ALWAYSON POINT OF CARE

Constant Availability to Patient Care Applications

### Continuous Access to EMR is Critical for Patient Safety

Digitized medical records can reduce medical errors, improve patient safety and produce better clinical outcomes—but if the caregiver cannot access the Electronic Medical Record (EMR) system because their datacenter is down, the consequences can be serious. When electronic devices replace paper charts and physician prescription pads, the reliability, availability and security of the underlying system delivering clinical workspaces becomes critical.

That is why modernization of the point-of-care desktop has become an urgent priority for hospital IT professionals as well as hospital caregivers. Desktops and patient care applications must be immediately accessible and available to caregivers even in the event of site failures and outages.

VMware and VCE have a solution. By virtualizing desktops and hosting them on VMware vSphere™, a key component of VMware View, and using this tested architectural design, healthcare organizations can now have unparalleled desktop and application reliability and availability. If an outage should occur, the caregiver simply logs back into their desktop by either tapping a proximity card, swiping their finger on a biometric device or entering their username and password, and they will be immediately presented with their clinical desktop so they can resume caring for patients.

- VALIDATED solution architecture that provides non-stop access to clinical desktops and Electronic Medical Record applications for healthcare providers

- INTEGRATED and tested VMware and Technology Alliance Partner solution based on mobile, wireless, and wired networks

- PROVIDES constant monitoring, load balancing and data replication features for optimizing performance and uptime

VCE
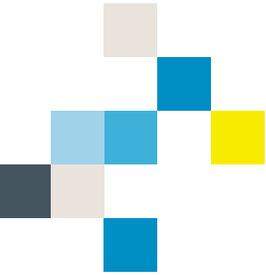
AlwaysOn Point of Care Improves Patient Care

The VMware AlwaysOn Point of Care solution architecture allows clinicians and staff to achieve the continuous level of availability they demand. In a typical IT environment, only the production environment is backed up. But by having an Active-Active desktop environment running identical desktop images, even if there is a failure at the primary site, end users can promptly access their desktops and applications. If a healthcare provider's infrastructure is compromised through a natural disaster or other outage, caregivers—who are many times among the first responders—can be assured they can reach their clinical desktops and applications where and when they are needed the most.

This new architectural design features continuous monitoring capabilities, as well as load balancing with constant data replication across sites to ensure that if the primary site is down VMware View will seamlessly failover to the secondary site so the caregiver experiences minimal disruption. As a result, IT can now deliver non-stop point of care desktops with all applications and data readily available where and when they are needed most.

Solution Elements

AlwaysOn Point of Care is a validated solution architecture offered by VMware and VCE. It is specifically built to meet the needs of healthcare organizations. It combines VMware, VCE and ecosystem products and services to meet stringent requirements for availability, security, elastic scaling, rapid and automated provisioning, high capacity, and low latency with no single point of failure. Key solution elements include:

VMware View

The cornerstone of the AlwaysOn Point of Care solution, VMware View modernizes desktops and applications by moving them into the cloud and delivering them as a highly available managed service. From the end user's perspective, View makes it possible to work from virtually any location using any qualified device to access clinical desktops—PCs, thin clients, zero clients, iPads, and other tablets. The user's familiar desktop appears on each device with everything in the right place, with all authorized applications, files, and data available, and with everything functioning as expected.

In the event of a site disruption, users can connect back to the same desktop running the identical master image within seconds.

VCE Vblock Systems

AlwaysOn Point of Care desktops are ideally hosted on Vblock Systems, which seamlessly integrate leading compute, network, and storage technologies. Through intelligent discovery, awareness, and automation, Vblock Systems provide at-scale virtualization and application performance. Vblock Systems are designed with security in mind, drawing upon the resources of RSA, EMC, Cisco, and VMware. Security is tested and proven not only within VCE R&D, but also at many of the world's most demanding government and enterprise data centers. By taking a system-level viewpoint of converged infrastructure and driving standardization of best-of-breed technologies, Vblock Systems can uniquely optimize a virtual desktop project so that it can flexibly meet any processing, bandwidth, transactional, or capacity requirements, enabling high concurrency rates typical of a virtual desktop workload.

Imprivata OneSign

Imprivata OneSign® provides SSO and strong authentication, permitting users to access all workstations and applications they are authorized to use. By configuring and linking multiple instances of virtual appliances at both sites with fault tolerance, during the site failover, desktop agents can continuously look up the next working instance without disrupting the workflow. Users easily connect to virtual desktops and applications via Imprivata OneSign single signon from the access point all the way through to the EMR application.

Cloud-based records management

The AlwaysOn Point of Care solution incorporates services such as Health Info Exchanges (HIEs), which transition previously siloed medical information to a mesh environment and make it readily accessible using high-capacity mobile, wireless and wireline services. The solution design simulates the application configuration (i.e. VitalImages Vitrea, Microsoft Exchange, VMware View and Imprivata OneSign) workload analysis and reporting in the third-party application hosting and cloud sites.

