilize a PCIe flash-first data path, where every write request is serviced by ultra-low latency PCIe flash resulting in faster response times for desktop users.

### PREDICTABLE PERFORMANCE WITH ADVANCED QoS

Unlike other storage arrays that treat all desktops the same, Pivot3's policy-based advanced Quality of Service (QoS) governs performance targets, I/O prioritization and data placement, allowing SLAs to be established and met for based on category of desktop users. Pivot3 N5 flash arrays deliver the predictable desktop performance end-users require combined with industry-leading flash utilization.

### MORE PERFORMANCE, LESS WASTE

Pivot3 N5 flash arrays were architected to maximize both performance and capacity at a reasonable cost. Flash is integrated into the CPU bus via PCIe, it runs at microsecond speeds with no need to traverse a RAID controller in the case of the hybrids. PCIe flash is combined with high performance capacity SSDs in the all-flash array for the right combination of high endurance, low latency and capacity. PCIe flash also consumes zero drive bays; no capacity is sacrificed for performance.

### GROW ON YOUR TERMS

The Pivot3 N5 hybrid arrays allow you to scale performance online by adding more PCIe flash into the system, doubling system performance, without consuming drive bays. If more capacity is required, up to three drive shelves can be added to every Pivot3 N5 hybrid or all-flash array. Additionally, Pivot3 allows you to scale performance to the host, via server-side read cache, to address ultra-low latency needs.

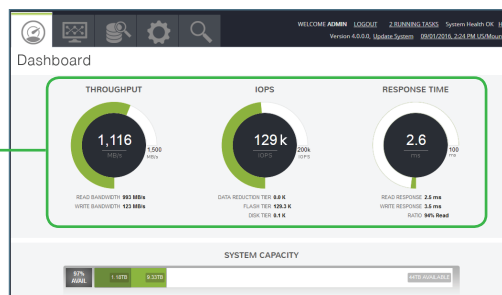
### MORE CONSOLIDATION, LESS FOOTPRINT

Storage arrays are often dedicated to VDI workloads to prevent resource contention with other applications. With PCIe flash-first performance and QoS policies, Pivot3 allows you to confidently support multiple applications, while isolating VDI workloads from other applications. This eliminates contention, while reducing storage sprawl and administration and maintenance costs.

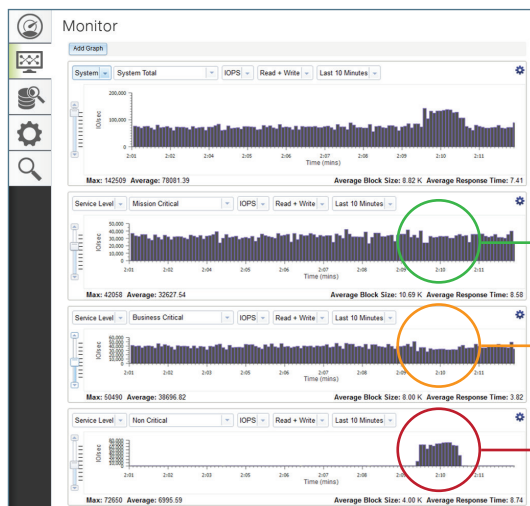
### VALIDATED WITH CITRIX XENDESKTOP AND VMWARE HORIZON VIEW

Pivot3 N5 flash arrays are validated with the Citrix VDI Capacity Program for XenDesktop, and the VMware Horizon Fast Track Reference Architecture and Proven Storage programs. White papers, reference architectures, and case studies of Pivot3 N5 flash arrays deployed with Citrix XenDesktop and VMware Horizon View are available.

### TRACK PERFORMANCE STATISTICS IN REAL-TIME



The Pivot3 dashboard presents meaningful performance data in real-time



**MISSION CRITICAL APPLICATION**  
*Performance Levels Maintained*

**BUSINESS CRITICAL APPLICATION**  
*Performance Levels Maintained*

**VIRTUAL DESKTOPS**  
*VDI Boot Storm*

Pivot3 advanced QoS maintains performance for mission critical applications

## Successful VDI with Flash That Fits

The Pivot3 N5 is available in multiple performance and capacity configurations, each integrated with PCIe flash for low latency performance and SSDs or HDDs for capacity. They are capable of supporting hundreds to thousands of virtual desktops per N5 flash array. The Pivot3 N5 feature-set combines best in class performance along with patented Dynamic Quality of Service and simplified management providing a cost effective storage foundation for your VDI infrastructure.

## About Pivot3

Pivot3 provides Dynamic Hyperconverged Infrastructure and PCIe Flash Arrays that enable smarter IT infrastructures. Pivot3's solutions maximize resource utilization, deliver sustained business services and guarantee application performance levels to improve data center simplicity and drive down complexity and cost. Today, Pivot3 has more than 2,000 customers in 53 countries and has successfully deployed over 16,000 mission- and business-critical infrastructures in multiple industries such as video surveillance, healthcare, government, transportation, education, gaming, entertainment and retail.

**For more information about hyperconverged solutions from Pivot3, please email [sales@pivot3.com](mailto:sales@pivot3.com) or call:**

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