

# Mobile Secure Workspace Implementation with Pivot3

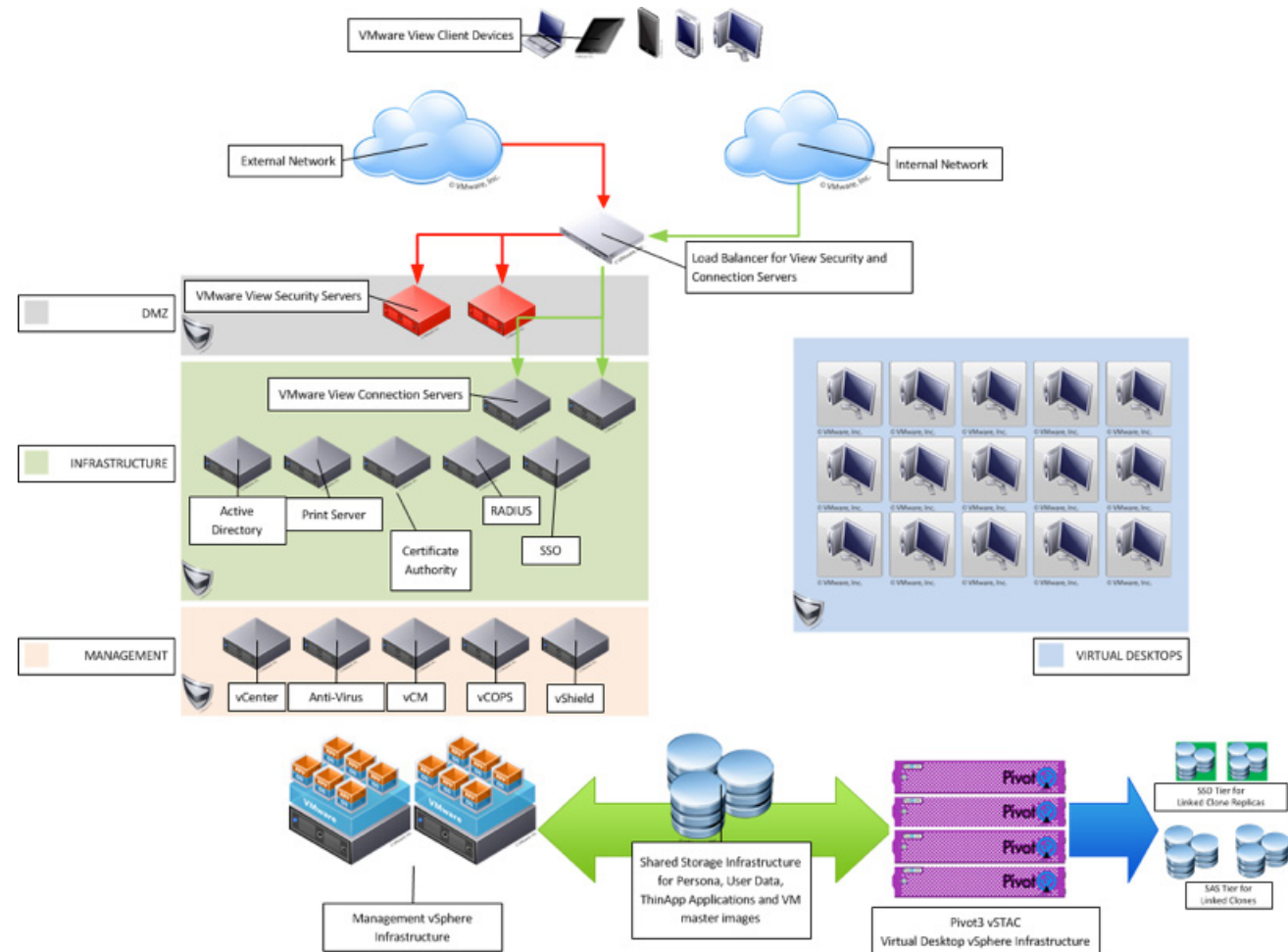
HOW-TO GUIDE

## Solution Overview

Purpose built to deliver a simple, scalable enterprise-class Virtual Desktop Infrastructure; Pivot3 vSTAC VDI appliances provide the following key benefits:

- High-performance. Run over 115 virtual desktops on each vSTAC VDI Appliance. Storage performance is automatically load balanced across appliances to ensure that virtual desktops receive the optimal resources, regardless of which appliance hosts the desktops.
- High Availability. Enterprise class deployments, like VDI, demand data center caliber availability and performance. Simple to deploy and use, vSTAC VDI appliances meet these essential demands. Critical hardware and software resources are fully protected, shared and redundant. From dual power supplies and networking through to failover protected storage and vSphere HA, a Pivot3 vSTAC VDI deployment is both robust and reliable.
- Savings. Pivot3 consolidates server and storage resources into a single hardware platform to reduce power, cooling, rackspace and cost over systems with separate physical servers and physical storage. Future planning is easy because one hundred or one thousand virtual desktops have the same cost basis.
- Optimized Storage for VDI Workloads. VDI has a set of demanding storage requirements that can be daunting to administrators. Eliminate complex SAN and NAS provisioning tasks by deploying purpose-built Pivot3 appliances that are optimized for the VDI workload.
- Patented Serverless Computing Technology. Pivot3 Serverless Computing allows organizations to deploy scalable, shared storage resources that also integrate fault tolerant virtualized servers without requiring the purchase of any additional physical server hardware. Pivot3 Serverless Storage Appliances deliver a converged server virtualization infrastructure together with scale-out, load balanced, and highly available SAN storage resources.

# Architecture & Design



# Validation Result

Overall: Pivot3 vSTAC Appliances fully support the performance, availability and security needs of Mobile Secure Workspace users with a scale-out approach designed to simplify VDI installation and maintenance.

- Mobile Secure Workspace with all of its components, including View 5.1, vCOPs, vShield, and Trend Micro Deep Security, were fully configured and deployed on Pivot3 vSTAC appliances.
- CPU Utilization remained below 85% during login and boot storms.
- Disk Latency averaged less than 40 milliseconds during Application Workload.
- The effect of VSA is remarkable, providing nearly a 10x reduction in read rate.
- Injecting an SSD fault had no noticeable affect on disk latencies.
- SAS drive failures were successfully sustained, spared, and rebuilt.
- A full appliance failure was successfully sustained, with High Availability provided to desktops from the unified storage and compute of vSTAC, and no noticeable impact to the other desktop users.
- A network connection failure was successfully sustained with no impact on performance.
- Scaling of the system with HA to 8 nodes resulted in better than linear scaling as the system becomes more efficient due to aggregated resources. 3 vSTACs supported 184 desktops, 4 vSTACs supported 295 desktops, and 8 vSTACs supported 736 desktops.

# Design Components

Pivot3 vSTAC VDI 5.2

VMware vSphere and vCenter 5.0

VMware View 5.1

vCenter Operations Manager for View 5.1

vShield App and Endpoint 5.0

Trend Micro Deep Security 8.0

Each version is the most recent available at the time of testing. Newer versions would be compatible.



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