The Vblock System uses EMC storage for reliable high performance. Site-to-site replication of the Master Images is performed with EMC VNX Replicator storage technology to provide data redundancy and reduced recovery times. Asynchronous replication is used with NFS datastores. EMC storage platforms have the flexibility to support a variety of replication models, including synchronous or asynchronous block-based replication as well with EMC Recoverpoint.

Figure 1: The AlwaysOn Point of Care solution integrates mobile, wireless and wired networks via VMware and partner products to deliver continuous desktop uptime.
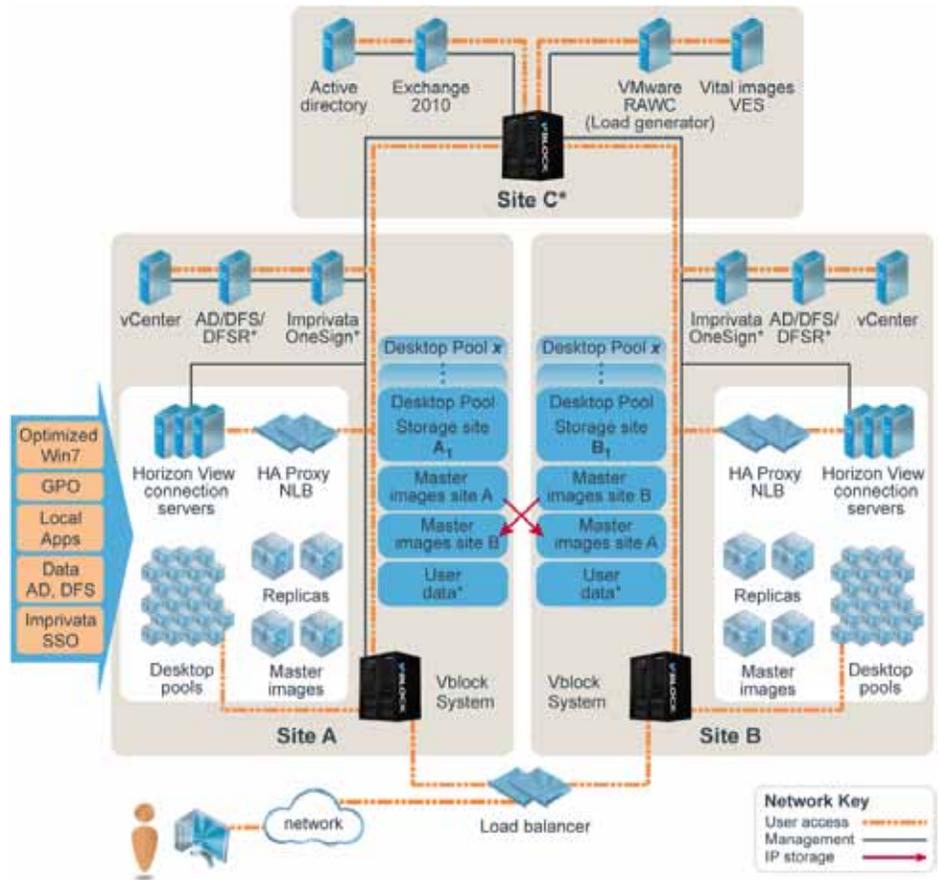
* Items marked with an asterisk are used to facilitate the solution architecture only and are otherwise external to this core architecture

The chart below summarizes the key VMware, VCE and partner products that comprise the AlwaysOn Point of Care solution.

PARTNER PRODUCTS	USE CASE — HIGH AVAILABILITY AND CAPACITY EXTENSIBILITY	USE CASE — DISASTER RECOVERY AND DESKTOP PORTABILITY
VMware View	• Compose and recompose desktop images • Profile redirection to keep user data persistent • High-performance desktop experience with PCoIP	• Access from mobile or stationary devices • Desktop follows clinician from device to device • Instant desktop provisioning and user entitlement
VCE Vblock	• Well defined scalability • Simplified provisioning • Repeatable, modular architecture	• High availability design • Redundant components and data paths • Multiple replication, archive, and backup solutions
Imprivata OneSign	• Application and session roaming • Single signon to applications • Fault tolerance	• Multiple appliance configuration for HA • Use access policy for virtual desktop and endpoint • Kiosk Mode Application SSO

VMware services and partnerships make it easy to implement the solution without specialized in-house expertise

Summary

AlwaysOn Point of Care from VMware and VCE is a managed network/connectivity solution optimized for the specific, stringent requirements of medical organizations. It integrates technology and solutions from VMware, VCE and our thriving ecosystem of partners. The solution leverages mobile, wireless and wired networks that are customized to health care industry requirements.

Together, VMware, VCE and our partners can deliver continuous desktop uptime to enable access to critical medical applications and records. More than that, we deliver true peace of mind for medical professionals—and the highest levels of patient care.

AlwaysOn Learn More

For additional information about how the AlwaysOn Point of Care solution is built and validated, read the AlwaysOn Point of Care Reference Validation document at: www.vce.com/solution/applications/end-user/AlwaysOnSolutionArchitecture.pdf

Or call VCE for an assessment today. Our experts will help you determine the opportunity for your organization—and chart your course to continuous desktop access. For more information or to purchase VCE products, visit vce.com